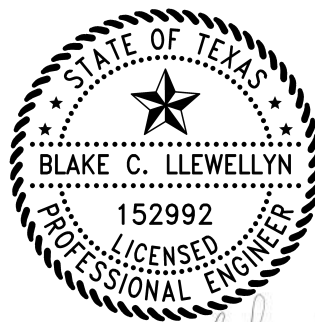


City of Rockdale

City of Rockdale DWSRF Water Distribution System Improvements – Phase II

TWDB DWSRF 62833

July 2024



Blake C. Llewellyn
9/26/24

Prepared by:

KSA

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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.

ADVERTISEMENT FOR BIDS FOR CONSTRUCTION CONTRACTS

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**CITY OF ROCKDALE
ROCKDALE, TEXAS
WATER DISTRIBUTION SYSTEM IMPROVEMENTS - PHASE II**

TWDB DWSRF No. 62833

ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of the **Rockdale Water Distribution System Improvements- Phase II TWDB DWSRF No. 62833** will be received, from all interested Bidder's, by the City of Rockdale, at the office of the **City Manager, Tim Kelty, PO Box 586, Physical address: 505 West Cameron Avenue Rockdale, Texas 76567**, until **2:00 P.M.** local time on **December 19, 2024**, at which time the Bids received will be **publicly** opened and read. The Project consists of constructing **approximately 344 LF of 2" waterline, 26,930 LF of 6" waterline, 10,430 LF of 8" waterline, and 610 LF feet of 12" waterline, including fire hydrants, valves, meters and appurtenances. Additionally, Additive Alternate 1 consists of an additional 222 LF of 2" waterline, 912 LF of 4" waterline, 5,200 LF of 6" waterline including fire hydrants, valves, meters and appurtenances. Additive Alternate 2 will consist of 8,860 LF of 6" waterline which also includes fire hydrants, valves, meters and appurtenances.**

Bids shall be on a lump sum and/or unit price basis, with additive alternate bid items as indicated in the Bid Form.

The Issuing Office for the Bidding Documents is: **KSA Engineers, Inc. 4833 Spicewood Springs Road, Suite 204, Austin, Texas 78759**. Prospective Bidders may examine the Bidding Documents at the Issuing Office on Mondays through Fridays between the hours of **8:00 AM and 5:00 PM**.

Contract documents including bid proposal forms, plan sheets, and specifications for the Project may be viewed and downloaded free of charge (with the option to purchase hard copies) at www.civcastusa.com.

Please submit questions for this Project 72 hours prior to bid opening through www.civcastusa.com in the Q & A portal.

Addenda issued will be posted on www.civcastusa.com. You will be notified of addenda automatically through email if you downloaded your plans and specifications via [civcastusa.com](http://www.civcastusa.com).

A MANDATORY pre-bid conference will be held at 2:00 P.M. local time on December 4, 2024 at Rockdale City Hall - 505 West Cameron Avenue Rockdale, TX 76567 . Attendance at the pre-bid conference is mandatory.

Bidders will be allowed to modify or withdraw bids prior to the scheduled closing time for receipt of bids. No bid received after the scheduled closing time will be accepted or opened. No bid may be withdrawn after the scheduled closing time for receipt of bids for at least 120 calendar days.

The successful Bidder, or Bidders, will be required to furnish a Performance Bond and Payment Bond each in the amount of the contract written by a responsible surety company authorized to do business in the State of Texas and satisfactory to the Owner.

The award will be made on the basis of the lowest responsive bid. The City reserves the right to waive any informality in the bidding and to reject any or all bids.

This Contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of

Minority and Women-owned Business Enterprise (M/WBE) businesses. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.gov/dbe.

Equal Opportunity in Employment - All qualified Applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance

Any contract or contracts awarded under this Invitation for Bid (IFB), are expected to be funded in part by financial assistance from the TWDB. Neither the U.S. Environmental Protection Agency (EPA) or the State of Texas, nor any of its departments, agencies, or employees, are or will be a party to this IFB, or any resulting contract.

Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of federal law, including federal appropriation acts and/or Section 608 of the Federal Water Pollution Control Act.

Davis-Bacon prevailing wage requirements apply to the construction, alteration or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) or a construction project financed, in whole or in part, from the Drinking Water State Revolving Fund (DWSRF)

The Davis-Bacon prevailing wage requirements apply to Contractors and Subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration or repair (including painting) of a construction project under the DWSRF.

For prime contracts in excess of \$100,000, Contractors and Subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

Each bidder shall furnish a bid guarantee equivalent to five percent of the bid price (Water Code 17.183). If a bid bond is provided, the Contractor shall utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

This contract is contingent upon release of funds from the Texas Water Development Board (TWDB).

Bid security shall be furnished in accordance with the Instructions to Bidders.

Owner: **City of Rockdale**

By: **Tim Kelty**

Title: **City Manager**

Date: **November 21, 2024 - 1st Advertisement**

November 28, 2024 - 2nd Advertisement

+ + END OF ADVERTISEMENT FOR BIDS + +

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.

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACTS

Prepared by



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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 where the bidding procedures are to be administered.

KSA Engineers, Inc.

4833 Spicewood Springs Road, Suite 204

Austin, TX 78759

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Contract Documents may be viewed and downloaded free of charge (With the option to purchase hard copies) at www.civcastusa.com.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with its Bid previous experience in the completion of similar work. For each similar project the bidder shall submit the name of the project, project owner, construction dates, and the cost of construction.

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.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *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.

4.02 *Existing Site Conditions*

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:
 - a. those reports, if any, known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings, if any, known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings, if any, 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.
2. 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.
3. 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.
- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder 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.

- D. Bidder shall 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.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

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

4.05 *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 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider 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 Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A pre-Bid conference may be held at a time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer via the Q & A portal on www.civcastusa.com. Interpretations or clarifications considered necessary by the Engineer in response to such questions will be issued by Addenda. All Addenda issued for this project will **only** be posted on www.civcastusa.com. Questions received less than 72 hours prior to the opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5% percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 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 Documents, 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 Documents 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. Such forfeiture shall 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 seven 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 within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 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 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 Except as provided in Paragraph 11.02, 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.
- 11.02 In some cases, the Engineer will specify that substitutes for certain materials and equipment must be approved by Addendum prior to the bid date. The Contract for the Work, as awarded, will then 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 at least 10 days prior to the date for receipt of Bids. Each such request shall comply with the requirements of Paragraphs 7.04 and 7.05 of the General Conditions. 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 prospective Bidders. Bidders shall not rely upon approvals made in any other manner.
- 11.03 All prices that Bidder sets forth in its Bid shall 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 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the major Subcontractors or Suppliers proposed for the following portions of the Work.

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall 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.

- 12.04 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, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity 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 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
 - C. If Bidder elects not to submit a price for one or more sections, then Bidder should enter the words "No Bid" for those items.
- 13.02 A Bid by a corporation shall 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 shall be shown.

- 13.03 A Bid by a limited liability company shall 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 shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

- 14.01 The Bid shall be based upon one of the following methods as provided for in the Bid Form.
 - A. Lump Sum
 - 1. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.
 - B. Base Bid with Alternates
 - 1. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.
 - 2. In the comparison of Bids, alternates will be applied in the order that best serves the Owner's interests.
 - C. Sectional Bids
 - 1. Bidders may submit a Bid on any individual section or any combination of sections, as set forth in the Bid Form.
 - 2. Submission of a Bid on any section signifies Bidder's willingness to enter into a Contract for that section alone at the price offered.
 - 3. If Bidder submits Bids on individual sections and a Bid based on a combination of those sections, such combined Bid need not be the sum of the Bids on the individual sections.
 - 4. Bidders offering a Bid on one or more sections shall be capable of completing the Work covered by those sections within the time period stated in the Agreement.
 - D. Unit Price
 - 1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

2. 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.
3. 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.

14.02 Allowances

- A. For cash allowances the Bid price shall 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 15 – SUBMITTAL OF BID

- 15.01 ~~With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of 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 7 of the Bid Form.~~
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to The address shown in the Advertisement for Bids.
- 15.03 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 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A 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.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 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, that Bidder may withdraw its Bid,

and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 1.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated 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 19 – VALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. 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, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the manner that best serves the Owner's interests. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
 - C. For determination of the apparent low Bidder(s) when sectional bids are submitted, Bids will be compared on the basis of the aggregate of the Bids for each separate section. ~~and the Bids for combined sections that result in the lowest total amount for all of the Work.~~
 - D. 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.

- 19.04 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.
- 19.05 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 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall 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 shall 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 ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 – SALES AND USE TAXES

- 22.01 Owner is exempt from state sales and use taxes on materials and equipment to be incorporated in the Work. Refer to Paragraph SC-7.09 of the Supplementary Conditions for additional information.

DOCUMENT IB-02
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

(Reference Texas Water Development Board Guidance Document TWDB-0550 dated 06/2024)

1. Contingent Award of Contract

This contract is contingent upon release of funds from the Texas Water Development Board. Any contract(s) awarded under this Invitation for Bids is/are expected to be funded in part by a loan or loan with principal forgiveness from the Texas Water Development Board and a grant from the United States Environmental Protection Agency, U.S. EPA. Neither the State of Texas, the U.S. EPA, nor any of its departments, agencies, or employees, are or will be a party to this Invitation for Bids or any resulting contract.

2. Disadvantaged Business Enterprise Goals

The Texas Water Development Board's (TWDB) Clean Water and Drinking Water State Revolving Fund programs receive federal funding from the U. S. EPA. As a condition of federal grant awards, U.S. EPA regulations require that funding recipients (municipalities, towns, public water authorities, nonprofit water supply corporations, etc.) and sub-recipients (prime consultants, prime contractors, and subcontractors) make a "**good faith effort**" to award a fair share of work to Disadvantaged Business Enterprises (DBE) who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring Construction and Non-Construction (supplies, services and equipment). More information on DBE requirements is available in Section III, Supplemental Contract Conditions section of this guidance **No. 16. Disadvantaged Business Enterprises**.

The most current fair share goals for the State of Texas are located on the TWDB website at www.twdb.texas.gov/financial/programs/DBE/index.asp and as follows:

| Category | MBE | WBE |
|--|--------|--------|
| Construction | 24.50% | 11.34% |
| Non-construction | 24.05% | 19.35% |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% |

3. Davis-Bacon Wage Rate Requirements

- (a) Davis-Bacon prevailing wage requirements apply to the construction, alteration or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) or a construction project financed, in whole or in part, from the Drinking Water State Revolving Fund (DWSRF).
- (b) The Davis-Bacon prevailing wage requirements apply to Contractors and Subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration or repair (including painting) of a treatment works project under the CWSRF or a construction project under the DWSRF.
- (c) For prime contracts in excess of \$100,000, Contractors and Subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act (CWHSSA), as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek.

The Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

- (d) Any contracts in excess of \$2,000 must include the provisions of the Davis-Bacon Wage Rate Requirements. If the Owner (sub-recipient) is a governmental entity such as a city or district, it must insert in full the contract clauses found in TWDB Guidance DB-0156, Appendix 1: Section 3, Section 4 if the contract exceeds \$100,000, and Section 5. If the Owner (sub-recipient) is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses found in TWDB Guidance DB- 0156, Appendix 2: Section 3, Section 4 if the contract exceeds \$100,000, and Section 5. The Owner (sub-recipient) must ensure all prime contracts require the same full text in any subcontracts. See TWDB Guidance DB-0156 for the text of the contract language that must be included.

Additional information on Davis-Bacon Wage Rate Requirements and its applicability to this contract can be found in TWDB Guidance DB-0156.

4. American Iron and Steel

Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of 33 U.S.C §1388 for Clean Water State Revolving Fund projects or Public Law 114-113, Consolidated Appropriations Act, 2016, or subsequent appropriations acts, for Drinking Water State Revolving Fund projects. The Contractor must complete the statement of understanding regarding this requirement, found in the Special Contract Conditions, Item No. 9.

5. Equal Employment Opportunity and Affirmative Action

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

6. Debarment and Suspension Certification

This contract is subject to the federal requirements of Subpart C of 2 CFR Part 180 and Part 1532 regarding Debarment and Suspension. The Contractor will comply with the assurances provided with the bid that leads to a contract.

7. Bid Guarantee

Each bidder must furnish a bid guarantee equivalent to five percent (5%) of the bid price (Water Code 17.183). If a bid bond is provided, the Contractor must utilize a surety company that is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

8. Summary of Forms to be submitted with the Bid Documents:

- WRD-255, Bidder's Certifications regarding Equal Employment Opportunity and Non-Segregated Facilities.
- SRF-404, Certification Regarding Debarment, Suspension and Other Responsibility Matters, (to be completed and submitted by the sub-recipient).
- Disadvantaged Business Enterprise (DBE) Construction Contract Phase Forms

| Form | Prime Contractor | Submit Form To |
|-----------|------------------|----------------|
| TWDB-0216 | Required | TWDB |

| | | |
|-----------|----------|------|
| TWDB-0217 | Required | TWDB |
| TWDB-0373 | Required | TWDB |

QUALIFICATIONS STATEMENT

Prepared by



Issued and Published Jointly by



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QUALIFICATIONS STATEMENT

**THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT
PERMITTED BY LAWS AND REGULATIONS**

1. SUBMITTED BY:

Official Name of Firm: _____

Address: _____

2. SUBMITTED TO: _____

3. SUBMITTED FOR: _____

Owner: _____

Project Name: _____

TYPE OF WORK: _____

4. CONTRACTOR'S CONTACT INFORMATION

Contact Person: _____

Title: _____

Phone: _____

Email: _____

5. AFFILIATED COMPANIES:

Name:

Address:

6. TYPE OF ORGANIZATION:

☐ SOLE PROPRIETORSHIP

Name of Owner:

Doing Business As:

Date of Organization:

☐ PARTNERSHIP

Date of Organization:

Type of Partnership:

☐ CORPORATION

State of Organization:

Date of Organization:

☐ LIMITED LIABILITY COMPANY

State of Organization:

Date of Organization:

☐ JOINT VENTURE

Sate of Organization:

Date of Organization:

Form of Organization:

7. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise:

Minority Business Enterprise:

Woman Owned Enterprise:

Small Business Enterprise:

Other ():

8. BONDING INFORMATION

Bonding Company:

Address:

Bonding Agent:

Address:

Contact Name:

Phone:

9. CONSTRUCTION EXPERIENCE:

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: _____

BY: _____

TITLE: _____

DATED: _____

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience).
2. Schedule B (Previous Experience).

SCHEDULE A

CURRENT EXPERIENCE

| Project Name | Owner's Contact Person | Design Engineer | Contract Date | Type of Work | Status | Cost of Work |
|--------------|---------------------------------|---------------------------------|---------------|--------------|--------|--------------|
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

| Project Name | Owner's Contact Person | Design Engineer | Contract Date | Type of Work | Status | Cost of Work |
|--------------|---------------------------------|---------------------------------|---------------|--------------|--------|--------------|
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

| Project Name | Owner's Contact Person | Design Engineer | Contract Date | Type of Work | Status | Cost of Work |
|--------------|---------------------------------|---------------------------------|---------------|--------------|--------|--------------|
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |
| | Name: Address: Telephone: | Name: Company: Telephone: | | | | |

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

City of Rockdale
505 W Cameron Ave.
Rockdale, TX 76567

BID

Bid Due Date: DATE
Description: City of Rockdale DWSRF Water Distribution System Improvements – Phase II

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

Signature

Print Name

Title

Attest:

Signature

Title

By:

Signature (Attach Power of Attorney)

Print Name

Title

Attest:

Signature

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

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 shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur 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 shall 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 shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall 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 shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall 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 Registered or Certified Mail, return receipt requested, postage pre-paid, and shall 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 shall 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 shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.
12. **IMPORTANT** - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

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.

BID FORM FOR CONSTRUCTION CONTRACTS

Prepared by



Issued and Published Jointly by



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BID FORM

City of Rockdale DWSRF Water Distribution System Improvements – Phase II

TWDB DWSRF 62833 - KSA Project No. RD.063

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Rockdale

505 W Cameron Ave

Rockdale, TX 76567

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.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.

Addendum, Date

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. 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 any Site-related

reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. 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.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. 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;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "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;
 - 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.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the price shown on the Bid Form ~~following price(s):~~

ARTICLE 6 – TIME OF COMPLETION

- 6.01 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.
- ~~6.01 Bidder agrees that the Work will be substantially complete on or before _____, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before _____.~~
- ~~6.01 Bidder agrees that the Work will be substantially complete within _____ calendar days after the date when the Contract Times commence to run 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 within _____ calendar days after the date when the Contract Times commence to run.~~
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - ~~B. List of Proposed Subcontractors;~~
 - ~~C. List of Proposed Suppliers;~~
 - ~~D. List of Project References;~~
 - ~~E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;~~
 - ~~F. Contractor's License No.: _____ [or] Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;~~
 - G. Required Bidder Qualification Statement with supporting data; and

ARTICLE 8 – DEFINED TERMS

- 8.01 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 9 – BID SUBMITTAL

BIDDER:

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

(where applicable)

CITY OF ROCKDALE, TEXAS
City of Rockdale DWSRF Water Distribution System Improvements – Phase II

| BID NO. | QTY | UNIT | DESCRIPTION (with unit price in words) | UNIT PRICE | TOTAL PRICE |
|--|--------|------|---|-------------|-------------|
| Schedule 1.00: Waterline Distribution System Improvements - Group C | | | | | |
| 1.01 | 1 | LS | Mobilization, Insurance, and Bonds (Reference Section 01270.1.02.A) at _____ Dollars and _____ Cents per lump sum | \$ XXXXXXXX | \$ _____ |
| 1.02 | 1 | LS | Barricades, Signs, and Traffic Handling (Reference Section 01270.1.02.B) at _____ Dollars and _____ Cents per lump sum | \$ XXXXXXXX | \$ _____ |
| 1.03 | 1 | LS | Clearing and Grubbing (Reference Section 01270.1.02.C) at _____ Dollars and _____ Cents per lump sum | \$ XXXXXXXX | \$ _____ |
| 1.04 | 1 | LS | Site Restoration (Seeding/Sodding) (Reference Section 01270.1.02.D) at _____ Dollars and _____ Cents per lump sum | \$ XXXXXXXX | \$ _____ |
| 1.05 | 11,357 | LF | Pipe Trench Excavation Safety (Reference Section 01270.1.02.E) at _____ Dollars and _____ Cents per linear foot | \$ _____ | \$ _____ |
| 1.06 | 39 | EA | Connect to Existing Waterline – All Sizes (Reference Section 01270.1.02.F) at _____ Dollars and _____ Cents per each | \$ _____ | \$ _____ |
| 1.07 | 48 | EA | Cut and Plug Existing Waterline – All Sizes (Reference Section 01270.1.02.G) at _____ Dollars and _____ Cents per each | \$ _____ | \$ _____ |
| 1.08 | 14,215 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) at _____ Dollars and _____ Cents per linear foot | \$ _____ | \$ _____ |
| 1.09 | 1,197 | LF | Furnish and Install 6" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.I) at _____ Dollars and _____ Cents per linear foot | \$ _____ | \$ _____ |
| 1.10 | 1,288 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.J) at _____ Dollars and _____ Cents per linear foot | \$ _____ | \$ _____ |
| 1.11 | 3,538 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.K) at _____ Dollars and _____ Cents per linear foot | \$ _____ | \$ _____ |

| | | | | | | |
|------|-----|----|--|------------------|----------|----------|
| 1.12 | 799 | LF | Furnish and Install 8" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.L) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.13 | 801 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.M) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.14 | 513 | LF | Furnish and Install 12" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.N) and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.15 | 71 | LF | Furnish and Install 12" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.O) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.16 | 26 | LF | Furnish and Install 12" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.P) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.17 | 473 | LF | Concrete Encasement for 6" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.Q) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 1.18 | 2 | EA | Furnish and Install New Fire Hydrant Assembly (Reference Section 01270.1.02.R) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.19 | 31 | EA | Reconnect to Existing Fire Hydrant (Reference Section 01270.1.02.S) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.20 | 9 | EA | Furnish and Install 8" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.T) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.21 | 27 | EA | Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.U) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.22 | 170 | EA | Short Side Water Service Reconnection (Reference Section 01270.1.02.V) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.23 | 155 | EA | Long Side Water Service Reconnection (Reference Section 01270.1.02.W) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-------|----|--|------------------|-------------|----------|
| 1.24 | 325 | EA | Remove and Replace Existing Meter and Meter Box (Reference Section 01270.1.02.X) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.25 | 3 | EA | Furnish and Install 6" Air Release valve as shown and specified (Reference Section 01270.1.02.Y) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 1.26 | 21 | SY | Saw Cut and Repair Concrete Pavement (Reference Section 01270.1.02.Z) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 1.27 | 1,888 | SY | Saw Cut and Repair Asphalt Pavement (Reference Section 01270.1.02.AA) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 1.28 | 1 | LS | Filter Fabric Fence (Reference Section 01270.1.02.BB) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 1.29 | 1 | LS | Waterline Testing and Disinfection (Reference Section 01270.1.02.CC) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 1.30 | 1 | LS | Foundation Material for Trench (Reference Section 01270.1.02.DD) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |

Subtotal Schedule 1.00: \$ _____

Schedule 2.00: Waterline Distribution System Improvements - Group E

| | | | | | | |
|------|-------|----|--|------------------|-------------|----------|
| 2.01 | 1 | LS | Mobilization, Insurance, and Bonds (Reference Section 01270.1.02.A) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.02 | 1 | LS | Barricades, Signs, and Traffic Handling (Reference Section 01270.1.02.B) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.03 | 1 | LS | Clearing and Grubbing (Reference Section 01270.1.02.C) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.04 | 1 | LS | Site Restoration (Seeding/Sodding) (Reference Section 01270.1.02.D) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.05 | 4,450 | LF | Pipe Trench Excavation Safety (Reference Section 01270.1.02.E) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.06 | 14 | EA | Connect to Existing Waterline – All Sizes (Reference Section 01270.1.02.F) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-------|----|---|------------------|----------|----------|
| 2.07 | 17 | EA | Cut and Plug Existing Waterline – All Sizes (Reference Section 01270.1.02.G) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.08 | 2,883 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.09 | 410 | LF | Furnish and Install 6" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.I) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.10 | 65 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.J) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.11 | 1,547 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.K) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.12 | 1,254 | LF | Furnish and Install 8" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.L) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.13 | 285 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.M) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.14 | 40 | LF | Concrete Encasement for 6" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.Q) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.15 | 20 | LF | Concrete Encasement for 8" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.EE) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.16 | 405 | LF | Highway Bore w/18-in O.D. x 0.375-in Steel Encasement (Reference Section 01270.1.02.FF) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 2.17 | 5 | EA | Furnish and Install New Fire Hydrant Assembly (Reference Section 01270.1.02.R) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.18 | 3 | EA | Reconnect to Existing Fire Hydrant (Reference Section 01270.1.02.S) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-----|----|---|------------------|-------------|----------|
| 2.19 | 2 | EA | Furnish and Install 8" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.T) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.20 | 12 | EA | Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.U) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.21 | 31 | EA | Short Side Water Service Reconnection (Reference Section 01270.1.02.V) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.22 | 14 | EA | Long Side Water Service Reconnection (Reference Section 01270.1.02.W) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.23 | 45 | EA | Remove and Replace Existing Meter and Meter Box (Reference Section 01270.1.02.X) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.24 | 1 | EA | Furnish and Install 6" Air Release valve as shown and specified (Reference Section 01270.1.02.Y) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 2.25 | 20 | SY | Saw Cut and Repair Concrete Pavement (Reference Section 01270.1.02.Z) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 2.26 | 92 | SY | Saw Cut and Repair Asphalt Pavement (Reference Section 01270.1.02.AA) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 2.27 | 127 | SY | Saw Cut and Repair Gravel Pavement (Reference Section 01270.1.02.GG) at _____ and _____ per square yard | Dollars Cents | _____ | \$ _____ |
| 2.28 | 6 | SY | Saw Cut and Repair Concrete Sidewalk (Reference Section 01270.1.02.HH) at _____ and _____ per square yard | Dollars Cents | _____ | \$ _____ |
| 2.29 | 1 | LS | Filter Fabric Fence (Reference Section 01270.1.02.BB) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.30 | 1 | LS | Waterline Testing and Disinfection (Reference Section 01270.1.02.CC) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 2.31 | 1 | LS | Foundation Material for Trench (Reference Section 01270.1.02.DD) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |

Subtotal Schedule 2.00: \$ _____

Schedule 3.00: Waterline Distribution System Improvements - Group I

| | | | | | | |
|------|-------|----|---|------------------|-------------|----------|
| 3.01 | 1 | LS | Mobilization, Insurance, and Bonds (Reference Section 01270.1.02.A) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.02 | 1 | LS | Barricades, Signs, and Traffic Handling (Reference Section 01270.1.02.B) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.03 | 1 | LS | Clearing and Grubbing (Reference Section 01270.1.02.C) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.04 | 1 | LS | Site Restoration (Seeding/Sodding) (Reference Section 01270.1.02.D) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.05 | 7,832 | LF | Pipe Trench Excavation Safety (Reference Section 01270.1.02.E) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.06 | 18 | EA | Connect to Existing Waterline – All Sizes (Reference Section 01270.1.02.F) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.07 | 19 | EA | Cut and Plug Existing Waterline – All Sizes (Reference Section 01270.1.02.G) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.08 | 344 | LF | Furnish and Install 2" Schedule 80 PVC Waterline Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.II) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.09 | 5,833 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.10 | 258 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.J) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.11 | 1,956 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.K) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.12 | 218 | LF | Furnish and Install 8" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.L) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-----|----|--|------------------|----------|----------|
| 3.13 | 81 | LF | Furnish and Install 8" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.M) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.14 | 40 | LF | Concrete Encasement for 6" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.Q) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.15 | 20 | LF | Concrete Encasement for 8" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.EE) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.16 | 561 | LF | Highway Bore w/18-in O.D. x 0.375-in Steel Encasement (Reference Section 01270.1.02.FF) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 3.17 | 8 | EA | Reconnect to Existing Fire Hydrant (Reference Section 01270.1.02.S) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.18 | 54 | EA | Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.U) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.19 | 1 | EA | Furnish and Install 2" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.JJ) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.20 | 31 | EA | Short Side Water Service Reconnection (Reference Section 01270.1.02.V) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.21 | 26 | EA | Long Side Water Service Reconnection (Reference Section 01270.1.02.W) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.22 | 57 | EA | Remove and Replace Existing Meter and Meter Box (Reference Section 01270.1.02.X) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.23 | 1 | EA | Furnish and Install 6" Air Release valve as shown and specified (Reference Section 01270.1.02.Y) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 3.24 | 40 | SY | Saw Cut and Repair Concrete Pavement (Reference Section 01270.1.02.Z) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-----|----|---|------------------|-------------|----------|
| 3.25 | 723 | SY | Saw Cut and Repair Asphalt Pavement (Reference Section 01270.1.02.AA) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 3.26 | 1 | LS | Filter Fabric Fence (Reference Section 01270.1.02.BB) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.27 | 1 | LS | Waterline Testing and Disinfection (Reference Section 01270.1.02.CC) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 3.28 | 1 | LS | Foundation Material for Trench (Reference Section 01270.1.02.DD) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |

Subtotal Schedule 3.00: \$ _____

Additive Alternate 1: Schedule 4.00 - Waterline Distribution System Improvements - Group F

| | | | | | | |
|------|-------|----|--|------------------|-------------|----------|
| 4.01 | 1 | LS | Mobilization, Insurance, and Bonds (Reference Section 01270.1.02.A) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.02 | 1 | LS | Barricades, Signs, and Traffic Handling (Reference Section 01270.1.02.B) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.03 | 1 | LS | Clearing and Grubbing (Reference Section 01270.1.02.C) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.04 | 1 | LS | Site Restoration (Seeding/Sodding) (Reference Section 01270.1.02.D) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.05 | 4,962 | LF | Pipe Trench Excavation Safety (Reference Section 01270.1.02.E) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.06 | 6 | EA | Connect to Existing Waterline – All Sizes (Reference Section 01270.1.02.F) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.07 | 7 | EA | Cut and Plug Existing Waterline – All Sizes (Reference Section 01270.1.02.G) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.08 | 222 | LF | Furnish and Install 2" Schedule 80 PVC Waterline Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | |
|------|-------|----|---|------------------|----------|----------|
| 4.09 | 859 | LF | Furnish and Install 4" AWWA C900 DR 18 PVC Waterline Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.KK) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.10 | 53 | LF | Furnish and Install 4" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.LL) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.11 | 4,422 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.12 | 410 | LF | Furnish and Install 6" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.I) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.13 | 225 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.J) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.14 | 140 | LF | Concrete Encasement for 6" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.Q) at _____ and _____ per linear foot | Dollars Cents | \$ _____ | \$ _____ |
| 4.15 | 2 | EA | Reconnect to Existing Fire Hydrant (Reference Section 01270.1.02.S) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.16 | 1 | EA | Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.U) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.17 | 1 | EA | Furnish and Install 4" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.MM) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.18 | 1 | EA | Furnish and Install 4-in Flush Valve Assembly as shown and specified (Reference Section 01270.1.02.NN) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.19 | 1 | EA | Furnish and Install 2" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.JJ) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |

| | | | | | | | |
|----------------------------|-------|----|--|--|------------------|-------------|----------|
| 4.20 | 1 | EA | Furnish and Install 2-in Flush Valve Assembly as shown and specified (Reference Section 01270.1.02.OO) | at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.21 | 43 | EA | Short Side Water Service Reconnection (Reference Section 01270.1.02.V) | at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.22 | 26 | EA | Long Side Water Service Reconnection (Reference Section 01270.1.02.W) | at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.23 | 69 | EA | Remove and Replace Existing Meter and Meter Box (Reference Section 01270.1.02.X) | at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.24 | 2 | EA | Furnish and Install 6" Air Release valve as shown and specified (Reference Section 01270.1.02.Y) | at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 4.25 | 1,075 | SY | Saw Cut and Repair Asphalt Pavement (Reference Section 01270.1.02.AA) | at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 4.26 | 12 | SY | Saw Cut and Repair Concrete Sidewalk (Reference Section 01270.1.02.HH) | at _____ and _____ per square yard | Dollars Cents | _____ | \$ _____ |
| 4.27 | 1 | LS | Filter Fabric Fence (Reference Section 01270.1.02.BB) | at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.28 | 1 | LS | Waterline Testing and Disinfection (Reference Section 01270.1.02.CC) | at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 4.29 | 1 | LS | Foundation Material for Trench (Reference Section 01270.1.02.DD) | at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| Subtotal Schedule 4.00: \$ | | | | | | | _____ |

| |
|---|
| Additive Alternate 2: Schedule 5.00 - Waterline Distribution System Improvements - Group J |
|---|

| | | | | | | | |
|------|---|----|--|---------------------------------------|------------------|-------------|----------|
| 5.01 | 1 | LS | Mobilization, Insurance, and Bonds (Reference Section 01270.1.02.A) | at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 5.02 | 1 | LS | Barricades, Signs, and Traffic Handling (Reference Section 01270.1.02.B) | at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |

| | | | | | | | |
|------|-------|----|---|---------|-------------|----|--|
| 5.03 | 1 | LS | Clearing and Grubbing (Reference Section 01270.1.02.C) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ XXXXXXXX | \$ | |
| | | | per lump sum | | | | |
| 5.04 | 1 | LS | Site Restoration (Seeding/Sodding) (Reference Section 01270.1.02.D) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ XXXXXXXX | \$ | |
| | | | per lump sum | | | | |
| 5.05 | 8,757 | LF | Pipe Trench Excavation Safety (Reference Section 01270.1.02.E) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.06 | 6 | EA | Connect to Existing Waterline – All Sizes (Reference Section 01270.1.02.F) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per each | | | | |
| 5.07 | 10 | EA | Cut and Plug Existing Waterline – All Sizes (Reference Section 01270.1.02.G) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per each | | | | |
| 5.08 | 8,651 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified (Reference Section 01270.1.02.H) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.09 | 15 | LF | Furnish and Install 6" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified (Reference Section 01270.1.02.I) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.10 | 114 | LF | Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified (Reference Section 01270.1.02.J) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.11 | 80 | LF | Concrete Encasement for 6" Waterline by Open Cut as shown and specified (Reference Section 01270.1.02.Q) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.12 | 58 | LF | Highway Bore w/18-in O.D. x 0.375-in Steel Encasement (Reference Section 01270.1.02.FF) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per linear foot | | | | |
| 5.13 | 1 | EA | Furnish and Install New Fire Hydrant Assembly (Reference Section 01270.1.02.R) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per each | | | | |
| 5.14 | 7 | EA | Reconnect to Existing Fire Hydrant (Reference Section 01270.1.02.S) | | | | |
| | | | at _____ | Dollars | | | |
| | | | and _____ | Cents | \$ | \$ | |
| | | | per each | | | | |

| | | | | | | |
|------|-----|----|---|------------------|-------------|----------|
| 5.15 | 10 | EA | Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified (Reference Section 01270.1.02.U) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 5.16 | 30 | EA | Short Side Water Service Reconnection (Reference Section 01270.1.02.V) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 5.17 | 33 | EA | Long Side Water Service Reconnection (Reference Section 01270.1.02.W) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 5.18 | 63 | EA | Remove and Replace Existing Meter and Meter Box (Reference Section 01270.1.02.X) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 5.19 | 4 | EA | Furnish and Install 6" Air Release valve as shown and specified (Reference Section 01270.1.02.Y) at _____ and _____ per each | Dollars Cents | \$ _____ | \$ _____ |
| 5.20 | 693 | SY | Saw Cut and Repair Asphalt Pavement (Reference Section 01270.1.02.AA) at _____ and _____ per square yard | Dollars Cents | \$ _____ | \$ _____ |
| 5.21 | 94 | SY | Saw Cut and Repair Gravel Pavement (Reference Section 01270.1.02.GG) at _____ and _____ per square yard | Dollars Cents | _____ | \$ _____ |
| 5.22 | 2 | SY | Saw Cut and Repair Concrete Sidewalk (Reference Section 01270.1.02.HH) at _____ and _____ per square yard | Dollars Cents | _____ | \$ _____ |
| 5.23 | 1 | LS | Filter Fabric Fence (Reference Section 01270.1.02.BB) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 5.24 | 1 | LS | Waterline Testing and Disinfection (Reference Section 01270.1.02.CC) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |
| 5.25 | 1 | LS | Foundation Material for Trench (Reference Section 01270.1.02.DD) at _____ and _____ per lump sum | Dollars Cents | \$ XXXXXXXX | \$ _____ |

Subtotal Schedule 5.00: \$ _____

Total Bid Amount Schedules 1.00 + 2.00 + 3.00: \$ _____

Total Add Alt Amount Schedules 4.00 + 5.00: \$ _____

Notes:

1. The quantities shown above are estimates only. The bidder understands that this is a unit price bid and that payment will be made for those quantities of work constructed and accepted as meeting the Contract requirements.
2. Bidders shall provide pricing for all items and schedules.
3. The Owner reserves the right to reject any and all bids.
4. The Owner reserves the right to award any single, combination, or all of the above bid schedules based upon available funding.
5. Refer to Section 01270 of the Specifications for descriptions of the bid items above.
6. In the event of discrepancies between written words and numbers in the bid form, written words shall govern.

SECTION SM - SEPARATION OF MATERIALS FORM

The successful Bidder shall prepare an itemized list of materials (including his prices to Owner) which are to be incorporated into the project and/or furnished to the Owner uninstalled. Consumable materials including motor fuel are excluded from this list.

This is a list of materials which, for sales tax purposes, are considered sold by the Contractor to the owner who is a sales tax exempt entity. Such materials are thus exempt from any sales taxes, either on the Contractor's purchase of the materials for resale or on his resale to the Owner.

The level of detail in this breakdown is at the discretion of the Contractor, with the understanding that the Contractor is responsible for furnishing required documentation to the State Comptroller. Major material purchases should be included to ensure their tax exempt status.

Material quantities in this breakdown should be limited to the amounts reasonably necessary for completion of the project. Excess materials which are used on another project may become subject to sales tax if not properly documented.

The Contractor's material prices to the Owner must be no less than his purchase price and may include transportation and handling costs plus a reasonable profit.

The total material price in the required breakdown must equal the total material price listed below. The breakdown must be mathematically correct before it will be approved by the Engineer and incorporated into the contract documents as sales tax exempt.

The material price breakdown shall be submitted with this form before execution of the contract documents. Otherwise, the Contractor may risk losing his sales tax exemption for this project.

- | | | |
|----|--|----------|
| 1. | TOTAL CONTRACT AMOUNT (As Awarded) | \$ _____ |
| 2. | SALES TAX EXEMPT MATERIALS (All materials which are (a) furnished by Contractor and incorporated into completed project or (b) furnished uninstalled by Contractor to Owner) | \$ _____ |
| 3. | OTHER COSTS (Including installation and consumable materials) | \$ _____ |

- NOTES:
1. Line 1 = contract price as awarded.
 2. Line 2 + Line 3 must equal Line 1.
 3. Line 2 must be not less than Contractor's anticipated invoice price for all sales tax exempt materials.

NOTICE OF AWARD

Date of Issuance:

| | | | |
|-----------|--|-------------------------|--|
| Owner: | City of Rockdale | Owner's Contract No.: | |
| Engineer: | KSA Engineers, Inc. | Engineer's Project No.: | RD.063 |
| Project: | City of Rockdale DWSRF Water Distribution System Improvements – Phase II | Contract Name: | City of Rockdale DWSRF Water Distribution System Improvements – Phase II |

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that Owner has accepted your Bid dated [DATE] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

City of Rockdale DWSRF Water Distribution System Improvements Phase II.

[describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is: \$ _____ *[note if subject to unit prices, or cost-plus]*

[3] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Engineer ~~Owner~~ [3] counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., performance and payment bonds]* and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: City of Rockdale

Authorized Signature

By: Brett Boren (Printed Name)

Title: Mayor

Copy: Engineer

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.

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

Prepared by



Issued and Published Jointly by



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THIS AGREEMENT is by and between City of Rockdale ("Owner") and _____ ("Contractor").

4.03 *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 times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. 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 \$1,000.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1,000.00 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 Substantial Completion and final completion are not additive and will not be imposed concurrently.

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.
- B. All specific cash allowances in accordance with Paragraph 13.02 of the General Conditions.
- C. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

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 account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during

performance of the Work 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.

1. 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
 - a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - 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 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of 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 in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST - NOT USED

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if

- any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. 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 Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
 - F. 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.
 - G. 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.
 - H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
 - J. 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.
 - K. *The Contractor acknowledges to and for the benefit of the Owner ("Purchaser") and the Texas Water Development Board (TWDB) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner and the TWDB that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the TWDB. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner to enforce this Agreement and recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the TWDB or any damages owed to the TWDB by the Owner). While the Contractor has no direct contractual privity with the TWDB, as a lender to the Owner for the funding of its project, the Owner and the Contractor agree that the TWDB is a third-party beneficiary and neither this paragraph (nor any other provision of*

this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the TWDB.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
1. This Agreement (pages 1 to 7, inclusive).
 2. Performance bond (pages 1 to 3, inclusive).
 3. Payment bond (pages 1 to 3, inclusive).
 4. Other bonds.
 - a. Maintenance Bond (pages 1 to 2, inclusive).
 5. General Conditions (pages 1 to 66, inclusive).
 6. Supplementary Conditions (pages 1 to 9, inclusive).
 7. Specifications as listed in the table of contents of the Project Manual.
 8. Drawings (not attached but incorporated by reference) consisting of 135 sheets with each sheet bearing the following general title: City of Rockdale DWSRF Water Distribution System Improvements – Phase II
 9. Addenda (numbers to , inclusive).
 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 1 to 13, inclusive).
 - 1) Total construction contract cost in the amount of \$_____.
 11. 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.
- B. The documents listed in Paragraph 9.01.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 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto 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 Documents.

10.03 *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.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall 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.

10.05 *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 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "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.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on DATE (which is the Effective Date of the Contract).

OWNER: City of Rockdale

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

505 W Cameron Ave

Rockdale, TX 76567

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

City of Rockdale
505 W Cameron Ave
Rockdale, TX 76567

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description: City of Rockdale DWSRF No. 62833 Water Distribution System Improvements-Phase II

BOND

Bond Number:

Date: *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Contractor's Name and Corporate Seal

By: _____
Signature

Print Name

Title

Attest: _____
Signature

Title

SURETY

Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

Print Name

Title

Attest: _____
Signature

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall 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 shall not be reduced or set off on account of any such unrelated obligations. No right of action shall 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 may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall 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 shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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 shall be deemed to

be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

Water Code Sec 17.183(a)(2)(A): this bond shall include without limitation guarantees that the work done under the contract will be completed and performed according to approved plans and specifications and in accordance with sound construction principles and practices.

Water Code Sec 17.183(a)(2)(B): bond shall be in a penal sum of not less than 100 percent of the contract price and remains in effect for one year beyond the date of approval by the engineer of the political subdivision

The Contractor shall utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address)*

City of Rockdale
505 W Cameron Ave
Rockdale, TX 76567

CONSTRUCTION CONTRACT

Effective Date of the Agreement: DATE

Amount:

Description: City of Rockdale DWSRF No. 62833 Water Distribution System Improvements-Phase II

BOND

Bond Number:

Date: *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

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
2. incorporated herein by reference, subject to the following terms.
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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 satisfy 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 shall 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 shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall 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 shall be deemed deleted herefrom and

provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
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;
4. A brief description of the labor, materials, or equipment furnished;
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;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
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 shall be 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

Water Code Sec 17.183(a)(2)(B): bond shall be in a penal sum of not less than 100 percent of the contract price and remains in effect for one year beyond the date of approval by the engineer of the political subdivision. The performance bond shall include without limitation guarantees that work done under the contract will be completed and performed according to approved plans and specifications and in accordance with sound construction principles and practices.

b. The performance and payment bonds shall be in a penal sum of not less than 100 percent of the contract price and remain in effect for one year beyond the date of approval by the Engineer of the political subdivision.

c. The Contractor shall utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code. .

CERTIFICATE OF INSURANCE

TO:

Date: _____

Project No.: RD.063

Owner

Type of Project: City of Rockdale DWSRF Water Distribution System Improvements – Phase II

Address: City of Rockdale
505 W Cameron Ave
Rockdale, TX 76567

THIS IS TO CERTIFY THAT: _____
(Name and address of insured)

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

| | Policy No. | Effective | Expires | Limits of Liability |
|------------------------|------------|-----------|---------|---------------------------|
| Workmen's Compensation | | | | |
| Public Liability | | | | 1 Person \$ 1 Accident |
| Contingent Liability | | | | 1 Person \$ 1 Accident |
| Property Damage | | | | |
| Builder's Risk | | | | |
| Automobile | | | | |
| Other | | | | |

The foregoing Policies (do) (do not) cover all sub-contractors.

Locations Covered: _____

Descriptions of Operations Covered: _____

Additional Insured: **City of Rockdale and KSA Engineers, Inc.**

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

Where applicable local laws or regulations require more than ten days actual notice of change or cancellation to the assured, the above policies contains such special requirements, either in the body thereof or by appropriate endorsement thereto attached.

(Name of Insurer)

By _____

Title _____

NOTICE TO PROCEED

| | | | |
|-------------|--|-----------------------------|--|
| Owner: | City of Rockdale | Owner's Contract No.: | |
| Contractor: | | Contractor's Project No.: | |
| Engineer: | KSA Engineers, Inc. | Engineer's Project No.: | RD.063 Phase 2 |
| Project: | City of Rockdale DWSRF Water Distribution System Improvements – Phase II | Contract Name: | City of Rockdale DWSRF Water Distribution System Improvements – Phase II |
| | | Effective Date of Contract: | |

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [_____, 2024]. *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, [the date of Substantial Completion is _____, and the date of readiness for final payment is _____] **or** [the number of days to achieve Substantial Completion is 300, and the number of days to achieve readiness for final payment is 330].

Before starting any Work at the Site, Contractor must comply with the following:

Owner: City of Rockdale

Authorized Signature

By:

Title: Mayor

Date Issued:

Copy: Engineer

CERTIFICATE OF SUBSTANTIAL COMPLETION

| | |
|---|---|
| Owner: City of Rockdale | Owner's Contract No.: City of Rockdale |
| Contractor: | Contractor's Project No.: |
| Engineer: KSA Engineers | Engineer's Project No.: KSA Engineers |
| Project: City of Rockdale DWSRF Water Distribution System Improvements – Phase II | Contract Name: City of Rockdale DWSRF Water Distribution System Improvements – Phase II |

This Preliminary Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's responsibilities: ☐ None
☐ As follows

Amendments to Contractor's responsibilities: ☐ None
☐ As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

| EXECUTED BY ENGINEER: | RECEIVED: | RECEIVED: |
|-------------------------------------|---|--|
| By: _____ (Authorized signature) | By: _____ Owner (Authorized Signature) | By: _____ Contractor (Authorized Signature) |
| Title: _____ | Title: _____ | Title: _____ |
| Date: _____ | Date: _____ | Date: _____ |

TWDB FORMS

GUIDANCE DOCUMENTS AND FORMS

EXCERPTS FROM TEXAS WATER CODE

The following excerpts from the Texas Water Code are hereby made a part of this contract. In the event there are any conflicts between these requirements and requirements of the specifications, these excerpts will govern.

CONSTRUCTION CONTRACT REQUIREMENTS

The governing body of each political subdivision receiving financial assistance from the Board shall require in all contracts for the construction of a project:

1. that each bidder furnish a bid guarantee equivalent to five percent of the bid price;
2. that each contractor awarded a construction contract furnish performance and payment bonds;
3. that payments be made in partial payments as the work progresses;
4. that each partial payment shall not exceed 95 percent of the amount due at the time of the payment as shown by the engineer of the project; and
5. that payment of the retainage remaining due upon completion of the contract shall be made only after:
 - a. approval by the engineer for the political subdivision as required under the bond proceedings;
 - b. approval by the governing body of the political subdivision by a resolution or other formal action; and
 - c. certification by the Development Fund Manager in accordance with the rules of the Board that the work to be done under the contract has been completed and performed in a satisfactory manner in accordance with sound engineering principles and practices.
6. that no valid approval may be granted unless the work done under the contract has been completed and performed in a satisfactory manner according to approved plans and specifications.

FILING CONSTRUCTION CONTRACT

The political subdivision shall file with the Board a certified copy of each construction contract it enters into for the construction of all or part of a project. Each contract shall contain or have attached to it the specifications, plans, and details of all work included in the contract.

INSPECTION OF PROJECTS

1. the Board may inspect the construction of a project at any time to assure that:
 - a. the contractor is substantially complying with the approved engineering plans of the project; and

- b. the contractor is constructing the project in accordance with sound engineering principles.
2. inspection of a project by the Board does not subject the State to any civil liability.

ALTERATION OF PLANS

After the Executive Administrator approves the engineering plans, a political subdivision may not make any substantial or material alteration in the plans unless the Executive Administrator authorizes the alteration in accordance with the rules of the Board.

CERTIFICATE OF APPROVAL

The Executive Administrator may consider the following as grounds for refusal to give a Certificate of Approval for any construction contract:

1. failure to construct the project according to approved plans;
2. failure to construct the works in accordance with solid engineering principles; or
3. failure to comply with any terms of the contract.

FOR OFFICE USE ONLY
Commitment# _____

TWDB-0216
TEXAS WATER DEVELOPMENT BOARD
AFFIRMATIVE STEPS SOLICITATION REPORT

I. PROJECT INFORMATION

| TWDB Project Number | Applicant/Entity Name | Total TWDB Funding Request | Program Type (insert "X" for all that apply) | |
|---------------------|-----------------------|----------------------------|---|----------------------------|
| | | | <input type="checkbox"/> | Drinking Water SRF (DWSRF) |
| | | | <input type="checkbox"/> | Clean Water SRF (CWSRF) |

Project Name: _____**Solicitation By:** ☐ Applicant/Entity OR ☐ Prime Contracted Business: _____**Project Phase:** ☐ Prior to Closing ☐ Release of funding for PADs ☐ Construction Contract #_**II. SOLICITATION METHOD(S) UTILIZED**

At least two methods of solicitation are required. Select the method(s) utilized for the solicitation. Copies of the actual postings, direct contact email/phone log, etc. must be attached to this form as support documentation for each method used. Failure to adequately follow these steps will result in the requirement to complete additional steps in order to become compliant.

- ☐ Newspaper Advertisements ☐ Meetings or Conferences ☐ Trade Association Publications
☐ Minority Media ☐ Internet & Web Postings ☐ Other Government Publications
☐ Direct Contact by Phone, Fax, USPS Mail, or Email*

If using direct contact, entities must solicit to a minimum of 3 businesses/firms (at least one being a DBE) for each category of contract sought (i.e., construction, supplies, equipment, or services) to demonstrate a Good Faith Effort. **DBE businesses/firms may be contacted to certify compliance.*

III. PROJECT BIDDERS LIST:

List on the following table, or provide on a separate list, only the business entities directly solicited for procurement or that submitted a bid for consideration.

| | |
|---------------------------------------|--|
| Instructions for Columns 1 - 5 | 1 - List the actual date business was contacted 2 - Full business name (line one) & point of contact (line two) 3 - Business address 4 - Telephone number 5 - Email address for the business |
| Instructions for Column 6 | Enter one of the following procurement or contract categories: Construction or Non-Construction (SUPPLIES – EQUIPMENT – SERVICES) <i>For detailed definitions, review guidance document, TWDB-0210.</i> |
| Instructions for Column 7 | Enter the type of business: MBE - Minority Business Enterprise, WBE - Women-owned Business Enterprise, or OTHER - Company or firm is Non-MBE or WBE |

Notice: Entities receiving State Revolving Fund financial assistance must create and maintain a Bidders List if the entity is subject to, or chooses to follow, competitive bidding. The Bidders List must include all firms that bid or quoted on contracts under EPA assisted projects, including both MBE/WBEs and non-MBE/WBEs. Entities must keep all Bidders Lists until project completion or the recipient is no longer receiving EPA funding under the loan, whichever is later. Entities with loans totaling less than \$250,000 during a state fiscal year are exempt from the Bidders List requirement but must still meet DBE program requirements. The Bidders List requirement also applies to all Prime Contracted Businesses/Firms that make subcontracting.

| | Column 1 | Column 2 | Column 3 | Column 4 | Column 5 | Column 6 | Column 7 |
|----|------------------------------------|--|---------------------|---------------------|-------------------|---|-------------------------|
| | Date of Contact Type of Contact | Business Name & Point of Contact name | Business Address | Telephone Number | E-Mail Address | Procurement Category Construction / Non-Construction | MBE/WBE/Other Status |
| 1. | | | | | | | |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |

Use additional sheets if necessary

| Signature – Authorized Representative | Title (print legibly) | Date |
|---------------------------------------|-----------------------|------|
| | | |

IV. TWDB APPROVAL SIGNATURE

Signature indicates the form meets DBE requirements

| DBE Coordinator | Approval Date |
|-----------------|---------------|
| | |

TWDB-0217
TEXAS WATER DEVELOPMENT BOARD (TWDB)
PRIME CONSULTANT/CONTRACTOR CERTIFICATION

I. PROJECT INFORMATION

| TWDB Project Number | Applicant/Entity Name | Total of TWDB Funding | Program Type (insert "X" for all that apply) | |
|------------------------|-----------------------|--------------------------|---|----------------------------|
| | | | <input type="checkbox"/> | Drinking Water SRF (DWSRF) |
| | | | <input type="checkbox"/> | Clean Water SRF (CWSRF) |

Prime Consultant/Contractor: _____

Contract Number: _____ Contract Amount: _____

II. GOOD FAITH EFFORT (Applicable to all subcontracts awarded by the prime contractor/consultant)

I understand that it is my responsibility to comply with all state and federal regulations and guidance in the utilization of Minority and Women-owned Businesses in procurement. I certify that I will make a "good faith effort" to afford opportunities for Minority Business Enterprise (MBE), and Women-owned Business Enterprise (WBE) by:

1. Including qualified MBEs and WBEs on procurement solicitation lists
 2. Soliciting potential MBEs and WBEs
 3. Reducing contract size/quantities when economically feasible to permit maximum participation by MBEs and WBEs
 4. Establishing delivery schedules to encourage participation by MBEs and WBEs
 5. Using the services and assistance of the Small Business Administration, Minority Business Development Agency, U.S. Department of Commerce, and Texas Marketplace
 6. Submitting documentation to the Applicant/Entity to verify good faith effort, steps 1-5.
- ☐ **EXCEPTION:** As the Prime Consultant/Contractor, I certify that I have reviewed the contract requirements and found no available subcontracting opportunities. I also certify that I will fulfill 100 percent of the contract requirements with my own employees and resources. (Check if applicable)

| Signature – Prime Consultant/Contractor | Title (print legibly) | Certification Date |
|---|-----------------------|--------------------|
| | | |

I. PROJECT PARTICIPATION ESTIMATES

The Cost Categories mentioned below are goals. These goals are neither standards nor quotas. Recipients of financial assistance are not required to meet the fair share objectives. They must, however, acknowledge that they are aware of and are actively pursuing the fair share objectives with their procurements.

| | Potential MBE Participation | Potential WBE Participation |
|---|------------------------------------|------------------------------------|
| Cost Category | Goal | Goal |
| Construction | 24.50% | 11.34% |
| Non-Construction | 25.05% | 19.35% |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% |

The fair share goals listed above are required by 40 CFR Part 33 Subpart D and are directly negotiated with EPA Region 6. Entities receiving federal financial assistance are subject to the TWDB's goals and may not be substituted with other agency or program goals.

IV. TWDB APPROVAL SIGNATURE

Signature indicates the form meets DBE Requirements.

| DBE Coordinator | Approval Date |
|-----------------|---------------|
| | |

FOR OFFICE USE ONLY

Commitment # _____

TWDB-0373
TEXAS WATER DEVELOPMENT BOARD
PARTICIPATION SUMMARY
PROJECT INFORMATION

| TWDB Project Number | Applicant/Entity Name | Total TWDB Funding Request | Program Type (insert "X" for all that apply) |
|---------------------|-----------------------|----------------------------|---|
| | | | <input type="checkbox"/> Drinking Water SRF (DWSRF) |
| | | | <input type="checkbox"/> Clean Water SRF (CWSRF) |

Project Name: _____

Solicitation By: ☐ Applicant/Entity OR ☐ Prime Contracted Business: _____

Project Phase: ☐ Prior to Closing ☐ Release of funding for PADs ☐ Construction Contract # _____

| Instructions | |
|-----------------|--|
| Column 1 | Enter the full name, street address, city/state/zip for each firm awarded a contract for the project. |
| Column 2 | Enter one of the following procurement or contract categories: CONSTRUCTION / NON-CONSTRUCTION (Services; Equipment; Supplies) |
| Column 3 | Enter the type of business: MBE (Minority Business Enterprise), WBE (Women-owned Business Enterprise), or OTHER (NOTE: OTHER = Company or firm is Non-MBE or WBE) |
| Column 4 | Enter the exact amount of the awarded contract. |
| Column 5 | Enter the exact date the contract was executed or the proposed date of contract execution. |

If valid MBE/WBE firms are awarded contracts, a copy of their certification is required to be attached with this form for each MBE/WBE business listed.

Notice: Brokers may not be listed below as an MBE or WBE. A broker is a firm that does not perform, manage, or supervise the work of its sub/contract in a manner consistent with the normal business practices for sub/contractors in its line of business. For more specifics, review guidance document, TWDB-0210.

I. LIST OF ACTUAL CONTRACTS/PROCUREMENTS

| | Column 1 | Column 2 | Column 3 | Column 4 | Column 5 |
|----|--|--|----------------|----------------------|-------------------------|
| | Name & Address of Contracted Firm/Vendor | Procurement Category Construction Or Non-Construction | MBE/WBE Status | Contract Amount (\$) | Contract Execution Date |
| 1. | | | | | |
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| 2. | | | | | |
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(Table continues on the next page)

| | Column 1 | Column 2 | Column 3 | Column 4 | Column 5 |
|-----|---|--|----------------|----------------------|-------------------------|
| | Name & Address of Contacted Firm/Vendor | Procurement Category Construction Or Non-Construction | MBE/WBE Status | Contract Amount (\$) | Contract Execution Date |
| 7. | | | | | |
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| 18. | | | | | |
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Use additional sheets if necessary

| Signature – Authorized Representative | Title (print legibly) | Date |
|---------------------------------------|-----------------------|------|
| | | |

II. TWDB APPROVAL SIGNATURE

Signature indicates the form meets DBE requirements.

| DBE Coordinator | Approval Date |
|-----------------|---------------|
| | |

Debarment / Suspension Certification

I, _____, hereby certify that I have checked on the federal
(Authorized Representative of Recipient)

System for Award Management (www.sam.gov) website and determined that

_____ is not shown as an “excluded party” that is debarred,
(Name of entity)

suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549. (See 2 CFR Part 180 and 2 CFR Part 1532 for additional information on the federal governmentwide debarment and suspension system for nonprocurement programs and activities.)

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date

Title

Name of Recipient

Verifying prime contractors and subcontractors for construction, equipment, supplies and services: Using the www.sam.gov website, the recipient must verify prior to awarding the contract that the prime contractor is not listed as an “excluded party” that is debarred, suspended or otherwise excluded from or ineligible. Once any subcontractors are known, they also must be verified as not listed as an “excluded party” prior to award of a subcontract. The recipient must print a dated record of the verification from the www.sam.gov website and retain a copy that is available for review by TWDB. The prime contractors and subcontractors must be verified prior to the contract award or the costs may be disallowed.

BIDDER'S CERTIFICATIONS

Project Name: _____

Project Number: _____

Contract For: _____

The following certifications must be completed by the bidder for each contract.

A. EQUAL EMPLOYMENT OPPORTUNITY:

() I have developed and have on file at each establishment affirmative action programs pursuant to 41 CFR Part 60-1.7.

I have:

- () participated in previous contract(s) or subcontract(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375. I have filed all notices, contract specifications, and compliance reports due under the requirements contained in 41 CFR Part 60-4.
- () **not** participated in previous contracts(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375 and 41 CFR Chapter 60.

B. NONSEGREGATED FACILITIES

() I certify that I do not and will not maintain any facilities provided for my employees in a segregated manner, or permit my employees to perform their services at any location under my control where segregated facilities are maintained; and that I will obtain a similar certification prior to the award of any federally assisted subcontract exceeding \$10,000 which is not exempt from the equal opportunity clause as required by 41 CFR Part 60-1.8.

I will obtain a similar certification from any proposed subcontractor(s), when appropriate.

I understand that a false statement on this certification may be grounds for rejection of this bid proposal or termination of the contract award.

Typed Name and Title of Bidder's Authorized Representative

Signature of Bidder's Authorized Representative

Date

Name and Address of Bidder



Disadvantaged Business Enterprises for State Revolving Fund Projects

210-Guidance

Updates to this guidance include:

- *Replaced current 8% Minority Business and Women's Business Enterprise (MBE/WBE) Goals with EPA's Negotiated- Approved Goals starting April 1, 2024. (pg.2)*
- *Updated TWDB-0215 (Attachment 1)*
- *Updated TWDB-0217 (Attachment 3)*
- *Replaced Fiscal Year 2018 Negotiated Minority Business Enterprise and Women's Business Enterprise (MBE/WBE) Goals (pg. 2)*
- *Updated language: Introduction to Federal Requirements (pg. 2)*
- *Updated EPA's 2019 Approved Class Exception RAIN (pg. 2)*
- *Updated Current Negotiated Fair Share Goals for Categories (pg. 7)*
- *Updated definition for Trade Association method (pg. 9)*
- *Updated DBE Program Links (pg. 16)*
- *Updated Appendix A-page 1: Defined Construction / Non-Construction*
- *Updated TWDB-0215 (Attachment 1)*
- *Updated TWDB-0216 (Attachment 2)*
- *Updated TWDB-0217 (Attachment 3)*
- *Updated TWDB-0373 (Attachment 4)*

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

TWDB-0210 GUIDANCE

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Attachments (examples of required forms):

1. [TWDB-0215](#)
2. [TWDB-0216](#)
3. [TWDB-0217](#)
4. [TWDB-0373](#)

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

INTRODUCTION TO FEDERAL REQUIREMENTS

The Texas Water Development Board (TWDB) intends to ensure that applicants, consultants and contractors are provided with information and guidance to successfully meet the U.S. Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) program requirements.

The TWDB's Clean and Drinking Water State Revolving Fund programs receive federal funding from the EPA to provide financial assistance for water and wastewater projects. Recipients of financial assistance (e.g., municipalities, towns, public water systems) and their sub-recipients (e.g., prime consultants, prime contractors, purchase order vendors) are **required** to make a "Good Faith Effort" to award a fair share of work to contractors who are certified as Minority Business Enterprises (MBE) and Women-owned Business Enterprises (WBE) whenever procuring construction, supplies, services, and equipment ([40 CFR, Section 33.301](#)). This requirement currently applies to Clean Water State Revolving Fund Equivalency projects and all Drinking Water State Revolving Fund Equivalency projects. . Recipients of financial assistance are required to show evidence that they have performed the six steps showing a "Good Faith Effort" (referred to as the Six Good Faith Efforts) for all procurements ([40 CFR, Section 33.301](#)).

The DBE program is an outreach, education, and goal-oriented program designed to increase the participation of MBEs and WBEs in procurements funded by EPA assistance agreements through the State Revolving Funds. The DBE program goals, also referred to as Fair Share Objectives, are negotiated every three years between the TWDB and the EPA. ***The TWDB's current negotiated fair share goals are effective 04/01/2024 till 05/01/2027:***

| | Potential MBE Participation | Potential WBE Participation |
|---|------------------------------------|------------------------------------|
| Cost Category | Goal | Goal |
| Construction | 24.50% | 11.34% |
| Non-Construction | 24.05% | 19.35% |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% |

The MBE/WBE goals are neither standards nor quotas; they are goals. Recipients of financial assistance are not required to meet the fair share objectives. They must, however, acknowledge that they are aware of and are actively pursuing the fair share objectives with their procurements.

Recipients of financial assistance **must** maintain all records documenting compliance with all applicable federal and state requirements. They are also subject to additional contract administration requirements ([40 CFR, Section 33.302](#)).

This guide will cover the Six Good Faith Efforts, procurement instructions, and the TWDB's DBE review process. All of the required DBE forms as well as a few situational examples are included for reference. Clear definitions of all of the terms used throughout the guidance document may be found within the Glossary (Appendix A). The terms "recipient of financial assistance", "applicant", or "entity" may be used interchangeably.

COMPLIANCE WITH THE REQUIREMENTS

Compliance is achieved by: 1) applying the Six Good Faith Efforts to all procurements utilizing applicable State Revolving Fund program funds, 2) submitting TWDB's DBE forms in a timely manner, 3) ensuring all necessary documentation and language is included in bid advertisements and solicitations, and 4) maintaining detailed documents showing compliance with the DBE requirements. In the event that a recipient of financial assistance fails to comply with any of the DBE program requirements, EPA may take remedial action under [40 CFR, Section 33.105](#). A failure to comply with the legally required federal regulations at 40 CFR Part 33 may result in remedial actions including, but not limited to: Temporarily withholding cash payments pending correction of the deficiency by the recipient or more severe enforcement action by EPA; Disallowing all or part of the cost of the activity or action not in compliance; Wholly or partly suspending or terminating the current award; or Withholding further awards for the project or program.

SIX GOOD FAITH EFFORTS

The Six Good Faith Efforts undertaken by a recipient of financial assistance and its prime consultant(s)/contractor(s) ensures that DBE businesses are made aware of procurement opportunities.

According to [40 CFR § 33.301](#), a recipient of financial assistance is required to complete the following Six Good Faith Efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement:

- (1) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
- (2) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- (3) Consider in the contracting process whether businesses competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
- (4) Encourage contracting with a consortium of DBEs when a contract is too large for one of these businesses to handle individually.
- (5) Use the services and assistance of the Small Business Administration (SBA) and the Minority Business Development Agency of the Department of Commerce.
- (6) If the Prime Contractor awards subcontracts, require the prime contractor to take the complete steps (1) through (5) listed above.

Note: Step-by-step guides are available in future sections of this guidance to explain these six steps (pp. 7-15).

WHEN TO SUBMIT

Recipients of financial assistance through the SRF Programs will be required to submit DBE documentation at different phases during the project's lifecycle (Application, Prior to Closing, Release of Planning/Design funds, and Construction Contract Phases). *Note: Submitting DBE forms to the TWDB alone will not meet EPA's fair share policy. Review the section, Required Documentation, for the additional steps that **must** be completed.*

Application (must be submitted with a financial application)

- **TWDB-0215 (from Applicant/Entity)** certifies that the entity understands they **must** follow the Six Good Faith Efforts and attempt to meet the Fair Share Objectives for MBE/WBE participation.

Prior to Closing (must be submitted, reviewed and approved by TWDB staff prior to closing)

- **TWDB-0216 (from Applicant/Entity)** identifies the methods of solicitation used for procurements, all businesses directly solicited for procurement (at this stage, typically the Financial Advisor, Bond Counsel, and Engineer), their contact information, and their MBE/WBE status.
- **TWDB-0373 (from Applicant/Entity)** identifies the businesses awarded a contract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount. *Note: Any businesses operating as brokers may not be listed on the TWDB-0373 as an MBE or WBE.¹*
- **TWDB-0217 (from Prime Consultants)** certifies that the Prime Consultant (at this stage, typically the Financial Advisor, Bond Counsel, and Engineer) understand they **must** follow the Six Good Faith Efforts and attempt to meet the Fair Share Objectives for MBE/WBE participation.

Release of Planning/Design Phase funds

- **TWDB-0216 (from Applicant/Entity)** identifies the methods of solicitation used for procurements, all businesses directly solicited for procurement, their contact information, and their MBE/WBE status. This form is required at this stage only, if the entity pursues procuring additional businesses (e.g., Environmental, Other Legal Services, Surveying) for construction (if applicable), equipment, services, or supplies after closing.
- **TWDB-0373 (from Applicant/Entity)** identifies the businesses awarded a contract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount. This form is required, at this step only, if the entity pursues procuring additional businesses (e.g., Environmental, Other Legal Services, Surveying) for construction (if applicable), equipment, services, or supplies after closing. *Note: Any businesses operating as brokers may not be listed on the TWDB-0373 as an MBE or WBE.¹*
- **TWDB-0216 (from Prime Consultants/Contractors)** indicates all businesses solicited for procurement, their contact information, and their MBE/WBE status.

¹ A broker is a business that does not perform, manage, or supervise the work of its sub/contract in a manner consistent with the normal business practices for sub/contractors in its line of business.

- **TWDB-0373 (from Prime Consultants/Contractors)** identifies all businesses awarded a subcontract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount. *Note: Any businesses operating as brokers may not be listed on the TWDB-0373 as an MBE or WBE.*²

Construction Contracts

- **TWDB-0216 (from Applicant/Entity)** identifies the methods of solicitation used for procurements, all businesses directly solicited for procurement (at this stage, typically a construction contractor), their contact information, and their MBE/WBE status.
- **TWDB-0373 (from Applicant/Entity)** identifies the businesses awarded a contract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount.
- **TWDB-0216 (from Prime Consultants/Contractors)** indicates all businesses solicited for procurement, their contact information, and their MBE/WBE status.
- **TWDB-0217 (from Prime Contractor)** certifies that the Prime Contractor understands they **must** follow the Six Good Faith Efforts and attempt to meet the Fair Share Objectives for MBE/WBE participation.
- **TWDB-0373 (from Prime Contractor)** identifies all businesses awarded a contract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount. *Note: Any businesses operating as brokers may not be listed on the TWDB-0373 as an MBE or WBE.*²

REQUIRED DOCUMENTATION

In addition to the forms that **must** be submitted to the TWDB for review and approval prior to a project progressing through its lifecycle, recipients of financial assistance are required to maintain the following sets of documents or files related to the DBE program for the duration of the project:

- All copies of advertisements, solicitation postings, and communications to publish public solicitation including publishers' affidavits, U.S. certified mail receipts, and emails.
- Bidder's List(s) of Prime Contracts if procurement was through an open-competitive bidding process.
- All forms submitted to the TWDB and the EPA for the DBE program.
- All documentation submitted by the Prime Consultant(s) and Contractor(s) depicting their compliance with EPA's fair share policy (review the section, Procurement Steps, for more details).

SPECIAL CIRCUMSTANCES

In some circumstances, a recipient of financial assistance may not be able to make a good faith effort in procuring DBEs. If this circumstance is encountered, communication with the TWDB's DBE Coordinator should take place well in advance of making the decision to execute a procurement/contract not following the TWDB's DBE program. The DBE Coordinator will determine whether the circumstance may qualify for a **sole-source** method of procurement. The sole-source method requires that the recipient of financial assistance produce a letter explaining why they were unable to follow the DBE program, submit the documentation to the TWDB for official review, and retain a copy of the letter within the project file.

² A broker is a business that does not perform, manage, or supervise the work of its sub/contract in a manner consistent with the normal business practices for sub/contractors in its line of business.

Example:

After pilot testing a specific treatment process for a treatment plant, the Texas Commission on Environmental Quality (TCEQ) has required a specific piece of equipment that only a single manufacturer produces, or a sole-source. In this instance, two key items are needed for DBE program compliance: a letter from the recipient of financial assistance detailing the circumstances related to the sole-source, and the exemption letter from the TCEQ identifying the specific equipment. These items should be sent to the TWDB and saved within the recipient of financial assistance's project file. Communication should be given to the TWDB's DBE Coordinator upon receipt and review of the TCEQ's exemption letter.

There may be instances when a recipient of financial assistance would like to contract for services or contract with a supplier(s) for an extended period of time. These **multi-year contracts** are allowed and acceptable under the EPA's DBE program, so long as certain steps are followed. When the TWDB's DBE Coordinator reviews any submitted DBE documentation, they will ensure the solicitation language contains the expected scope of work and the applicable timeframes of the contract. The solicitation should also reference the TWDB's negotiated fair share objectives through use of the TWDB's solicitation statement within the advertisement. Including the solicitation statement ensures the multi-year contract is procured under the TWDB's current negotiated fair share objectives. If any of this information is missing, the TWDB's DBE Coordinator may not be able to approve the submitted DBE documentation and may require additional steps in order to meet compliance.

The recipient of financial assistance **must** follow the EPA's DBE process in procuring the multi-year contract(s). A multi-year contract will not be accepted if the contract solicitation and award date occurred more than three years from the date of submission to the TWDB's DBE Coordinator. Multi-year contracts exceeding this timeframe may be evaluated by the TWDB on a case-by-case basis. Advanced notice of this type of procurement should be given to the TWDB's DBE Coordinator before making the decision to execute a procurement/contract.

Example:

The Town of Medgar (Town), is preparing to execute a contract with a consultant engineering firm for engineering services covering all line replacement work within its public water supply system. The Town has drafted a solicitation for water line replacement work for all projects that are or may possibly be funded through the TWDB's Drinking Water State Revolving Fund (DWSRF) and has received an approval for use by the TWDB's DBE Coordinator. The multi-year contract is structured to be in effect for no longer than three years. Following the standard DBE process, the Town posts the solicitation, awards the contract, and then submits the applicable forms to the TWDB for review. Three years later, the Town chooses to take on additional water line replacement work funded through new DWSRF financing. To show compliance, they submit the DBE forms showing their original procurement of the engineering firm to the TWDB's DBE Coordinator. Following this process allows the Town to utilize one consultant engineering firm for all water line replacement projects within the system that are planned and/or implemented within the three years after executing the contract.

In instances where a recipient of financial assistance wants their own staff to perform services, their approval process would follow a **force account** process. Under a force account, the recipient of financial assistance submits a written request to the TWDB's DBE Coordinator describing the scope of work covered by their staff and indicating their participation through the force account process. This letter should remain within their project files. The TWDB's DBE Coordinator will acknowledge its receipt, review for applicability, and respond with a determination before any work proceeds.

PROCUREMENT STEPS

Included in these instructions are steps to successfully perform your DBE solicitation. Please read them carefully. These steps should be taken when procuring construction, equipment, services, and/or supplies. The terms "recipients of financial assistance", "applicant", or "entity" may be used interchangeably. The term "Prime(s)" refers to both "Consultants" and "Contractors".

STEP 1. DETERMINE YOUR PROCUREMENT NEEDS

For all of the categories listed below, you are required to solicit by any of the listed methods identified in Step 2 DBE businesses qualified and capable of completing the work requested. You should also determine whether it is economically feasible to divide the proposed project into smaller tasks or quantities to permit maximum participation by DBE businesses.

Procurement Categories

Construction contracts generally relate to the bidding process for a prime contractor. **Equipment** contracts relate to the purchase of equipment from vendors. **Service** contracts relate to the hiring of consultants or any other service related work. **Supply** contracts relate to the purchase of supplies directly from vendors. Procurements are classified in two categories: **Construction & Non-Construction**.

Examples

1. If your project consists of one general construction contract, you will need to solicit DBE prime contractors within the regional vicinity of the project that are capable of completing the work.
2. If your own workforce will be performing all of the work, but you will need to purchase supplies or equipment, then you will need to solicit DBE vendors within the regional project area capable of providing supplies or equipment to your proposed project.

STEP 2. DETERMINE YOUR METHODS OF SOLICITATION

You may choose from a list of seven methods of solicitation. At least TWO methods **must** be chosen. These may be performed in conjunction with any required local or state procurement laws:

- Newspaper Advertisements
- Direct Contact by Phone, Fax, USPS Mail, Email (any combination of these still counts as ONE method)
- Meetings or Conferences
- Minority Media Postings
- Internet Website Postings
- Trade Association Publications (i.e., publishing a solicitation within a newsletter, email list, webpage, etc. for a grouping of all who come together in an organized attempt to interest, persuade, or influence the actions, policies, or decisions of government officials, for the advancement and recruitment of contracting opportunities.)
- Other Government Publications (i.e., publishing a solicitation within other governmental publications)

If you choose to solicit via direct contact, additional steps are required to ensure fairness (see Step 2B. Directly Solicit Businesses). To reiterate, depending on your entity or businesses' makeup, you **must** ensure that you meet all applicable local and state procurement laws.

STEP 2A. ADVERTISE YOUR PROJECT

Draft the content of your solicitation. Example advertisement and request for qualifications language is available in appendix B.

To be compliant with the DBE program, all solicitations, both publicly advertised and via direct contact, should address 1) fair share goals; 2) good faith efforts; 3) the involvement of federal EPA funding; and 4) encouragement of MBEs, WBEs, and other DBEs to bid on prime and subcontracts.

To ensure compliance, the TWDB **recommends** including the following solicitation statement in all solicitations:

This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) businesses. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

The TWDB encourages you to publish your solicitation at least 30 days prior to the bid closing date to allow sufficient time for potential prime or subconsultants/contractors to submit bids and proposals. The solicitation statement may be used within a newspaper advertisement, a posting to minority media or internet website, or posting within any other trade association or government publications. A copy of the actual solicitation found within/on the publication or web page **must** be kept with the project files and submitted along with the form TWDB-0216.

When advertising your project through a newspaper, it is important to retrieve a publisher's affidavit showing the dates of the posting(s) and the content of the advertisement. This support information **must** be saved with the project files and submitted along with the form TWDB-0216. For entities and projects required by state procurement law to perform an open competitive bidding process (i.e., political subdivisions of the state or districts soliciting for contract(s) more than a specific dollar amount as directed by state procurement law), a posting at least once a week, for two consecutive weeks, in a newspaper published in the municipality (or county) in which the district is located is required (TEX. LOC. GOV'T CODE § 252.041 and TEX. WATER CODE § 49.273).

Note: Sufficient documentation for meetings or conferences held as a method of solicitation include announcements of the meeting or meeting minutes AND a sign-in sheet. Posting items to a government-run plan room is considered the "Other Government Publications" method listed within the previous step. Posting items to a privately-run plan room is considered the "Trade Association Publications" method listed within the previous step. Conducting and submitting a search of businesses does not count as any one of the methods listed within the previous step. Search results are only accepted when accompanied with a detailed, signed explanation to document your inability to locate DBE businesses meeting the qualifications solicited and/or their inability to bid on your project.

STEP 2B. DIRECTLY SOLICIT BUSINESSES

You may directly solicit businesses utilizing phone, fax, USPS mail, or email communications. All documentation of such activity **must** be saved with the project files. When communicating via phone, an electronic or hand-written call log may be used as support. Remember to document the name of the firm solicited, the person contacted, a telephone number, their MBE/WBE status, and the category of work requested.

You **must** make contact with at least three qualified businesses for the specific procurement and **at least one** of those businesses **must** be a certified MBE/WBE business. **DBE businesses/firms may be contacted by TWDB to certify "direct contact" method.** An example of submitted direct solicitation documentation is available in Appendix D. To determine a business' certification, review Step 3. Determining a Business' DBE Status.

STEP 3. DETERMINING A BUSINESS' DBE STATUS

A DBE is a business owned by a socially and economically disadvantaged individual and certified as such by the EPA or another organization whose certification standards meet or exceed that of the EPA's (See Appendix A for a full definition of DBE). To assist you in identifying, soliciting, and utilizing qualified DBE businesses, the TWDB encourages you to refer to the following list of acceptable DBE certification agencies made available at the local, statewide, and national levels.

- [Texas Procurement and Support Services \(TPASS\)](#) The **Centralized Master Bidders List (CMBL) – Historically Underutilized Business (HUB) Directory Search** is a statewide database managed by the TPASS. This database contains contact information on all vendors registered to do business with the State, including TPASS-certified HUB vendors. The CMBL & HUB search is an online system available to the public free of charge.
- [Small Business Administration](#)
- [Texas Department of Transportation](#)

- [City of Austin](#) Located on the right-hand side of the webpage are links to the MBE/WBE/DBE Certified Vendor Search and SBE Certified Vendors directories.
- [City of Houston](#)

A list of other Minority & Women-owned Business Organizations that you may contact directly to obtain a list of qualified vendors for your procurement opportunities may be found at www.twdb.texas.gov/dbe.

Please note that MBE, WBE, or Historically Underutilized Business (HUB) certifications provided by the Texas Small Businesses Association or the Texas Certification Directory **will not** be accepted by the TWDB or the U.S. Environmental Protection Agency (EPA) as they do not meet EPA certification requirements.

STEP 4. UNDERSTANDING ROLES AND RESPONSIBILITIES

For Applicants:

As the recipient of financial assistance, you are responsible for ensuring that your project meets EPA's fair share policy for all procurements funded utilizing State Revolving Fund program funds. This includes the subcontracts of your Prime Consultant(s) and Contractor(s). You should review the Prime Consultant's and Contractor's DBE documentation and determine them to be in compliance before you submit the TWDB forms and support for official review.

You may request DBE documentation from your Prime Consultant(s) and Contractor(s) at the time of bid or after you have awarded a contract. Keep in mind your project schedule and the timeframes in which you need to obtain TWDB's approvals to continue progressing with your project. Receiving and reviewing forms earlier ensures that you receive approval well in advance of critical deadlines.

If your Prime Consultant's and Contractor's documented DBE process comes back with any errors, it is your responsibility to work with them to achieve compliance. Be mindful that contracts procured without following requirements may result in the need for re-procurement or be funded utilizing an alternate source of funds other than State Revolving Fund program funds. The TWDB's DBE Coordinator is available to assist you in correcting any deficiencies of your Prime Consultant's and Contractor's procurements. For more detailed instructions, review the section, Applicant's Review of Prime Consultant's/Contractor's Procurements.

If the contract amount for any of your Prime Consultant(s)/Contractor(s) changes from the time of your initial DBE submission, you **must** submit an updated TWDB-0373 listing the final, actual contract dollar amounts.

Note: In the event you change your Prime Consultant/Contractor or any subcontractors, for any reason, you or your Prime Consultant/Contractor must follow the DBE process when re-procuring. This will require you to re-submit a new TWDB-0373 reflecting actual contract dollar amounts and any supporting certification documentation.

For the Prime:

As the Prime, you are responsible for ensuring that your project meets EPA's fair share policy for all procurements funded utilizing State Revolving Fund program funds. You should review the subcontractors' DBE documentation and determine them to be in compliance before you submit the TWDB forms and support to the Entity awarding you a contract.

You may request DBE documentation from your subcontractor(s) at the time of bid or after you have been awarded a contract. Keep in mind your project schedule and the timeframes in which you need to obtain TWDB's approvals to continue progressing with your project. Receiving and reviewing forms earlier ensures that you receive approval well in advance of critical deadlines.

Be mindful that should any DBE forms or support documentation come back with any errors, it is your responsibility to correct any deficiencies to achieve compliance. A contract procured without following all of the necessary requirements may result in the need for re-procurement or be funded utilizing an alternate source of funds other than State Revolving Fund program funds. The TWDB's DBE Coordinator is available to assist you in correcting any deficiencies.

If the contract amount for any of your subcontractors change from the time of your initial DBE submission, you **must** submit an updated TWDB-0373 listing the final, actual contract dollar amounts.

Note: In the event you change any of your subcontractors, for any reason, you must follow the DBE process when re-procuring. This will require you to re-submit a new TWDB-0373 reflecting actual contract dollar amounts and any supporting certification documentation.

STEP 5. CREATING A BIDDERS LIST (APPLICANTS-ONLY)

As a recipient of financial assistance, you **must** create and maintain a Bidders List **if** your solicitation is subject to competitive bidding requirements. The list must include all firms that bid or quote on contracts and/or subcontracts. You **must** keep the bidders list until the project is complete, the project period has expired, and you are no longer receiving EPA funding under the financing agreement.

The following information **must** be retained on the Bidders List:

- The firm's name with point of contact
- The firm's mailing address, telephone number and email address
- The procurement on which the firm bid or quoted, and when
- The firm's status as an MBE/WBE.

The TWDB's form, [Affirmative Steps Solicitation Report \(TWDB-0216\)](#), may be used as the official Bidders List.

You may be exempt from the Bidders List requirement if you have received no more than \$250,000 for any single EPA financial assistance agreement OR no more than a combined total of \$250,000 for multiple EPA financial assistance agreements within any one federal fiscal year.

STEP 6. COMPLETING THE NECESSARY DBE FORMS

If you are completing these steps **prior to closing** on a TWDB financial assistance award:

Applicant: The forms you must complete and sign are the [TWDB-0216](#) and [TWDB-0373](#). These forms document the methods of solicitation used, who was directly solicited and/or made a bid, and who was ultimately awarded a contract. You may have chosen one or more Prime Consultants (typically an Engineer, Financial Advisor, and/or Bond Counsel).

Prime(s): You must complete and sign the [TWDB-0217](#) acknowledging you understand the DBE program requirements.

All three of these forms are needed well in advance of your (applicant's) anticipated closing date, as they must be reviewed and approved by TWDB staff before the closing is initiated. Confirm all forms are accurately completed, the required support documentation has been attached, and dated signatures from the appropriate authorized representatives are included.

If you are completing these steps for the **release funds for the planning, acquisition, and/or design phases:**

Prime(s): In addition to having the above referenced forms completed, you will need to complete and submit additional forms if you have selected subcontractors. Forms [TWDB-0216](#) and [TWDB-0373](#) should be completed and submitted to the Entity awarding you a contract. These forms document the methods of solicitation used, who was directly solicited and/or made a bid, and who was ultimately awarded a contract. All of these forms are needed in advance of the desired date for release of funds, as they **must** be reviewed and approved by TWDB staff before the release is initiated. Confirm that all forms are accurately completed, the required support documentation has been attached, and dated signatures from the appropriate authorized representatives are included.

If you are completing these steps for a **construction contract(s):**

Applicant: Forms [TWDB-0216](#) and [TWDB-0373](#) are required showing your selection process for a Prime Contractor(s).

Prime(s): Form [TWDB-0217](#) **must** be completed acknowledging that you understand the DBE program requirements. If subcontractors are utilized, complete forms [TWDB-0216](#) and [TWDB-0373](#) showing your selection process.

These forms are needed in advance of the desired date for release of funds, as they **must** be reviewed and approved by TWDB staff before the release is initiated. Confirm that all forms are accurately completed, the required support documentation has been attached, and dated signatures from the appropriate authorized representatives are included.

Note: In the event you change any of your subcontractors, for any reason, you must follow the DBE process when re-procuring. This will require you to re-submit a new TWDB-0373 reflecting actual contract dollar amounts and any supporting certification documentation.

In the event you run out of space on any of the TWDB forms, you can use your own additional spreadsheet or word document and attach.

STEP 7. [SUMMARIZING THE PROCESS](#)

The following is a summary of the necessary steps to complete in order to receive a notice of compliance with the DBE program requirements.

- **Applicant:** Publish, post, contact, and/or distribute advertisements soliciting for a Prime Consultant(s)/Contractor(s) for the proposed project. It is recommended that this occur at least

30-days prior to the close of accepting bids. The solicitation advertisement should contain the TWDB's recommended solicitation statement.

- Applicant: If applicable, create and retain a copy of a Bidders List (refer to Step 5).
- Primes: Complete and submit the Prime Consultant/Contractor Certification form (TWDB-0217) to the Entity awarding you a contract. If instructed to do so by the Entity, also submit the completed form to the TWDB Review Engineer. If sent electronically, copy DBE@twdb.texas.gov.
- Primes: If subcontracting, publish, post, contact, and/or distribute advertisements soliciting subcontractor(s) for the proposed project. It is recommended that this occur at least 30-days prior to the close of accepting bids. The solicitation advertisement should contain the TWDB's recommended solicitation statement.
- All: Save all copies, correspondence, etc. documenting the solicitation(s).
- All: Based upon the stage of the project, complete all necessary forms associated with the solicitation and award of the contract(s) for Prime Consultant(s)/Contractor(s) or subcontractor(s) (refer to Step 6 for the required forms).
- All: Compile all necessary forms from your selected Prime Consultant(s)/Contractor(s) or subcontractor, based upon the stage of the project. Ensure accuracy and completeness of the forms. Coordinate with the submitter should there be any errors.
- All: Submit all required documentation to the TWDB Project Reviewer / Engineer assigned to the project. If submitting electronically, copy DBE@twdb.texas.gov with the submission.

STEP 8. CHANGES TO SELECTED CONSULTANTS OR CONTRACTORS

In the event there is a change of Consultant(s)/Contractor(s) or any subcontractor(s), you **must** follow the DBE process when re-procuring.

APPLICANT'S REVIEW OF PRIME CONSULTANT'S/CONTRACTOR'S PROCUREMENTS

Before submitting any DBE documentation to the TWDB for an official review, look over the DBE documentation from your Prime Consultants/Contractors to confirm the documents are in order and the procurements are in compliance.

As a recipient of financial assistance, it is important to remember you are responsible for the Prime Consultant's/Contractor's soliciting of DBE businesses (DBE includes both MBEs and WBEs) for any procurements needed to complete your proposed project. This includes all construction, services, supplies and/or equipment.

If you encounter any errors, most can be corrected for compliance after the bid opening date as long as no awards have been made.

If you are unsure of any information presented to you during the review of the Prime Consultant(s)/Contractor(s) efforts, please contact the TWDB's DBE Coordinator for further instruction or recommendation at (512) 463-0991 or at DBE@twdb.texas.gov.

Included in these instructions are steps to successfully perform your review of your Prime Consultant(s)/Contractor(s) DBE documentation for this project. Please read them carefully. The term

Prime(s) refers to both Consultants and Contractors. The terms recipient of financial assistance, applicant, or entity may be used interchangeably.

STEP 1. REVIEW ANY DRAFT SOLICITATIONS

Prior to the Prime Consultant(s)/Contractor(s) making any solicitations for subcontractor opportunities, you should review the draft solicitation to ensure that the TWDB's recommended solicitation statement, or the statement with the required solicitation components (see p. 8) is included. For reference, the following should appear in all solicitations:

This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) businesses. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

If this or another form of acceptable language is not included, procurements made through the solicitation may not be compliant with the EPA's DBE Program.

STEP 2. ENSURE THAT ALL DOCUMENTATION HAS BEEN PROVIDED BY THE PRIME(S)

The Prime Consultant(s)/Contractor(s) should provide you, the Applicant:

- [TWDB-0217](#) This form acknowledges that the Prime Consultant/Contractor understands that they **must** follow the DBE program when soliciting for subcontractors.
- [TWDB-0216](#) If subcontractors are utilized, this form should be submitted. The form indicates all businesses solicited for procurement, their contact information, and their MBE/WBE status. The Prime Consultant/Contractor **must** include support documentation demonstrating they have met the Six Good Faith Efforts and followed the correct steps for their selected method(s) of solicitation.
- [TWDB-0373](#) If subcontractors are utilized, this form should be submitted. The form identifies the businesses awarded a procurement contract, their contact information, their MBE/WBE status, an actual or anticipated executed contract date, and contract amount. If any MBE/WBE businesses are contracted, the Prime Consultant/Contractor should include the DBE certification along with the form as support documentation. You **must** review the certification to ensure that the certification comes from an agency acceptable to the EPA. A list of acceptable DBE certification agencies may be found at www.twdb.texas.gov/dbe. *Note: Any businesses operating as brokers may not be listed on the TWDB-0373 as an MBE or WBE.* ³

STEP 3. REVIEW THE SUPPORTING SOLICITATION DOCUMENTATION

The DBE solicitation should specifically describe the construction work, supplies, equipment, or services that are being solicited, and include the following required DBE language:

³A broker is a business that does not perform, manage, or supervise the work of its sub/contract in a manner consistent with the normal business practices for sub/contractors in its line of business.

This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) businesses. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

Similar to the solicitation you performed for your Prime Consultant(s)/Contractor(s), the TWDB recommends solicitations for subcontractors be published at least 30 days prior to the bid closing date to allow sufficient time for potential subcontractors to submit bids and proposals. You should ensure that a copy of the actual solicitation found within/on the publication or web page is kept with their and your project files. This information will be needed for submission to the TWDB for official review of DBE compliance.

If the Prime Consultant(s)/Contractor(s) is advertising through a newspaper, it is important to ensure that they have retained a publisher's affidavit showing the dates of the posting(s) and the content of the advertisement. You should also ensure that this support information is saved with their and your project files, as the information will be needed for submission to the TWDB for official review. Be mindful of your applicable local and state procurement laws as they relate to your Prime Consultant's/Contractor's solicitation of subcontractors.

STEP 3A. REVIEW PHONE LOGS, FAX TRANSMITTAL LOGS, EMAIL DELIVERY RECIEPTS, MEETING SIGN-IN SHEET, MINORITY MEDIA POSTING, INTERNET & WEB POSTINGS, TRADE ASSOCIATION PUBLICATIONS AND OTHER GOVERNMENT PUBLICATIONS

If the Prime Consultant(s)/Contractor(s) chose one of the solicitation methods mentioned above, they are **required** to provide support documentation showing that the TWDB's required solicitation statement was included or mentioned. Review all support documentation to ensure that this requirement was met.

STEP 4. CLOSE COORDINATION

It is important for you and your Prime Consultant(s)/Contractor(s) to coordinate closely during all phases of your project to ensure that all DBE requirements have been met. Failure to do so may result in project delays or the inability to make use of State Revolving Fund program funds.

STEP 5. NOW THAT YOU HAVE COMPLETED YOUR REVIEW

Once you have completed your review of the Prime Consultant's/Contractor's solicitation efforts and have determined that they are in compliance, you should keep all documentation on file in the event it is requested for review by the TWDB or the U.S. Environmental Protection Agency. All of the Prime Consultant's/Contractor's DBE solicitation documentation should be included in the DBE compliance package submitted to TWDB.

CONTRACT ADMINISTRATION REQUIREMENTS

Each procurement contract signed by a recipient of financial assistance must include the following term and conditions:

The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

Additionally, the following U.S. EPA DBE regulations apply:

- A recipient **must** require its Prime Contractor to pay its subcontractor for satisfactory performance no more than 30 days from the Prime Contractor's receipt of payment from the recipient.
- A recipient **must** be notified in writing by its Prime Contractor prior to any termination of a DBE subcontractor for convenience by the Prime Contractor.
- If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the Prime Contractor to employ the Six Good Faith Efforts described in 40 CFR § 33.301 if soliciting a replacement subcontractor.
- A recipient **must** require its Prime Contractor to employ the Six Good Faith Efforts even if the Prime Contractor has achieved its fair share objectives.

DBE PROGRAM LINKS

TWDB DBE Program Webpage: www.twdb.texas.gov/dbe

DBE Rules (40 CFR Parts 33, 35, and 40): www.epa.gov/sites/production/files/2013-09/documents/final_dbe_rule.pdf

How do I get DBE Certified & Finding Certified firms:

https://19january2017snapshot.epa.gov/sites/production/files/2013-09/documents/dbe_certification_process.pdf

DBE Frequently Asked Questions: <https://www.epa.gov/grants/frequently-asked-questions-disadvantaged-business-enterprises>

Recipient/Applicant Information Notice: <https://www.epa.gov/grants/rain-2019-g10>

APPENDIX A. GLOSSARY

- **Applicant** – a public or private utility seeking Equivalency funding from the Clean Water State Revolving Fund or the Drinking Water State Revolving Fund.
- **Broker** – a business that does not perform, manage, or supervise the work of its contract or subcontract in a manner consistent with the normal business practices for contractors or subcontractors in its line of business.
- **Construction** – the erection, alteration, or repair (including dredging, excavating, and painting) of buildings, structures, or other improvements to real property, and activities in response to a release or a threat of release of a hazardous substance into the environment, or activities to prevent the introduction of a hazardous substance into a water supply.
- **Non Construction** – not of, relating to, or involving the construction work.
- **Disadvantaged Business Enterprises (DBE)** – an entity owned or controlled by a socially and economically disadvantaged individual as described by Public Law 102-389 (42 U.S.C. §4370d) or an entity owned and controlled by a socially and economically disadvantaged individual as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. §7601 note); a Small Business Enterprise (SBE); a Small Business in a Rural Area (SBRA); or a Labor Surplus Area Firm (LSAF), a Historically Underutilized Business (HUB) Zone Small Business Concern, or a concern under a successor program. This term includes Minority Business Enterprises (MBE) and Women-owned Business Enterprises (WBE).
- **Entity** – See “Applicant”.
- **Equipment** – items procured under a financial assistance agreement as defined by applicable regulations for the particular type of financial assistance received.
- **Equivalency funding** – a term used to categorize projects within the Clean Water State Revolving Fund program identified by the TWDB whose cumulative funding is in an amount equal to the capitalization grant awarded by EPA to the TWDB.
- **Fair Share Goals / Objectives** – are goals based upon the capacity and availability of qualified, certified MBEs and WBEs within the state for the procurement categories of construction, equipment, services, and supplies, compared to the number of all qualified entities within the state for the same procurement categories. The goals are negotiated every three years between the TWDB and EPA. A fair share objective is not a quota; a recipient cannot be penalized for not meeting its fair share objectives; and, once negotiated, fair share objectives remain in place for three years.
- **Fair Share Policy** – a policy maintained by the EPA relating to the “Good Faith Effort” to award a fair share of the work to contractors who are certified as Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) whenever procuring construction, supplies, services and equipment. The TWDB’s current negotiated fair share goals are available on page 2. Recipients are not required to meet the fair share goals; however, the EPA may take remedial action under 40 CFR §33.105 for failure to comply with DBE program requirements.
- **Financial Assistance Agreement** – a binding legal agreement between the recipients of financial assistance and the TWDB outlining the terms and conditions for the funding provided and the recipient’s obligations.

- **Force Account** – the part of the expense account of a public body (as a municipality) resulting from the employment of a labor force usually distinguished from the part resulting from contracting similar services with commercial agencies
- **Historically Underutilized Business (HUB)** – a small business organization that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.
- **Minority Business Enterprises (MBE)** – a Disadvantaged Business Enterprise (DBE) owned and/or controlled by a socially and economically disadvantaged individual other than a Small Business Enterprise (SBE), Labor Surplus Area Firm (LSAF), Small Business in Rural Areas (SBRA), or Women-owned Business Enterprise (WBE).
- **Prime Consultant** – consultants awarded a contract by the recipient of financial assistance, typically during the initial phases of a project; primarily the project’s consulting Engineer, Financial Advisor, and Bond/Legal Counsel.
- **Prime Contractor** – contractors awarded a contract by the recipient of financial assistance, typically during the construction phase of a project.
- **Construction Procurement** – the act of obtaining construction work.
- **Non Construction Procurement** – the act of obtaining and/or purchasing equipment, services, or supplies.
- **Recipient** – See “Applicant”.
- **Services** – a contractor’s labor, time or efforts provided in a manner consistent with normal business practices which do not involve the delivery of a specific end item, other than documents (e.g., reports, design drawings, specifications).
- **Six Affirmative Steps** – also referred to as the Six Good Faith Efforts, are the steps every recipient of financial assistance through the State Revolving Fund must follow, along with their Prime Consultant(s)/Contractor(s), in order to adequately offer the opportunity to make bids for work paid using these funds.
- **Six Good Faith Efforts** – See “Six Affirmative Steps”.
- **Small Business Enterprises (SBE)** – an organization, including its affiliates, independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR Part 121.
- **Subcontractor** – a business awarded a contract by a Prime Consultant/Contractor for specific work, services, supplies, or equipment.
- **Supplies** – items procured under a financial assistance agreement as defined by applicable regulations for the particular type of financial assistance received.
- **Women-owned Business Enterprises (WBE)** – a business which is at least 51% owned or controlled by women for purposes of EPA’s 8% statute or a business concern which is at least 51% owned and controlled by women for purposes of EPA’s 10% statute. Determination of ownership by a married woman in a community property jurisdiction will not be affected by her husband’s 50% interest in her share. Similarly, a business which is more than 50% owned by a married man will not become a qualified WBE by virtue of his wife’s 50% interest in his share.

APPENDIX B. EXAMPLE ADVERTISEMENTS (REQUEST FOR QUALIFICATIONS)

ADVERTISEMENT / INVITATION FOR BIDS REQUEST FOR SEALED PROPOSALS

The City of ____ will receive bids for the Lift Station and Sanitary Sewer Rehabilitation Project at ____ City Hall until 3:00 p.m., on the ____ day of ____, 2011, at the City ____ City Hall located on 123 Example St., ____, Texas 78516, at which time all bids will be received and publicly opened and read. Bids received after the closing time will be returned unopened. NO PRE-BID CONFERENCE WILL BE CONDUCTED.

This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) businesses. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details on the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

This contract is to be funded through a loan obtained from the Texas Water Development Board as part of the Clean Water State Revolving Fund. There are a number of special provisions for this funding that bidders, by submitting a bid, acknowledge understanding, including the following: A contract is contingent upon release of funds from the TWDB. Any contract or contracts awarded under this Notice to Bidders are expected to be funded in part by financial assistance from the TWDB. Neither the State of Texas nor any of its departments, agencies, or employees are or will be a party to this Invitation for Bids or any resulting contract.

Equal Opportunity in Employment - All qualified applicants will receive consideration for employment without regard to race, color, national origin, sex, religion, age, or handicap. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

The project will consist of the following:

The City of ____ intends to replace/install/upgrade electrical controls and minor rehab for eight (8) lift stations remove and replace approx. 616 linear feet of 8" sanitary sewer line, remove and replace approx. 1,758 linear feet of 12" clay sanitary sewer line with a 15" PVC sanitary sewer line, remove and replace ten (10) 48" brick manholes with 48" fiberglass manholes.

Contract Documents, including Drawings and Technical Specifications are on file at the City of ____ City Hall or at the office of ____, at ____, _____. Please direct questions to _____.

Copies of the Contract Documents and Construction Plans can be examined at _____. Bidders, suppliers or sub-contractors may obtain copies of the Contract Documents for bidding purposes at ____ for a non-refundable payment of \$100.00 per set, checks made payable to _____. A Certified check or bank draft, payable to the order of City of _____ or negotiable U.S. Government Bonds (at par value) or a satisfactory Bid Bond executed by the Bidder of an acceptable surety in an amount equal to five percent (5%) of the total bid shall be submitted with each bid.

The City of _____ reserves the right to reject any or all bids or to waive any informality in the bidding. Bids may be held by the City of _____ for a period not to exceed sixty (60) days from the date of the bid opening for the purpose of reviewing the bids and investigating the bidders' qualifications prior to the contract award.

Small and minority firms are encouraged to submit bids for this project.

ENGINEER, BOND COUNSEL, and FINANCIAL ADVISOR - REQUEST FOR QUALIFICATIONS

The City of _____ requests the submission of qualifications statements, which will lead to the possible award of a contract to provide _____ services for a project involving the City's Water Treatment Facilities.

Scope of Work

The services to be obtained for the **Engineer** require: _____

The services to be obtained for the **Bond Counsel** require: _____

The services to be obtained for the **Financial Advisor** require: _____

Guidelines for Content of Qualification Statements

DO NOT INCLUDE COST INFORMATION with the qualification statement. Responses that include cost or pricing information will be rejected and will not be considered by the City.

Detailed instructions on preparation of the qualification statement must be obtained from the City. For more information on preparing and submitting the qualification statement, contact _____, City Administrator, at _____. This information should be requested as soon as possible in order to allow time to prepare the document and comply with the procedures.

Submittal Deadline

Three copies of the qualifications statement must be filed with the City by: _____.

Minimum Qualifications and Selection Criteria

The City will evaluate the proposals to determine which firm has the best qualifications.

Contract Terms and Negotiation Schedule

The consultant for *Bond Counsel, Financial Advisor, Engineering and Rate Consultant* services is expected to negotiate an agreement for services that is acceptable to the City. If an acceptable contract cannot be negotiated, the City may formally end negotiations and begin negotiating with the next highest qualified person or firm.

This contract is contingent upon release of funds from the Texas Water Development Board (TWDB). Any contract or contracts awarded under this Invitation for Bid (IFB) or Request for Qualifications (RFQ) are expected to be funded in part by a loan from the TWDB. Neither the State of Texas nor any of its departments, agencies, or employees are or will be a party to this IFB, RFQ, or any resulting contract. RFQ's are issued in accordance with Section 2254 of the Texas Government Code (Professional Services Act).

This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) firms. EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

The City of _____ is an affirmative action/equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, handicap or national origin. Small, minority, and women-owned business enterprises are encouraged to submit proposals.

APPENDIX C. HOW TO SEARCH THE CMBL AND HUB DIRECTORY

Visit the [Texas Procurement and Support Services \(TPASS\)](https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp) website at <https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp>.

The screenshot shows a web browser window with the URL <http://www.cpa.state.tx.us/procurement/cmbh/cmbhub.html>. The page title is "Window on State Government". The main heading is "Centralized Master Bidders List (CMBL) & Historically Underutilized Business (HUB) Search".

Search:

- ☒ CMBL only
- ☐ HUBs on CMBL
- ☐ HUBs not on CMBL
- ☐ HUB Mentor Protege
- ☐ All Vendors

Vendor ID:

Vendor Number:

Vendor Name: begins with Name

Include Inactive Vendors: ☐ **Small Businesses Only:** ☐ Yes ☒ No

Selection 1: Class Code: Item: District:

Selection 2: Class Code: Item: District:

Selection 3: Class Code: Item: District:

Class Code | Item Code | District

Texas County:

City: begins with

Zip: begins with

Sort by: Vendor Name

Output as: Detail List

Results: return all matches

Output may contain coded information in [Hub Status](#) and [Reason Off CMBL](#)

Related Links:

- [CMBL Registration](#)
- [HUB Directory](#)
- [HUB Mentor Protege Agreement Listing](#)
- [System for Award Management \(EPLS\)](#)
- [Debarred Vendors List](#)

NIGP Class-Item Codes contain 5-digits. To obtain the five-digit code, combine the three-digit class code with its corresponding two-digit item number.

Step 1: Go to the TPASS website.

Step 2: Select the type of business search: CMBL only, HUBs on CMBL, HUBs not on CMBL, HUB mentor protégé, or all vendors.

Step 3: Enter the respective commodity class, item and district codes (please see next page for related water and wastewater commodities) and click on Search.

Step 4: On the following page, select the information you would like to obtain from the database: contact information, address, business description, gender, ethnicity, and website.

Step 5: Search Results will appear with the requested information.

Step 6: Click on the Vendor ID or business name to pull up detailed vendor information to confirm HUB status (A = Active, N = Not HUB), contact information, and registered commodities.

Step 7: Gather physical or email contact information from the search results list.

Example National Institute of Government Purchasing (NIGP) Commodity Codes

| Class | Item(s) | Description |
|--|---------|--|
| 890 (Water Supply, Groundwater, Sewage Treatment, and Related Equipment) | 01 - 95 | Equipment (various) |
| 907 (Architectural and Engineering Services – Non-Professional) | 42 | Geotechnical – Soils |
| 907 (Architectural and Engineering Services – Non-Professional) | 75 | Site Assessment and Site Field Observation |
| 907 (Architectural and Engineering Services – Non-Professional) | 83 | Testing Services |
| 912 (Construction Services, General) | 16 | Boring, Drilling, Testing, Soundings |
| 912 (Construction Services, General) | 23 | Construction, General (Backfill Services, Digging, Ditching, Road Grading, Rock Stabilization) |
| 912 (Construction Services, General) | 40 | Demolition Services |
| 912 (Construction Services, General) | 44 | Excavation Services |
| 912 (Construction Services, General) | 75 | Quality Control Testing Services |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 39 | Construction, Pipe Culvert |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 40 | Construction, Pipeline |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 45 | Construction, Sewer and Storm Drain |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 47 | Construction, Sidewalk and Driveway |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 56 | Construction, Utility/Underground Projects |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 59 | Construction and Upgrades, Wastewater Treatment Plant |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 60 | Construction, Water System/Plants, Main and Service Line |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 63 | Lime Slurry Removal Services |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 77 | Maintenance and Repair, Pipe Culvert |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 78 | Maintenance and Repair, Pipeline (Includes Removal and Relocation) |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 81 | Maintenance and Repair, Sewer and Storm Drain (Including Removal) |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 82 | Maintenance and Repair, Sidewalk and Driveway (Including Removal) |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 89 | Maintenance and Repair, Utility/Underground Projects |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 91 | Maintenance and Repair, Wastewater Treatment Plant |
| 913 (Construction Services, Heavy – Including Maintenance and Repairs) | 92 | Maintenance and Repair, Water System, Main and Service Line |
| 914 (Construction Services, Trade (New Construction)) | 27 -88 | Construction Trades (various) |
| 918 (Consulting Services) | 16 | Archeological Consulting |
| 918 (Consulting Services) | 41 | Energy Conservation Consulting |

| Class | Item(s) | Description |
|---|---------|---|
| 918 (Consulting Services) | 42 | Engineering Consulting |
| 918 (Consulting Services) | 43 | Environmental Consulting |
| 918 (Consulting Services) | 46 | Feasibility Studies (Consulting) |
| 918 (Consulting Services) | 55 | Geological Consulting and Study |
| 918 (Consulting Services) | 72 | Lakes, Rivers, and Other Waterway Management Consulting Services |
| 918 (Consulting Services) | 74 | Legal Consulting |
| 918 (Consulting Services) | 97 | Utilities: Gas, Water, Electric Consulting |
| 925 (Engineering Services, Professional) | 17 | Civil Engineering |
| 925 (Engineering Services, Professional) | 24 | Desalination (Process and Facilities) Engineering |
| 925 (Engineering Services, Professional) | 28 | Drainage Engineering |
| 925 (Engineering Services, Professional) | 33 | Engineer Services, Professional |
| 925 (Engineering Services, Professional) | 34 | Energy Management Engineering |
| 925 (Engineering Services, Professional) | 35 | Environmental Engineering |
| 925 (Engineering Services, Professional) | 36 | Engineering Services (Not Otherwise Classified) |
| 925 (Engineering Services, Professional) | 37 | Facilities Design Services, Engineering |
| 925 (Engineering Services, Professional) | 44 | General Construction: Management, Scheduling, Cost Estimation – Engineering |
| 925 (Engineering Services, Professional) | 45 | Geological Engineering |
| 925 (Engineering Services, Professional) | 46 | Geotechnical Engineering |
| 925 (Engineering Services, Professional) | 58 | Irrigation; Drainage: Flood Control/Engineering |
| 925 (Engineering Services, Professional) | 61 | Land Development and Planning/Engineering |
| 925 (Engineering Services, Professional) | 70 | Municipal Engineering |
| 925 (Engineering Services, Professional) | 77 | Pollution Control Engineering |
| 925 (Engineering Services, Professional) | 78 | Power Generation, Transmission, Distribution - Engineering |
| 925 (Engineering Services, Professional) | 83 | Sanitary Engineering |
| 925 (Engineering Services, Professional) | 87 | Sewage Collection, Treatment, and Disposal Engineering |
| 925 (Engineering Services, Professional) | 96 | Waste Water Treatment Engineering |
| 925 (Engineering Services, Professional) | 97 | Water Supply, Treatment, and Distribution/Engineering |
| 926 (Environmental and Ecological Services) | 14 | Air Pollution Control Services (Including Data Collection Research and Development, etc.) |
| 926 (Environmental and Ecological Services) | 23 | Auditing Services, Environment |
| 926 (Environmental and Ecological Services) | 29 | Contaminated Groundwater Services (Including Discharge Pipe Installation) |
| 926 (Environmental and Ecological Services) | 40 | Ecological Services |
| 926 (Environmental and Ecological Services) | 41 | Ecosystem Development, Management and Protection Services |
| 926 (Environmental and Ecological Services) | 42 | Environmental Services (Not Otherwise Classified) |
| 926 (Environmental and Ecological Services) | 52 | Impact Studies, Environmental |
| 926 (Environmental and Ecological Services) | 62 | Noise Testing Services |
| 926 (Environmental and Ecological Services) | 70 | Permitting Services, Environmental |
| 926 (Environmental and Ecological Services) | 72 | Planning and Advisory Services, Environmental |
| 926 (Environmental and Ecological Services) | 83 | Site Assessment, Environmental |
| 926 (Environmental and Ecological Services) | 85 | Soil, Soil Vapor, and Groundwater Sampling and Analysis (Including Disposal) |
| 926 (Environmental and Ecological Services) | 88 | Storm Water Discharge Testing Services |
| 926 (Environmental and Ecological Services) | 90 | Subsurface Testing, Environmental |

| Class | Item(s) | Description |
|---|---------|--|
| 926 (Environmental and Ecological Services) | 91 | Tank Testing and Disposal Services, Storage (Including Underground Types) |
| 926 (Environmental and Ecological Services) | 94 | Water Pollution Services |
| 926 (Environmental and Ecological Services) | 95 | Water/Wastewater Conservation Services |
| 926 (Environmental and Ecological Services) | 96 | Wetland Delineations (Including Assessments) |
| 946 (Financial Services) | 25 | Banking Services |
| 946 (Financial Services) | 30 | Cash/Securities and Bonding Services |
| 946 (Financial Services) | 38 | Custom Brokerage Services (Including Stocks and Bonds) |
| 946 (Financial Services) | 48 | Financial Advisor |
| 946 (Financial Services) | 49 | Financial Services (Not Otherwise Classified) |
| 946 (Financial Services) | 56 | Investment Management Services |
| 946 (Financial Services) | 60 | Loan Administration |
| 946 (Financial Services) | 66 | Monetary Systems (Including Analysis, Liquidity, Policy, etc.) |
| 946 (Financial Services) | 75 | Securities and Commodities Market Services (Including Direct or Indirect Purchases, Sales and Transactions of Equities, Fixed Income, Options, and Derivatives on an Agency and Principal Basis) |
| 946 (Financial Services) | 85 | Trusts, Estates and Agency Accounts |
| 958 (Management Services) | 05 | Asset Management Services |
| 958 (Management Services) | 12 | Bio-Solids Management Services |
| 958 (Management Services) | 26 | Construction Management Services |
| 958 (Management Services) | 39 | Financial Management Services |
| 958 (Management Services) | 77 | Project Management Services |
| 958 (Management Services) | 85 | Soil and Land Management Services (Including Testing, Protection, Preparation, Planning, etc.) |
| 961 (Miscellaneous Services, No 1. (Not Otherwise Classified)) | 01 | Archeological Services |
| 961 (Miscellaneous Services, No 1. (Not Otherwise Classified)) | 32 | Environmental Impact Studies |
| 961 (Miscellaneous Services, No 1. (Not Otherwise Classified)) | 49 | Legal Services, Attorney |
| 961 (Miscellaneous Services, No 1. (Not Otherwise Classified)) | 85 | Utility Services, Water |
| 961 (Miscellaneous Services, No 1. (Not Otherwise Classified)) | 91 | Water and Petroleum Pipeline Services |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 14 | Blue Printing Services: Blue Prints, Blue Line, Large Engineering |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 39 | Hauling Services |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 50 | Leak Detection Services: Gas, Water, Chemical |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 52 | Mapping Services (Including Cartography and Surveying Services (Not Aerial – See 902-33 and 905-10 for Aerial Mapping and Surveying Services) |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 92 | Video Scanning of Sewers, Water Wells, etc. |
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 94 | Water Services, Bottled and Bulk Delivery (Tanker Services) |

| Class | Item(s) | Description |
|---|----------------|---|
| 962 (Miscellaneous Services, No 2. (Not Otherwise Classified)) | 96 | Well Services (Including Oil, Gas, and Water): Drilling, Plugging, Consulting, Maintenance and Repair |
| 968 (Public Works and Related Services) | 18 | Back Flow Preventer Testing Services |
| 968 (Public Works and Related Services) | 47 | Inspection Services, Construction Type |
| 968 (Public Works and Related Services) | 63 | Relocation and/or Removal Services for Utility Works |
| 968 (Public Works and Related Services) | 66 | Right of Way Services (Including Title, Appraisal, Negotiation, Closing, Relocation, Condemnation, etc.) |
| 968 (Public Works and Related Services) | 73 | Storm Drain Cleaning, Repair, and Sludge Removal Services |
| 968 (Public Works and Related Services) | 78 | Tank Installation, Removal, Disposal, and Related Services (Including Septic and Underground Type) |
| 968 (Public Works and Related Services) | 91 | Water Supply Analysis, Infrastructure Analysis, Water Quality Analysis, and Long-Term Planning |
| 968 (Public Works and Related Services) | 92 | Water Supply Plant Operating and Monitoring System Services (Including Water Resources Development and Water Quality Management Services) |
| 968 (Public Works and Related Services) | 96 | Water and Wastewater Treatment Services |

APPENDIX D. EXAMPLES OF DIRECT SOLICITATIONS

Example Call/Fax Log

For facsimiles, a copy of one of the faxed information should be provided with the completed TWDB-0216 form submission.

| DBE Call Log City of Yaleville Water Treatment Plant Project DWSRP | | | |
|--|---|----------------|-------|
| Date: | <u>10/15/16</u> | Date: | _____ |
| Contact: | <u>Carl Sagan, Manager</u> | Contact: | _____ |
| Company: | <u>Goldberg Instruments LLC</u> | Company: | _____ |
| Phone No.: | <u>313.555.7199</u> | Phone No.: | _____ |
| Certification: | <u>Not a MBE/WBE</u> | Certification: | _____ |
| Comments: | <u>Requested a quote on lab equipment for water quality testing. Emailed the ad used in The Yaleville Herald classifieds.</u> | Comments: | _____ |
| Date: | <u>10/15/16</u> | Date: | _____ |
| Contact: | <u>Neil deGrasse Tyson, Owner</u> | Contact: | _____ |
| Company: | <u>N.E.G. Instruments, LLC</u> | Company: | _____ |
| Phone No.: | <u>313.555.1000</u> | Phone No.: | _____ |
| Certification: | <u>MBE, Certified by City of Austin</u> | Certification: | _____ |
| Comments: | <u>Requested a quote on lab equipment for water quality testing. Emailed the ad from The Yaleville Herald classifieds.</u> | Comments: | _____ |
| Date: | <u>10/16/16</u> | Date: | _____ |
| Contact: | <u>Michio Kaku, President</u> | Contact: | _____ |
| Company: | <u>Bottom Page Instrument Company</u> | Company: | _____ |
| Phone No.: | <u>313.559.4322</u> | Phone No.: | _____ |
| Certification: | <u>MBE, Certified by Texas D.O.T.</u> | Certification: | _____ |
| Comments: | <u>Requested a quote on lab equipment for water quality testing.</u> | Comments: | _____ |
| Date: | _____ | Date: | _____ |
| Contact: | _____ | Contact: | _____ |
| Company: | _____ | Company: | _____ |
| Phone No.: | _____ | Phone No.: | _____ |
| Certification: | _____ | Certification: | _____ |
| Comments: | _____ | Comments: | _____ |
| Date: | _____ | Date: | _____ |
| Contact: | _____ | Contact: | _____ |
| Company: | _____ | Company: | _____ |
| Phone No.: | _____ | Phone No.: | _____ |
| Certification: | _____ | Certification: | _____ |
| Comments: | _____ | Comments: | _____ |

Example Email

From: Felix Stanton
Sent: Monday, November 28, 2016 4:32 PM
To: Rose Mendoza (rmendoza@shiplap.com)
Subject: Yaleville WTP RFT

Importance: High

Attachments: Yaleville WTP Project RFT

Ms. Mendoza,

The City of Yaleville is seeking a response to this Request for Tender (RFT) for lab equipment for water quality testing.

Example US Mail

Along with the Certified mail receipts (shown below), a copy of one of the mailed letters should be provided with the completed TWDB-0216 form submission.

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

COLLEYVILLE TX 76034
OFFICIAL USE

| | | |
|--|------------------|-------------------|
| Postage | \$ \$0.45 | 0086 |
| Certified Fee | \$2.95 | 15 |
| Return Receipt Fee (Endorsement Required) | \$0.00 | Postmark Here |
| Restricted Delivery Fee (Endorsement Required) | \$0.00 | |
| Total Postage & Fees | \$ \$3.40 | 12/12/2012 |

Sent To: [Redacted]
 Street, Apt. No. or PO Box No.
 City, State, ZIP
Thompson Terrace
 Colleyville, Texas 76034

PS Form 3800

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

AUSTIN TX 78757
OFFICIAL USE

| | | |
|--|------------------|-------------------|
| Postage | \$ \$0.45 | 0086 |
| Certified Fee | \$2.95 | 15 |
| Return Receipt Fee (Endorsement Required) | \$0.00 | Postmark Here |
| Restricted Delivery Fee (Endorsement Required) | \$0.00 | |
| Total Postage & Fees | \$ \$3.40 | 12/12/2012 |

Sent To: [Redacted]
 Street, Apt. No. or PO Box No.
 City, State, ZIP
Northcross Drive, Suite 211
 Austin, Texas 78757

PS Form 3800

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

AUSTIN TX 78739
OFFICIAL USE

| | | |
|--|------------------|-------------------|
| Postage | \$ \$0.45 | 0086 |
| Certified Fee | \$2.95 | 15 |
| Return Receipt Fee (Endorsement Required) | \$0.00 | Postmark Here |
| Restricted Delivery Fee (Endorsement Required) | \$0.00 | |
| Total Postage & Fees | \$ \$3.40 | 12/12/2012 |

Sent To: [Redacted]
 Street, Apt. No. or PO Box No.
 City, State, ZIP
Lost Oasis Hollow
 Austin, Texas 78739

PS Form 3800

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

DALLAS TX 75219
OFFICIAL USE

| | | |
|--|------------------|-------------------|
| Postage | \$ \$0.45 | 0086 |
| Certified Fee | \$2.95 | 15 |
| Return Receipt Fee (Endorsement Required) | \$0.00 | Postmark Here |
| Restricted Delivery Fee (Endorsement Required) | \$0.00 | |
| Total Postage & Fees | \$ \$3.40 | 12/12/2012 |

Sent To: [Redacted]
 Street, Apt. No. or PO Box No.
 City, State, ZIP
Turtle Creek Boulevard, Suite 1151
 Dallas, Texas 75219

PS Form 3800

U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

SUGAR LAND TX 77479
OFFICIAL USE

| | | |
|--|------------------|-------------------|
| Postage | \$ \$0.45 | 0086 |
| Certified Fee | \$2.95 | 15 |
| Return Receipt Fee (Endorsement Required) | \$0.00 | Postmark Here |
| Restricted Delivery Fee (Endorsement Required) | \$0.00 | |
| Total Postage & Fees | \$ \$3.40 | 12/12/2012 |

Sent To: [Redacted]
 Street, Apt. No. or PO Box No.
 City, State, ZIP
Southwest Freeway, Suite 227
 Sugar Land, Texas 77479

PS Form 3800

ATTACHMENT 1 – AFFIRMATIVE STEPS CERTIFICATION AND GOALS (TWDB-0215)

To download this document, view [TWDB-0215](#) from the TWDB website

| | | | |
|---|---|---|--|
| <small>FOR OFFICE USE ONLY Commitment # _____</small> | | <small>TWDB-0215 Revised 04/01/2024</small> | |
| TWDB-0215 APPLICANT/ENTITY TEXAS WATER DEVELOPMENT BOARD AFFIRMATIVE STEPS CERTIFICATION and GOALS | | | |
| I. PROJECT INFORMATION | | | |
| TWDB Project Number | Applicant/Entity Name | Total of TWDB Funding Request | Program Type (insert "X" for all that apply) |
| | | | <input type="checkbox"/> Drinking Water SRF (DWSRF) |
| | | | <input type="checkbox"/> Clean Water SRF (CWSRF) |
| II. GOOD FAITH EFFORT (Applicable to all PRIME contracts awarded by the applicant/entity) | | | |
| <small>I understand that it is my responsibility to comply with all state and federal regulations and guidance in the utilization of Minority and Women-Owned Businesses in procurement. I certify that I will make a good faith effort to afford opportunities for Minority Business Enterprise (MBE), and Women-Owned Business Enterprise (WBE) by:</small> | | | |
| 1. Including qualified MBEs and WBEs on procurement solicitation lists | | | |
| 2. Soliciting potential MBEs and WBEs | | | |
| 3. Reducing contract size/quantities when economically feasible to permit maximum participation by MBEs and WBEs | | | |
| 4. Establishing delivery schedules to encourage participation by MBEs and WBEs | | | |
| 5. Using the services and assistance of the Small Business Administration, Minority Business Development Agency, U.S. Department of Commerce, and Texas Marketplace | | | |
| 6. Requiring all Prime Consultants/Contractors to follow steps 1-5 listed above in employing MBE and WBE Subcontractors | | | |
| Signature - Applicant/Entity Representative | | Title (print legibly) | Date |
| | | | |
| III. PROJECT PARTICIPATION ESTIMATES | | | |
| <small>The Cost Categories mentioned below are goals. These goals are neither standards nor quotas. Recipients of financial assistance are not required to meet the fair share objectives. They must, however, acknowledge that they are aware of and are actively pursuing the fair share objectives with their procurements.</small> | | | |
| Cost Category | Potential MBE Participation Goal | Potential WBE Participation Goal | |
| Construction | 24.60% | 11.34% | |
| Non-Construction | 24.05% | 19.35% | |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% | |
| <small>The fair share goals listed above are required by 40 CFR Part 33 Subpart D and are directly negotiated with EPA Region 6. Entities receiving federal financial assistance are subject to the TWDB's goals and may not be substituted with other agency or program goals.</small> | | | |
| IV. TWDB APPROVAL SIGNATURE | | | |
| <small>Signature indicates the form meets DBE Requirements.</small> | | | |
| DBE Coordinator | | Approval Date | |
| | | | |

ATTACHMENT 2 – AFFIRMATIVE STEPS CERTIFICATION AND GOALS (TWDB-0216)

To download this document, view [TWDB-0216](#) from the TWDB website.

| | | |
|--|--|---|
| Page 1 of 2 | FOR OFFICE USE ONLY Commitment# _____ | TWDB-236 Revised 04/01/2024 |
| TWDB-0216 TEXAS WATER DEVELOPMENT BOARD AFFIRMATIVE STEPS SOLICITATION REPORT | | |
| I. PROJECT INFORMATION | | |
| TWDB Project Number | Applicant/Entity Name | Total TWDB Funding Request |
| | | |
| | | Program Type (insert "X" for all that apply) |
| | | <input type="checkbox"/> Drinking Water SRF (DWSRF) |
| | | <input type="checkbox"/> Clean Water SRF (CWSRF) |
| Project Name: _____ | | |
| Solicitation By: <input type="checkbox"/> Applicant/Entity OR <input type="checkbox"/> Prime Contracted Business: | | |
| Project Phase: <input type="checkbox"/> Prior to Closing <input type="checkbox"/> Release of funding for PADs <input type="checkbox"/> Construction Contract # _____ | | |
| II. SOLICITATION METHOD(S) UTILIZED | | |
| At least two methods of solicitation are required. Select the method(s) utilized for the solicitation. Copies of the actual postings, direct contact email/phone log, etc. must be attached to this form as support documentation for each method used. Failure to adequately follow these steps will result in the requirement to complete additional steps in order to become compliant. | | |
| <input type="checkbox"/> Newspaper Advertisements <input type="checkbox"/> Meetings or Conferences <input type="checkbox"/> Trade Association Publications | | |
| <input type="checkbox"/> Minority Media <input type="checkbox"/> Internet & Web Postings <input type="checkbox"/> Other Government Publications | | |
| <input type="checkbox"/> Direct Contact by Phone, Fax, USPS Mail, or Email | | |
| <i>*If using direct contact, entities must solicit to a minimum of 3 businesses/firms (at least one being a DBE) for each category of contract sought (i.e., construction, supplies, equipment, or services) to demonstrate a Good Faith Effort. DBE businesses/firms may be contacted to certify compliance.</i> | | |
| III. PROJECT BIDDERS LIST: | | |
| List on the following table, or provide on a separate list, <u>only</u> the business entities directly solicited for procurement or that submitted a bid for consideration. | | |
| Instructions for Columns 1 - 5 | 1 - List the actual date business was contacted 2 - Full business name (line one) & point of contact (line two) 3 - Business address 4 - Telephone number 5 - Email address for the business | |
| Instructions for Column 6 | Enter one of the following procurement or contract categories: Construction or Non-Construction (SUPPLIES – EQUIPMENT – SERVICES) <i>For detailed definitions, review guidance document, TWDB-0210.</i> | |
| Instructions for Column 7 | Enter the type of business: MBE - Minority Business Enterprise, WBE - Women-owned Business Enterprise, or OTHER - Company or firm is Non-MBE or WBE | |
| Notice: Entities receiving State Revolving Fund financial assistance must create and maintain a Bidders List if the entity is subject to, or chooses to follow, competitive bidding. The Bidders List must include all firms that bid or quoted on contracts under EPA assisted projects, including both MBE/WBEs and non-MBE/WBEs. Entities must keep all Bidders Lists until project completion or the recipient is no longer receiving EPA funding under the loan, whichever is later. Entities with loans totaling less than \$250,000 during a state fiscal year are exempt from the Bidders List requirement but must still meet DBE program requirements. The Bidders List requirement also applies to all Prime Contracted Businesses/Firms that make subcontracting. | | |

ATTACHMENT 2 – AFFIRMATIVE STEPS CERTIFICATION AND GOALS (TWDB-0217)

To download this document, view [TWDB-0217](#) from the TWDB website.

| | | | | | |
|--|-------------------------------------|--|---|---------------------------------|--|
| FOR OFFICE USE ONLY: Contract # _____ | | TWDB-0217 TEXAS WATER DEVELOPMENT BOARD (TWDB) PRIME CONSULTANT/CONTRACTOR CERTIFICATION | | TWDB-0217 Revised 04/01/2024 | |
| I. PROJECT INFORMATION | | | | | |
| TWDB Project Number | Applicant/Entity Name | Total of TWDB Funding | Program Type (insert "X" for all that apply) | | |
| | | | <input type="checkbox"/> Drinking Water SRF (DWSRF) | | |
| | | | <input type="checkbox"/> Clean Water SRF (CWSRF) | | |
| Prime Consultant/Contractor: _____ | | | | | |
| Contract Number: _____ Contract Amount: _____ | | | | | |
| II. GOOD FAITH EFFORT (Applicable to all subcontracts awarded by the prime contractor/consultant) | | | | | |
| I understand that it is my responsibility to comply with all state and federal regulations and guidance in the utilization of Minority and Women-owned Businesses in procurement. I certify that I will make a "good faith effort" to afford opportunities for Minority Business Enterprise (MBE), and Women-owned Business Enterprise (WBE) by: | | | | | |
| 1. Including qualified MBEs and WBEs on procurement solicitation lists | | | | | |
| 2. Soliciting potential MBEs and WBEs | | | | | |
| 3. Reducing contract size/quantities when economically feasible to permit maximum participation by MBEs and WBEs | | | | | |
| 4. Establishing delivery schedules to encourage participation by MBEs and WBEs | | | | | |
| 5. Using the services and assistance of the Small Business Administration, Minority Business Development Agency, U.S. Department of Commerce, and Texas Marketplace | | | | | |
| 6. Submitting documentation to the Applicant/Entity to verify good faith effort, steps 1-5. | | | | | |
| <input type="checkbox"/> EXCEPTION: As the Prime Consultant/Contractor, I certify that I have reviewed the contract requirements and found no available subcontracting opportunities. I also certify that I will fulfill 100 percent of the contract requirements with my own employees and resources. (Check if applicable) | | | | | |
| Signature – Prime Consultant/Contractor | | Title (print legibly) | | Certification Date | |
| | | | | | |
| III. PROJECT PARTICIPATION ESTIMATES | | | | | |
| The Cost Categories mentioned below are goals. These goals are neither standards nor quotas. Recipients of financial assistance are not required to meet the fair share objectives. They must, however, acknowledge that they are aware of and are actively pursuing the fair share objectives with their procurements. | | | | | |
| Cost Category | Potential MBE Participation Goal | Potential WBE Participation Goal | | | |
| Construction | 24.50% | 11.34% | | | |
| Non-Construction | 25.05% | 19.35% | | | |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% | | | |
| The fair share goals listed above are required by 40 CFR Part 33 Subpart D and are directly negotiated with EPA Region 6. Entities receiving federal financial assistance are subject to the TWDB's goals and may not be substituted with other agency or program goals. | | | | | |
| IV. TWDB APPROVAL SIGNATURE | | | | | |
| Signature indicates the form meets DBE Requirements. | | | | | |
| DBE Coordinator | | | Approval Date | | |
| | | | | | |

ATTACHMENT 4 – PARTICIPATION SUMMARY (TWDB-0373)

To download this document, view [TWDB-0373](#) from the TWDB website.

Page 1 of 2

TWDB-0373
Revised 04/01/2024

FOR OFFICE USE ONLY
Contract # _____

TWDB-0373
TEXAS WATER DEVELOPMENT BOARD
PARTICIPATION SUMMARY
PROJECT INFORMATION

| TWDB Project Number | Applicant/Entity Name | Total TWDB Funding Request | Program Type (insert "X" for all that apply) |
|---------------------|-----------------------|----------------------------|---|
| | | | <input type="checkbox"/> Drinking Water SRF (DWSRF) |
| | | | <input type="checkbox"/> Clean Water SRF (CWSRF) |

Project Name: _____

Solicitation By: ☐ Applicant/Entity OR ☐ Prime Contracted Business: _____

Project Phase: ☐ Prior to Closing ☐ Release of funding for PADs ☐ Construction Contract # _____

Instructions

Column 1
Enter the full name, street address, city/state/zip for each firm awarded a contract for the project.

Column 2
Enter one of the following procurement or contract categories:
CONSTRUCTION / NON-CONSTRUCTION (Services; Equipment; Supplies)

Column 3
Enter the type of business: **MBE (Minority Business Enterprise)**, **WBE (Women-owned Business Enterprise)**, or **OTHER** (NOTE: **OTHER = Company or firm is Non-MBE or WBE**)

Column 4
Enter the exact amount of the awarded contract.

Column 5
Enter the exact date the contract was executed or the proposed date of contract execution.

If valid MBE/WBE firms are awarded contracts, a copy of their certification is required to be attached with this form for each MBE/WBE business listed.

Notice: Brokers may not be listed below as an MBE or WBE. A broker is a firm that does not perform, manage, or supervise the work of its sub/contract in a manner consistent with the normal business practices for sub/contractors in its line of business. For more specifics, review guidance document, TWDB-0210.

I. LIST OF ACTUAL CONTRACTS/PROCUREMENTS

| Column 1 Name & Address of Contracted Firm/Vendor | Column 2 Procurement Category Construction Or Non-Construction | Column 3 MBE/WBE Status | Column 4 Contract Amount (\$) | Column 5 Contract Execution Date |
|--|--|----------------------------|----------------------------------|-------------------------------------|
| 1. _____ | | | | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |

(Table continues on the next page)

STATE OF TEXAS

§
§
§

COUNTY OF _____

**SITE
CERTIFICATE**

Before me, the undersigned notary, on this day personally appeared

_____, a person whose identity is known to me or who has presented to me a satisfactory proof of identity. After I administered an oath, this person swore to the following:

(1) My name is _____. I am over 18 years of age and I am of sound mind, and capable of swearing to the facts contained in this Site Certificate. The facts stated in this certificate are within my personal knowledge and are true and correct.

(2) I am an authorized representative of _____, an entity that has filed an application for financial assistance with the Texas Water Development Board for a (water) (wastewater) project.

Please complete only those sections that apply to your project:

LEGAL CERTIFICATION – LEASE/CONTRACT

I certify that: _____
(Legal Name of Applicant, i.e., City, District, etc.)

has executed a written lease or other contractual agreement to use the property needed for this (water)(wastewater) project that extends through _____ (date), the life of the Texas Water Development Board loan or grant that will be used to finance this project, either in whole or in part. A copy of this lease or agreement is attached hereto.

LEGAL CERTIFICATION – PROPERTY EASEMENT

I certify that: _____
(Legal Name of Applicant, i.e., City, District, etc.)

has executed an express easement to use the property needed for this (water) (wastewater) project that extends through the life of the Texas Water Development Board loan or grant that will be used to finance this project, either in whole or in part. The express easement to use the property needed for this (water) (wastewater) project extends through _____ (date). A copy of the express easement agreement is attached hereto.

LEGAL CERTIFICATION – OWNERSHIP INTEREST

I certify that _____
(Legal Name of Applicant, e.g. City, District, etc.)

☐ Option A: has acquired the necessary real property interest, as evidenced by fee simple purchase, deed, fully executed earnest money contracts, or completion of eminent domain proceedings; that such acquisition will guarantee access and egress; and such interest will contain the necessary easements, rights of way, or unrestricted use as is required for the project being financed by the Texas Water Development Board. The legal description is referenced below.

☐ Option B: is in the process of acquiring the necessary real property interest, as evidenced by earnest money contracts, contracts for sale, firm option agreements to purchase the subject property, or the initiation of eminent domain procedures; that such acquisition will guarantee access and egress; and such interest will contain the necessary easements, rights of way, or unrestricted use as is required for the project being financed by the Texas Water Development Board. The legal description is referenced below. The anticipated date of acquisition is: _____.

The property has been/will be acquired with the use of eminent domain: ☐ True ☐ False

Location and Description of Property Interests acquired for Project:

Any deeds or other instruments required to be recorded to protect the title(s) held by _____ (Legal Name of Applicant) have been recorded or filed for the record in the County deed records or other required location. The following documents are attached hereto:

Description of documents that were used or will be used to acquire the property:

EXECUTED this _____ day of _____, 20_____.

(Signature)

(Print Name)

(Title)

Sworn to and subscribed before me by _____ on this _____ day
of _____, 20_____.

(Notary Public in and for the State of Texas)

[SEAL]

[SEAL]

CONTRACTOR'S ACT OF ASSURANCE RESOLUTION

I hereby certify that it was RESOLVED by a quorum of the directors of the _____ (Name of Corporation),
meeting on the _____ day of _____, 20____, that:

Authorized Representative(s):

| |
|--|
| |
|--|

be, and hereby is/are authorized to act on behalf of _____
(Name of Corporation), as its representative in all business transactions conducted in the State of
Texas, and;

That all above resolution was unanimously ratified by the Board of Directors at said
meeting and that the resolution has not been rescinded or amended and is now in full forces and
effect; and;

In authentication of the adoption of this resolution, I subscribe my name and affix the seal
of the Corporation this _____ day of _____, 20____.

_____(Secretary)

[SEAL]

Monthly American Iron and Steel Certificate
Compliance Submittal by Owner (Sub-Recipient)

TWDB Project No. _____

Loan No. _____

This executed certificate must be submitted with each Outlay report requesting funds associated with construction contracts for all iron and steel products, and/or materials included within the project's construction contracts.

I, _____, _____ of
(Name) (Title)

(Name of Entity)

hereby certify that all iron and steel products and/or materials incorporated into the construction, alteration, maintenance, or repair of the subject project are in full compliance with the American Iron and Steel requirements of Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388) for the Clean Water State Revolving Fund or applicable federal law, including federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable, for the Drinking Water State Revolving Fund, or comply with waivers granted by the U.S. Environmental Protection Agency.

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date

American Iron and Steel
de minimis log

Owner Name: City
Project Name: CID 01 - Project
TWDB SRF Number: #####
Contractor Name: Contractor

Total Project Cost: \$130,000.00
Total Material Cost: \$100,000.00

| Item No. | Iron or Steel Product | Unit Cost | Quantity | Total Cost | % Material Cost (< 1%) | Cumulative Cost | % Material Cost (< 5%) |
|----------|-----------------------|-----------|----------|------------|---------------------------|-----------------|---------------------------|
| 1 | Steel Door | \$400.00 | 1 | \$ 400.00 | 0.40% | \$ 400.00 | 0.40% |
| 2 | Bolts | \$100.00 | 1 | \$ 100.00 | 0.10% | \$ 500.00 | 0.50% |
| 3 | Welding rods | \$30.00 | 1 | \$ 30.00 | 0.03% | \$ 530.00 | 0.53% |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
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| 13 | | | | | | | |



American Iron and Steel (AIS) Guidance for Clean Water and Drinking Water State Revolving Fund Projects

This document is not a comprehensive representation of the federal requirements. For complete details of the federal requirements visit:
<https://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement>

In any instance when there may be a discrepancy between this guidance and the actual federal requirements, program participants must adhere to the federal requirements.

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Forms and Guidance

The Texas Water Development Board (TWDB) forms and guidance documents noted in this instruction document may be accessed through the TWDB Financial Assistance website at:

<https://www.twdb.texas.gov/financial/instructions/index.asp>

Search by either the document number or name.

I. Overview

It is the intent of the Texas Water Development Board (TWDB) to ensure that Applicants, Consultants and Contractors are provided with procedures and recommendations for implementation of the American Iron and Steel (AIS) provisions for the Clean and Drinking Water State Revolving Funds. These provisions are currently contained in Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388) for the Clean Water State Revolving Fund (CWSRF) program and in federal laws, including the federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable, for the Drinking Water State Revolving Fund (DWSRF) program.

The AIS provisions require CWSRF and DWSRF Applicants to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works. For the CWSRF program, the AIS requirements apply only to the construction, alteration, maintenance, or repair of treatment works¹ projects. For the DWSRF program, the AIS requirements apply to all public water system projects. Based on the statutory provisions, the effective date depends on the date the TWDB loan was closed and varies by program.

In this document, the Applicant refers to the entity, or recipient, that receives funding from the TWDB.

II. Effective Dates

Effective dates for AIS provisions are as follows.

CWSRF

| | |
|---|-----------------|
| If the loan closes on or after October 1, 2014: | |
| (a) If the Plans and Specifications for the project were approved by TWDB prior to June 10, 2014 | Exempt from AIS |
| (b) If the Plans and Specifications for the project were approved by TWDB on or after June 10, 2014 | AIS applies |

DWSRF

The American Iron and Steel provisions generally apply to any financial assistance closed on or after January 17, 2014. There may be statutory exceptions to the AIS requirements based on the date of approval of plans and specifications by a state agency. The Applicant should contact the project's TWDB Project Manager if there are questions regarding AIS exceptions.

¹ "Treatment works" is defined in 33 U.S. Code §1292 (2).

CWSRF and DWSRF

Planning, Acquisition, and Design funded separately from the Construction Phase:

If the original loan for the planning and/or design of a project closed prior to January 17, 2014, then the AIS provision would not apply to the construction phase of the same project.

III. United States (U.S.) Environmental Protection Agency (EPA) Guidance

EPA has provided guidance through the following resources:

1. American Iron and Steel Requirement Guidance (March 20, 2014)
www.epa.gov/sites/default/files/2015-09/documents/ais-final-guidance-3-20-14.pdf (**Attachment 1**)
2. Questions and Answers Part 1: Valves and Hydrants (May 30, 2014)
www.epa.gov/sites/default/files/2018-05/documents/ga_part_1.pdf (**Attachment 2**)
3. Questions and Answers Part 2: Products, Projects and Process (September 10, 2014) www.epa.gov/sites/default/files/2015-09/documents/ais-qanda-part-2_sept102014_final_0.pdf (**Attachment 3**)
4. Questions and Answers Part 3: Plans and specifications dates, Refinancing and Coatings (March 16, 2015) www.epa.gov/sites/default/files/2015-09/documents/ais-qanda-part-3-mar-2015_final-for-posting_0.pdf (**Attachment 4**)
5. EPA's American Iron and Steel webpage, <https://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement>

Please contact TWDB with any questions regarding the applicability of AIS requirements.

IV. Covered Iron and Steel Products

If the project receiving CWSRF or DWSRF funds must comply with the AIS requirements, then all covered iron and steel products must be made in the United States, no matter whether the CWSRF or DWSRF was the source of funds used to purchase a particular covered iron and steel product. The Applicant may not use funds from non-State Revolving Fund sources, including the Applicant's own funds, to pay for a non-compliant iron or steel product used in the project.

AIS requirements apply to the following products made primarily of iron or steel, permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings;
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel;
- Reinforced precast concrete; and
- Construction materials.

Mechanical and electrical components, equipment, and systems are not considered iron and steel products, and are exempt from AIS requirements. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

V. Waivers

AIS provisions permit EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

EPA has granted nationwide waivers, which are attached hereto as **Attachment 5**:

1. De Minimis waiver pursuant to Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA) (April 15, 2014). The De Minimis waiver permits the use of products when they occur in de minimis incidental components to the project. Funds used for de minimis incidental components cumulatively may not exceed 5% of the total cost of the materials used in and incorporated into the project; the cost of an individual item may not exceed 1% of the total cost of materials used in and incorporated into the project.
2. Nationwide Plans and Specs waiver pursuant to Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA). (April 15, 2014)

3. National Product Waiver for Pig Iron and Direct Reduced Iron (February 18, 2015).
4. National Product Waiver for Minor Components in Iron and Steel Products (with Cost Ceiling) (October 27, 2015).
5. **Expired** Final Extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts Used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles (August 24, 2018). *The Final Extension for short-term National Product Waiver for Stainless Steel Nuts and Bolts used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles short-term American Iron and Steel (AIS) waiver for stainless steel nuts and bolts expired on February 24, 2020. All coupling type products specifically mentioned in the waiver (couplings flanges restraints, etc.) that contain non-domestic stainless steel nuts and bolts should have been purchased by the project/SRF recipient before the expiration date. If purchased after the expiration date, the stainless steel nuts and bolts in those specific products are no longer covered by a waiver.*

EPA's American Iron and Steel webpage includes any waivers issued – www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement with approved national waivers at www.epa.gov/cwsrf/american-iron-and-steel-requirement-approved-national-waivers-0. The following waivers are expired, but still available for viewing on the EPA's website:

1. **Expired** Short-Term National Product Waiver for Stainless Steel Nuts and Bolts used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles (February 18, 2015) *This national waiver was extended each year for five years but has now expired, see Item 5, above.*
2. **Expired** One-Year Extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts Used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles (February 22, 2016). *This national waiver has now expired, see Item 5, above.*
3. **Expired** One-year Extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts Used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles (January 18, 2017). *This national waiver has now expired, see Item 5, above.*

1. Waiver Process

EPA has implemented a waiver application process to allow the State, on behalf of the Recipient, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from the State (e.g., TWDB) will be considered. A waiver application may be submitted at any time during the project, however until a waiver is granted by EPA, the AIS requirement stands.

To apply for a project waiver, the Recipient should email the request in the form of a Word document (.doc) to the TWDB Project Manager. Proper and sufficient documentation must be provided by the Recipient, refer to **Attachment 6**.

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

EPA will notify TWDB that a waiver request has been approved or denied as soon as such a decision has been made. Approved waivers will be posted on the EPA website. The Recipient should keep a copy of the signed waiver in their AIS Certification File.

2. Compliance

To ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, including the construction material purchase agreements. The Applicant should be aware that AIS requirements will apply to the project through the TWDB commitment resolution. Sample Construction Contract Language is included in **Attachment 7**.

It is the Recipient's responsibility to (1) ensure that all construction and purchase contracts are executed in compliance with AIS, and (2) maintain a record of all forms and certifications necessary to demonstrating compliance with AIS. To demonstrate compliance with AIS requirements either the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the United States, or the Recipient may use step certification process, similar to the Federal Highway Administration (See Attachment 8). The Recipient is responsible for monitoring De Minimis Logs to ensure all iron and steel products listed on the log meet the requirements of the EPA's De Minimis waiver.

TWDB relies on self-certification by the Recipient to document compliance with AIS, and requires the Recipient to submit a Monthly American Iron and Steel Certificate of Compliance Submittal ([TWDB-1106-A](#)) with **each outlay report** covering requests for funds associated within construction contracts. Failure to submit the Monthly American Iron and Steel Certificate of Compliance could delay the release of funds.

3. TWDB Compliance Procedures

To be in compliance and satisfy TWDB's requirements for implementation of AIS requirements, Recipients need to do the following:

1. The Recipient shall prepare and submit any waiver request to the TWDB Project Manager. TWDB will forward all requests to EPA. **Any waiver to the AIS requirements must be issued by the EPA.** Until a waiver is approved by EPA, all AIS requirements must be met. A checklist detailing the types of information required for a waiver to be processed, and EPA's waiver determination checklist is attached as **Attachment 6**.
2. Recipients **shall** include the following language in the Advertisement for Bids for all applicable construction contracts funded by the TWDB's CWSRF or DWSRF:

For CWSRF

Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388).

For DWSRF

Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of federal law, including federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable.

3. Recipients **shall** include the AIS requirements in all applicable construction contracts. Sample contract language is included in **Attachment 7**.
4. Recipients **shall** include the following language on the General Notes Plan Sheet(s).

For CWSRF

This project is subject to the American Iron and Steel (AIS) requirements of Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388). All iron and steel products for construction, alteration, maintenance, or repairs incorporated in these plans must be produced in the United States.

For DWSRF

This project is subject to the American Iron and Steel (AIS) requirements of federal law, including federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable. All iron and steel products for construction, alteration, maintenance, or repairs incorporated in these plans must be produced in the United States.

5. The Recipient, thru the Prime Construction Contractor, must obtain certifications from the final manufacturer that delivers the iron and steel product to the worksite, vendor, or contractor asserting that all manufacturing processes occurred in the United States (Version 1 of the sample letter in **Attachment 8**). For products not delivered to the project site, the Recipient, thru the Prime

Contractor, must obtain the Final Manufacturer's certification from the supplier (Version 2 of the sample letter in **Attachment 8**). The supplier must certify that the products being provided to the Contractor for the project are AIS compliant and the Contractor and Recipient must retain copies of the supplier's certification.

Note: EPA has determined that a comparable manufacturer's certification letter that makes reference to the USDA Rural Utilities Service Water and Environmental Programs' American Iron & Steel requirements instead of EPA's AIS requirements would be acceptable.

6. The Prime Construction Contractor and Recipient are responsible for inspecting iron and steel products for any readily visible identification labels indicating the country of origin. Note: A country of origin stamp alone is not sufficient verification of compliance with AIS and should not be solely relied upon to ensure compliance.
7. The Prime Construction Contractor and Recipient will be required to maintain a file that contains the certifications from the final manufacturers, any approved waivers, and the De Minimis log. This file must be available for review by TWDB representatives. Sample Certification letters, step certification log, and De Minimis Log are included in **Attachment 8**.
8. The Recipient must submit a Monthly American Iron and Steel Certificate of Compliance Submittal ([TWDB-1106-A](#)) with each outlay report requesting funds associated with construction contracts (i.e., covering construction-related invoices), attached as **Attachment 9**.
9. The Recipient will provide a final certification ([TWDB-1106-C](#)), after the completion of the construction contract and prior to issuance of a Certificate of Approval by the TWDB, stating the project was completed in compliance with the AIS requirements, **Attachment 10**.

4. Recommendations and Best Management Practices

The following recommendations are not required but should be considered by the applicant in implementation of the AIS requirements:

1. AIS requirements should be addressed in the engineering feasibility study to determine availability of AIS products and determine if any requests for waivers need to be initiated.
2. While a waiver application may be submitted at any time during the project, the Applicant should consider EPA's review schedule (15-day comment period plus review time) when scheduling projects. It is not recommended to request a waiver after the advertisement for bids or start of construction.
3. Develop procedures for maintaining a record of AIS documentation.
4. Distinguish separate bid items that must comply with AIS requirements on the Bid Form.

5. Consideration of AIS compliance documentation when developing the contractor submittal procedures for shop drawings, material lists, and manufacturer certifications, etc.
6. Discuss AIS requirements during pre-bid conference and pre-construction meetings, to address contractor's responsibilities, and availability of iron and steel products needed to complete the project.

Attachment 1 – American Iron and Steel Requirement Guidance (March 20, 2014)

(Double click on the embedded Acrobat version below for a clear copy of the document, available at www.epa.gov/sites/default/files/2015-09/documents/ais-final-guidance-3-20-14.pdf)



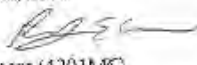
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

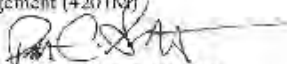
MAR 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76, Consolidated Appropriations Act, 2014

FROM: Andrew D. Sawyers, Director 
Office of Wastewater Management (4201M)

Peter C. Grevatt, Director 
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I - X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an "American Iron and Steel (AIS)" requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

Attachment 2 – Questions and Answers Part 1: Valves and Hydrants (May 30, 2014, updated October 27, 2015)

(Double click on the embedded Acrobat version below for a clear copy of the document, available at https://www.epa.gov/sites/default/files/2018-05/documents/qa_part_1.pdf)

May 30, 2014

American Iron & Steel (AIS) Requirement of the Consolidated Appropriations Act of 2014 (Public Law 113-76) Q&A Part 1: Valves and Hydrants

Q1: Does the AIS requirement of the Consolidated Appropriations Act of 2014 require minor, miscellaneous components within a covered valve or hydrant, such as nuts, bolts and washers, to be made in the U.S.?

A1: The definition of "iron and steel products" that must either be domestically produced or subject to a waiver in order to comply with the AIS requirement of the Consolidated Appropriations Act of 2014

Question 1 has been superseded by the National Minor Components Waiver signed on October 27, 2015. This waiver can be found here: https://www.epa.gov/sites/production/files/2015-10/documents/minor_components_waiver_signed_10_27_15_508.pdf

products" that must either be made domestically, or otherwise must comply with the AIS requirement. The minor components represent a very small percentage of the iron and steel in the hydrants and valves that are defined as "iron and steel products." These minor components, which EPA has learned through our research are currently difficult to find domestically in sufficient quantity, such as minor nuts, bolts, and washers, are not required to be of U.S. origin.

Q2: Do the actuators/control systems attached to valves have to comply with the AIS requirement, or just the valve itself?

A2: The AIS requirement of the Consolidated Appropriations Act of 2014 includes valves in its definition of "iron and steel products" that recipients must make certain are either domestically made or subject to a waiver in order to comply with the AIS requirement. Actuators and control systems are not included in the definition. Only the valve itself is required to be either domestically produced or subject to a waiver in order to be compliant with the AIS requirement. Absent a waiver, EPA considers valves and hydrants to be domestically produced if the significant iron and steel components of a covered valve or hydrant – the body, bonnet, shoe, stem, and wedge/disc/gate/ball – if made of iron or steel, is produced in the U.S. See Q1 above for a discussion about minor components. The valves and actuators, while often purchased and shipped together, are two unique products that are manufactured separately and typically attached together during the final step of the process. Valves are included in the definition of "iron and steel products" in the AIS requirement. Actuators, whether manual, electric, hydraulic or pneumatic, are not listed as an "iron and steel product" under the AIS requirement of the Consolidated Appropriations Act of 2014, nor are they considered construction materials. Therefore, they do not need to be domestically produced in the U.S. in order to comply with the requirement.

Attachment 3 – Questions and Answers Part 2: Products, Projects, and Process (September 10, 2014)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at https://www.epa.gov/sites/default/files/2015-09/documents/ais-ganda-part-2_sept102014_final_0.pdf)

September 10, 2014

American Iron & Steel (AIS) Requirement of the Consolidated Appropriations Act of 2014
(Public Law 113-76)

Q&A Part 2

PRODUCT QUESTIONS

1. Q: Do all fasteners qualify for de minimis exemption?

A: No. There is no broad exemption for fasteners from the American Iron and Steel (AIS) requirements. Significant fasteners used in SRF projects are not subject to the de minimis waiver for projects and must comply with the AIS requirements. Significant fasteners include fasteners produced to industry standards (e.g., ASTM standards) and/or project specifications, special ordered or those of high value. When bulk purchase of unknown-origin fasteners that are of incidental use and small value are used on a project, they may fall under the national de minimis waiver for projects. The list of potential items could be varied, such as big-box/hardware-store-variety screws, nails, and staples. The key characteristics of the items that may qualify for the de minimis waiver would be items that are incidental to the project purpose (such as drywall screws) and not significant in value or purpose (such as common nails or brads). See the following: http://water.epa.gov/grants_funding/upload/Deminimis-Waiver-04-15-14.pdf.

EPA also clarifies that minor components of two listed products – valves and hydrants – may not need to meet the AIS requirements if the minor components comprise a very small quantity of minor, low-cost fasteners that are of unknown origin. See EPA's questions and answers on the subject at the following: http://water.epa.gov/grants_funding/upload/AIS-QandA-Part-1-Valves-and-Hydrants-final.pdf.

2. Q: Does PCCP pipe have to be domestically produced?

A: Yes. Pre-stressed concrete cylinder pipe (PCCP) or other similar concrete cylinder pipes would be comparable to pre-cast concrete which is specifically listed in the Consolidated Appropriations Act of 2014 as a product subject to the AIS requirement.

3. Q: If the iron or steel is made from recycled metals will the vendor/supplier have to provide a certification document certifying that the recycled metals are domestically produced?

A: No. Recycled source materials used in the production of iron and steel products do not have to come from the U.S. Iron or steel scrap, for instance, are considered raw materials that may come from anywhere. While certification is not required for the raw material, EPA does recommend that additional final processing of iron and steel be certified to have occurred in the U.S.

4. Q: Do tanks used for filtration systems, if delivered to the construction site separately and then filled with filtration media onsite, have to be domestically produced?

Attachment 4 – Questions and Answers Part 3: Plans and Specifications Dates, Refinancing and Coatings (March 16, 2015)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at https://www.epa.gov/sites/default/files/2015-09/documents/ais-ganda-part-3-mar-2015_final-for-posting_0.pdf)

March 2015

American Iron & Steel Requirement for the Clean Water and Drinking Water State Revolving Funds

Q&A Part 3

For CWSRF and DWSRF: On January 17, 2014, Public Law 113-76, the "Consolidated Appropriations Act, 2014," was enacted and included an American Iron and Steel requirement for the Clean Water and Drinking Water State Revolving Fund programs through the end of fiscal year 2014. Since then, the AIS requirement has continued for both programs, but through different statutes, with a few changes as described in the questions and answers provided below.

For CWSRF: On June 10, 2014, the Water Resources Reform and Development Act amended the Clean Water Act to include permanent requirements for the use of AIS products in CWSRF assistance agreements. Section 608 of the CWA now contains requirements for AIS that repeat those of the Consolidated Appropriations Act, 2014. All CWSRF assistance agreements must comply with Section 608 of the CWA for implementation of the permanent AIS requirement.

For DWSRF: On December 16, 2014, the President signed Public Law 113-235, the "Consolidated and Further Continuing Appropriations Act, 2015," which provides fiscal year 2015 full-year appropriations through September 30, 2015. This law continues the requirement for the use of AIS products in DWSRF assistance agreements through September 30, 2015.

CWSRF PROGRAM

1. **Q:** The Water Resources Reform and Development Act amended the Clean Water Act to include permanent requirements for the use of AIS for CWSRF funded assistance agreements. Does the CWA include an exemption for plans and specifications approved prior to the enactment of the legislation similar to the exemption included in the Consolidated Appropriations Act (CAA) 2014?

A: Yes. The WRRDA amendment to the CWA, which included AIS requirements, included a similar exemption as the CAA 2014. For any CWSRF assistance agreement signed on or after October 1, 2014, if the plans and specifications were approved prior to June 10, 2014 (the enactment of WRRDA), then the project is exempt from AIS requirements. For assistance agreements signed prior to October 1, 2014, the previous dates in the CAA 2014 apply (see March 20, 2014, AIS guidance document).

If a project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the plans and specifications approval date for purposes of this exemption in Section 608 (f).

The following table summarizes AIS exemptions based on the plans and specifications approval date for CWSRF funded projects.

3/16/2015

Attachment 5 – EPA Approved Waivers

1. De Minimis Waiver pursuant to Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA) (April 15, 2014)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at <https://www.epa.gov/cwsrf/de-minimis-waiver-pursuant-section-436-pl-113-76-consolidated-appropriations-act>)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WAIVERS

DECISION MEMORANDUM

SUBJECT: De Minimis Waiver of Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA), 2014

FROM: Nancy K. Stoner
Acting Assistant Administrator

The EPA is hereby granting a nationwide waiver pursuant to the "American Iron and Steel" (AIS) requirements of P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), section 436 under the authority of Section 436(b)(1) (public interest waiver) for de minimis incidental components of eligible water infrastructure projects. This action permits the use of products when they occur in de minimis incidental components of such projects funded by the Act that may otherwise be prohibited under section 436(a). Funds used for such de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project.

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an "American Iron and Steel" (AIS) requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use specific domestic iron and steel products that are produced in the United States if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Fiscal Year 2014, unless the agency determines it necessary to waive this requirement based on findings set forth in Section 436(b). The Act states, "[the requirements] shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency... finds that—(1) applying subsection (a) would be inconsistent with the public interest;" 436(b)(1).

In implementing section 436 of the Act, the EPA must ensure that the section's requirements are applied consistent with congressional intent in adopting this section and in the broader context of the purposes, objectives, and other provisions applicable to projects funded under the SRF. Water infrastructure projects typically contain a relatively small number of high-cost components incorporated into the project. In bid solicitations for a project, these high-cost components are generally described in detail via project specific technical specifications. For these major components, utility owners and their contractors are generally familiar with the conditions of availability, the potential alternatives for each detailed specification, the approximate cost, and the country of manufacture of the available components.

Barry.Aud@epa.gov • Project Webpage at CWSRF.com • 1-800-368-5858 • 1-800-368-5858 • 1-800-368-5858 • 1-800-368-5858

2. Nationwide Plans and Specifications Waiver pursuant to Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA) (April 15, 2014)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at <https://www.epa.gov/cwsrf/nationwide-plans-and-specs-waiver-pursuant-section-436-pl-113-76-consolidated-appropriations>)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

DECISION MEMORANDUM

SUBJECT: Plans and Specifications Waiver of Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA), 2014

FROM: Nancy K. Stoner
Acting Assistant Administrator

The EPA is hereby granting a nationwide waiver of the American Iron and Steel requirement pursuant to Section 436(b)(1) (public interest waiver), of the Consolidated Appropriations Act (CAA), 2014, for eligible projects that had engineering plans and specifications submitted to an appropriate state agency prior to and including January 17, 2014, the date of enactment of the CAA, and approved between and including January 17, 2014, and the date of this waiver, where the state agency that approved such plans and specifications did so under the normal course of business for that agency. This action permits the use of non-domestic iron and steel products in such projects funded by a Clean or Drinking Water State Revolving Fund that may otherwise be prohibited under section 436.

If a project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the plans and specifications approval date for purposes of this national waiver.

The basis for the nationwide waiver is that due to the uncertainty about whether an American Iron and Steel requirement would be included in this year's appropriation, potential assistance recipients did not have the opportunity to plan for a possible American Iron and Steel requirement. Until detailed guidance was issued, potential assistance recipients were unable to solicit bids from construction firms with appropriate definitions of key terms contained in the CAA language. Additionally, projects that submitted engineering plans and specifications prior to and including January 17, 2014, without knowledge of the American Iron and Steel requirement, and with the anticipation that such plans would be quickly approved, but such approval did not occur until on or after January 17, 2014, would be required to redesign elements of the project, investigate potential domestic products, revise engineering drawings and bid specifications, and resubmit such plans and specifications for approval, thereby delaying the initiation of construction substantially. Those projects which do not require approved plans and specifications, but were bid prior to the guidance being issued, also could be required to rebid the project or submit change orders to comply with the new requirements, which would also delay initiation of construction.

3. National Product Waiver for Pig Iron and Direct Reduced Iron (February 18, 2015)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at <https://www.epa.gov/cwsrf/national-product-waiver-pig-iron-and-direct-reduced-iron>)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 18 2015

OFFICE OF WATER

DECISION MEMORANDUM

SUBJECT: National Product Waiver for Pig Iron and Direct Reduced Iron for State Revolving Fund Projects

FROM: *Kenneth J. Kupcis*
Kenneth J. Kupcis
Deputy Assistant Administrator

The U.S. Environmental Protection Agency is hereby granting a national product waiver pursuant to the "American Iron and Steel" provisions of the Clean Water Act and Public Law 113-235, the "Consolidated and Further Continuing Appropriations Act, 2015," for certain intermediate goods used in the manufacture of iron and steel products.¹ This waiver permits the use of pig iron and direct reduced iron manufactured outside of the United States in domestic manufacturing processes for iron and steel products used in projects funded by a Clean Water or Drinking Water State Revolving Fund that may otherwise be prohibited absent this waiver. The waiver is retroactive and thus also applies to the use of non-domestic pig iron and direct reduced iron before the signature date.

Background: Pig iron and direct reduced iron are intermediate products of iron and steel manufacturing used as material feed sources in iron and steel foundries and steel mills. Pig iron is a product of iron ore smelting in a blast furnace. It is made from molten iron, which has been cast in the shape of "pigs" as it comes from the blast furnace. Direct reduced iron ore is produced from iron ore pellets or fines, which are reduced in a solid state using natural gas. Hot briquetted iron, or HBI, is a compacted form of direct reduced iron with enhanced physical characteristics for shipment and storage.

Coverage: This waiver permits the use of iron and steel products that were manufactured using non-domestic pig iron and direct reduced iron in projects that receive funds from either the CWSRF or DWSRF. Any project that received or will receive funds from the CWSRF or DWSRF beginning with the enactment of P.L. 113-75, the "Consolidated Appropriations Act, 2014," may use this waiver for iron and steel that use these intermediate goods.

Rationale: The AIS provisions require CWSRF and DWSRF assistance recipients to use specific domestic iron and steel products that are produced in the United States if the project is funded

¹ Absent a waiver, all treatment works and drinking water facilities that are constructed, in whole or in part, with funds from the CWSRF or the DWSRF, must use American-made iron and steel. EPA is allowed under certain circumstances to provide waivers of this requirement.



OCT 27 2015

OFFICE OF WATER

FROM: Kenneth J. Kopocis *Kenneth J. Kopocis*
Deputy Assistant Administrator

Coverage: The items covered by this waiver include miscellaneous minor components within iron and steel products as defined in the AIS provisions of the Acts. The specific minor components in covered iron and steel products will vary by product and manufacturer. Pursuant to this waiver, non-domestically produced miscellaneous minor components comprising up to 5 percent of the total material cost of an otherwise domestically produced iron and steel product may be used. This waiver does not exempt the whole product from the AIS requirements, and the primary iron or steel components of the product must be produced domestically. Unless subject to a separate waiver, all other iron and steel components in these products must still meet the AIS requirements. Valves and hydrants are also subject to the cost ceiling requirements described here. This waiver supersedes the EPA's previous guidance issued on May 30, 2014, (Question 1) related to minor components in valves and hydrants.

Abstract a caveat, all treatment works and drinking water facilities that are constructed, in whole or in part, with funds from the CWSRF or the DWSRF, must use American-made iron and steel. The EPA is allowed under certain circumstances to provide waivers of this requirement.

5. (Expired) Final Extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts Used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles (August 24, 2018)

(Double click on the embedded Acrobat version below for a clear copy of the entire document, available at <https://www.epa.gov/cwsrf/final-18-month-extension-national-product-waiver-stainless-steel-nuts-and-bolts-august-24>)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 24 2018

DECISION MEMORANDUM

SUBJECT: Final Extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles for State Revolving Fund Projects

FROM: David P. Ross
Assistant Administrator

The U.S. Environmental Protection Agency (EPA) hereby grants an extension of the Short-Term National Product Waiver for Stainless Steel Nuts and Bolts used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles for State Revolving Fund Projects, pursuant to the "American Iron and Steel" (AIS) requirements of the Clean Water Act. The original waiver was signed on February 18, 2015, and was granted a one-year extension on February 22, 2016. A second extension was granted until February 18, 2018. With this third and final extension, the waiver will retroactively cover nuts and bolts purchased since February 18, 2018, and be extended 18 months from the signing date of this waiver (sunset date). This waiver will not be renewed after the sunset date. This waiver permits the purchase and use of non-domestically produced stainless steel nuts and bolts in bolting-type pipe couplings, restraints, joints, and repair saddles in iron and steel products for projects funded by a Clean Water State Revolving Fund (CWSRF) or Drinking Water State Revolving Fund (DWSRF) that may otherwise be prohibited absent this waiver.

The original, approved waiver provides details regarding the specific types of products covered by and the rationale for issuance of the waiver (see: <https://www.epa.gov/sites/production/files/2015-09/documents/short-term-natl-waiver-for-ss-nuts-bolts-021815.pdf>). This national product waiver extension is short-term, applying to the covered products if those products are purchased by the assistance recipient or their representatives (i.e. construction contractor) up until the sunset date.

The EPA is granting this national product waiver extension on a short-term basis in order to provide the time U.S. manufacturers need to increase the domestic production of the specified stainless steel nuts and bolts. Upon the production of these parts, the EPA stands ready to provide assistance to states and others to help identify AIS compliant products consistent with the April 2017 Buy American and Hire American Executive Order.

Attachments:

1. Rationale and Legal Authority
2. Summary of Comments Received During 15-Day Informal Public Input Period on Short-Term Waiver Extension for Stainless-Steel Nuts and Bolts used in Pipe Couplings, Restraints, Joints, Flanges, and Saddles for State Revolving Fund (SRF) Projects

Attachment 6 – EPA Waiver Request

1. Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

| Items | <input type="checkbox"/> | Notes |
|--|--------------------------|-------|
| General <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> ○ Description of the foreign and domestic construction materials ○ Unit of measure ○ Quantity ○ Price ○ Time of delivery or availability ○ Location of the construction project ○ Name and address of the proposed supplier ○ A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance Applicant made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor | | |
| Cost Waiver Requests <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> ○ Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products ○ Relevant excerpts from the bid documents used by the contractors to complete the comparison ○ Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers | | |
| Availability Waiver Requests <ul style="list-style-type: none"> • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: <ul style="list-style-type: none"> ○ Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials ○ Documentation of the assistance Applicant's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. ○ Project schedule ○ Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought <p>Has the State received other waiver requests for the materials described in this waiver request, for comparable projects?</p> | | |

2. EPA Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

| Review Items | Yes | No | N/A | Notes |
|--|-----|----|-----|-------|
| Cost of Waiver Request <ul style="list-style-type: none"> • Does the waiver request include the following information? <ul style="list-style-type: none"> o Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products | | | | |
| <ul style="list-style-type: none"> o Relevant excerpts from the bid documents used by the contractors to complete the comparison | | | | |
| <ul style="list-style-type: none"> o A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market | | | | |
| <ul style="list-style-type: none"> • Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%? | | | | |
| Availability Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested? <ul style="list-style-type: none"> o Supplier information or other documentation indicating availability/delivery date for materials o Project schedule o Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials • Does supporting documentation provide sufficient evidence that the | | | | |
| <ul style="list-style-type: none"> • Contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? | | | | |
| <ul style="list-style-type: none"> • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) | | | | |

| | | | | |
|--|--|--|--|--|
| <ul style="list-style-type: none">• Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include:<ul style="list-style-type: none">o Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same Stateo Multiple waiver requests for the materials described in this waiver request, for comparable projects in other Stateso Correspondence with construction trade associations indicating the non-availability of the materials• Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits? | | | | |
|--|--|--|--|--|

Attachment 7 – Construction Contract Language

The following language must be included in all construction and purchase contracts associated with a TWDB CWSRF or DWSRF loan:

The Contractor acknowledges to and for the benefit of the **Owner** (“Purchaser”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser to enforce this Agreement and recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the TWDB, or any damages owed to the Purchaser).

NOTE: It is required that the Owner receive and maintain files documenting the Contractor’s use of AIS. Monthly compliance with AIS must be verified by the Owner through the submittal of the TWDB form TWDB-1106-A.

Attachment 8 – Sample Certifications

AIS Certification must document the location of the manufacturing process involved with the production of steel and iron materials. Each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products and their step in the process must be recorded and certified as domestically performed.

The applicant may utilize either

- 1) a Final Manufacturer Certification process, in which the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification identifying all handlers of the iron or steel product, and asserting that all manufacturing processes occurred in the US; or
- 2) a Step Certification process in which each handler of the iron or steel product provides a separate certification letter certifying that their step in the process was domestically performed.

1. Final Manufacturer Certification – Version 1 – AIS Products Delivered to Project Site

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead. The Final Manufacturer's Certification should list everyone who has handled the product, starting with the processor of the raw iron or steel through the contractor who installs the final product.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the project site below are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Project Site location (City, State): _____

Project's Prime Contractor Name: _____

List for all Items, Products and/or Materials (Include all the predecessor manufacturing processes before the final manufacturer for each item on the list):

Item 1: _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Item 2: _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the project engineer.

Signed by company representative

2. Final Manufacturer Certification – Version 2 – AIS Products Purchased from Supplier

The Final Manufacturer's Certification should list everyone who has handled the product, starting with the processor of the raw iron or steel through to the Supplier.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the Supplier listed below are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Supplier: _____

Address: _____

List for all Items, Products and/or Materials (Include all the predecessor manufacturing processes before the final manufacturer for each item on the list):

Item 1: _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Item 2: _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

Predecessor Manufacturing Process: _____

Manufacturer's Name: _____

Manufacturing location (City, State): _____

If any of the above compliance statements change while providing material to this project we will immediately notify the Supplier.

Signed by company representative

3. Step Certification

A step certification is a process under which each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products certifies that their step in the process was domestically performed. The Step Certification process requires you receive a separate letter from everyone who handles the product, starting with the processor of the raw iron or steel through the contractor who installs the final product.

4. Step Certification Letter

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead of each handler responsible for that process of the iron or steel product.

Date

Company Name
Company Address
City, State ZIP Code

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for (project site _____ or to _____ company) is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item 1: _____
Manufacturing location (City, State): _____

Item 2: _____
Manufacturing location (City, State): _____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

5. Step Certification Log

The following information is provided as a sample log to keep track of step certification for AIS compliance. The TWDB makes no claims regarding the legality of the step certification log with respect to AIS compliance.

American Iron and Steel Step Certification Log for

(Iron or Steel Product)

Contractor: _____
(Name) (Item)

Supplier: _____
(Name) (Item)

Final Manufacturer: _____
(Name) (Item) (Process)

Predecessor Manufacturer 1: _____
(Name) (Item) (Process)

Predecessor Manufacturer 2: _____
(Name) (Item) (Process)

Processor (e.g., foundry): _____
(Name) (Item) (Process)

6. De Minimis Log

The following information is provided as a sample De Minimis log for AIS compliance ([TWDB-1106-B](#)). The TWDB makes no claims regarding the legality of the De Minimis log with respect to AIS compliance.

Figure 1 - Information contained in the log example: Owner Name, Project Name, TWDB SRF Number, Contractor Name, Total Project Cost, Total Material Cost followed by data entered for each of the following categories: Item Number, Iron or Steel Product, Unit Cost, Quantity, Total Cost, Percent of Total Material Cost Less Than One Percent, Cumulative Cost, Percent of Total Material Cost Less Than Five Percent.

| American Iron and Steel de minimis log | | | | | | | | |
|---|-----------------------|------------------|----------|----------------------|----------------------|-----------|----------------------|--|
| | Owner Name: | City | | Total Project Cost: | \$130,000.00 | | | |
| | Project Name: | CID 01 - Project | | Total Material Cost: | \$100,000.00 | | | |
| | TWDB SRF No.: | #### | | | | | | |
| | Contractor Name: | Contractor | | | | | | |
| Item No. | Iron or Steel Product | Unit Cost | Quantity | Total Cost | % Mat Cost (< 1%) | Cum Cost | % Mat Cost (< 5%) | |
| 1 | Steel Door | \$400.00 | 1 | \$ 400.00 | 0.40% | \$ 400.00 | 0.40% | |
| 2 | Bolts | \$100.00 | 1 | \$ 100.00 | 0.10% | \$ 500.00 | 0.50% | |
| 3 | Welding rods | \$30.00 | 1 | \$ 30.00 | 0.03% | \$ 530.00 | 0.53% | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |

Attachment 9 – Monthly American Iron and Steel Certificate Form 1106-A

Compliance Submittal by Owner (Sub-Recipient)

TWDB Project No. _____

Loan No. _____

This executed certificate must be submitted with each Outlay report requesting funds associated with construction contracts for all iron and steel products and/or materials included within the project's construction contracts.

I, _____, _____ of
(Name) (Title)

_____ hereby certify that all iron and steel products and/or materials incorporated into the construction, alteration, maintenance, or repair of the subject project are in full compliance with the American Iron and Steel requirements of Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388) for the Clean Water State Revolving Fund or federal law, including federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable, for the Drinking Water State Revolving Fund, or comply with waivers granted by the U.S. Environmental Protection Agency.

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date

Attachment 10 – Final American Iron and Steel Certificate Form 1106-C

Compliance Submittal by Owner (~~Sub~~-Recipient)

TWDB Project No. _____

Loan No. _____

This executed certification must be submitted after the completion of the construction contract and prior to issuance of a Certificate of Approval by the TWDB, stating the project was completed in compliance with the AIS requirements.

I, _____, _____ of
(Name) (Title)

_____ hereby certify that all iron and steel products and/or materials incorporated into the construction, alteration, maintenance, or repair of the subject project were in full compliance with the American Iron and Steel requirements of Section 608 of the Federal Water Pollution Control Act (33 U.S.C. §1388) for the Clean Water State Revolving Fund or federal law, including federal appropriation acts and Section 1452(a)(4) of the Safe Drinking Water Act (42 U.S.C. §300j-12(a)(4)), as applicable, for the Drinking Water State Revolving Fund, or comply with waivers granted by the U.S. Environmental Protection Agency.

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date

Superseded General Decision Number: TX20230091

State: Texas

Construction Type: Heavy

Counties: Anderson, Falls, Freestone, Grimes, Houston, Jasper, Lee, Leon, Limestone, Madison, Milam, Newton, Polk, Sabine, San Augustine, Shelby, Trinity, Tyler, Walker and Washington Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

| | |
|---|--|
| If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: | <ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024. |
| If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: | <ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024. |

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

SUTX2009-122 04/21/2009

| | Rates | Fringes |
|-----------------------------------|-------------|---------|
| CEMENT MASON/CONCRETE FINISHER... | \$ 13.00 ** | 0.00 |
| LABORER: Common or General..... | \$ 8.75 ** | 0.00 |
| LABORER: Pipelayer..... | \$ 11.25 ** | 0.00 |
| OPERATOR: Backhoe/Trackhoe..... | \$ 15.89 ** | 0.00 |
| OPERATOR: Bulldozer..... | \$ 14.25 ** | 0.00 |
| OPERATOR: Loader (Front End).... | \$ 11.52 ** | 0.00 |
| TRUCK DRIVER..... | \$ 11.75 ** | 0.00 |
| ----- | | |

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification

and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

**Monthly Davis-Bacon Wage Rate Certificate of Compliance
Submittal by Owner (Subrecipient)**

TWDB Project No. _____

Loan No. _____

| |
|--|
| This executed certificate must be submitted with each Outlay report for labor included within construction contracts. |
|--|

I, _____, _____
(Name) (Title)

(Name of entity) hereby certify that periodic reviews of a representative sample of the weekly payroll data, and contractor weekly payroll certifications, such as OMB No. 1235-0008, have been performed to verify that contractors and subcontractors are paying the appropriate wage rate for compliance with section 513 of the Federal Water Pollution Control Act (33 U.S.C. 1372) for the Clean Water State Revolving Fund or with section 1450(e) of the Safe Drinking Water Act (42 U.S.C.300j-9(e)) for the Drinking Water State Revolving Fund. These laws require payment of prevailing wages in accordance with 40 U.S.C. §§ 3141–3144, 3146, and 3147 (contained within the Davis-Bacon Act, as amended).

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date



**Guidance on
Davis-Bacon Wage Rate Requirements for
State Revolving Fund Projects**

Overview

Davis-Bacon prevailing wage requirements apply to the construction, alteration, or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) and to any construction project carried out, in whole or in part, by assistance made available by the Drinking Water State Revolving Fund (DWSRF).

For the CWSRF and DWSRF programs, the Davis-Bacon prevailing wage requirements apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration, or repair, including painting, of a treatment works project under the CWSRF or a construction project under the DWSRF. Contractors and subcontractors must pay their laborers and mechanics employed under the contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area. The prevailing wage requirements apply to all State Revolving Fund (SRF) financial assistance projects.

For prime contracts in excess of \$100,000, contractors and subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The overtime provisions of the Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

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Wage Rate Requirements

The following wage rate requirements apply to entities receiving financial assistance under the CWSRF and DWSRF programs and will be incorporated into the associated legal instruments. These entities, such as cities, districts, water supply corporations or private companies, are referred to as “subrecipients” within this document.

CWSRF: A subrecipient must comply with the requirements of section 513 of the Federal Water Pollution Control Act (33 U.S.C. 1372) in all procurement contracts and must require contractors to include compliance with section 513 of the Federal Water Pollution Control Act in all subcontracts and other lower tiered transactions. All contracts and subcontracts for the treatment works construction project must contain in full in any contract in excess of \$2,000 the wage rate requirements contract clauses prescribed by TWDB. Section 513 requires compliance with 40 U.S. Code Sections 3141 to 3144, 3146, and 3147 covering wage rate requirements.

DWSRF: A subrecipient must comply with the requirements of section 1452(a)(5) of the Safe Drinking Water Act (42 U.S.C.300j-12(a)(5)) in all procurement contracts and must require contractors to include compliance with section 1452(a)(5) of the Safe Drinking Water Act in all subcontracts and other lower tiered transactions. All contracts and subcontracts for the construction project must contain in full in any contract in excess of \$2,000 the wage rate requirements contract clauses prescribed by TWDB. Section 1452(a)(5) (42 U.S.C.300j-12(a)(5)) requires compliance with 42 U.S.C.300j-9(e) which in turn requires compliance with 40 U.S. Code Sections 3141 to 3144, 3146, and 3147 covering wage rate requirements.

Subrecipients must adhere to the requirements in Sections 1-5 in Appendix 1 (for governmental entities) or Appendix 2 (for non-governmental entities).

Compliance Procedures

In order to be held in compliance and satisfy this federal requirement, entities will need to do the following:

1. **Wage Determinations** - U.S. Department of Labor (DOL) wage determination must be included in the bidding and contract documents. DOL wage determinations may be obtained online at <https://sam.gov/content/wage-determinations>. Once it is determined that Davis-Bacon wage rates will apply to a construction contract, the subrecipient’s contracting organization must state in the solicitation that Davis-Bacon prevailing wage rates are applicable and bid packages must include the current Davis-Bacon general wage determination for the area where construction will occur. While the solicitation remains open, the subrecipient must monitor <https://sam.gov/content/wage-determinations> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The subrecipients must amend the solicitation if the DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipient may request a finding from TWDB that there is not a reasonable time to notify interested contractors of the modification of the wage determination.
2. **Insert wage rate requirements in full for all contracts and subcontracts in excess of \$2,000**
 - If the subrecipient is a governmental entity such as a city or district, it must insert in full the

contract clauses found in Appendix 1, Section 3, Section 4 if the contract exceeds \$100,000, and Section 5. If the subrecipient is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses found in Appendix 2, Section 3, Section 4 if the contract exceeds \$100,000, and Section 5. The subrecipient must ensure all prime contracts require the same full text in any subcontracts.

3. **Monthly Certification** - A Monthly Davis Bacon Wage Rate Certificate of Compliance must be completed by the subrecipient of the SRF funding and submitted monthly to TWDB once construction has begun. (See [Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner \(Subrecipient\) DB-0154](#)).
4. **Contractor Payroll Requirements** - The contractor is required to pay the prevailing wage rates on a weekly basis to laborers and mechanics in accordance with the requirements of 29 CFR 5.5, which are incorporated into the actual construction contract. Contractors/ subcontractors must furnish weekly a statement with respect to the wages paid to each employee during the preceding week. They may use the Department of Labor (DOL) Payroll Form WH- 347 and weekly Statement of Compliance on the reverse, or their own payroll form with all of the same data elements as the DOL Payroll Form WH-347, and the TWDB's form, [Statement of Compliance Certification by Contractor for SRF, DB-0155](#). The DOL Payroll Form WH-347 can be found under the forms section of this document or at the following link: <http://www.dol.gov/whd/programs/dbra/wh347.htm>. (See [DOL Payroll Form WH-347](#))
5. **Interviews** - The subrecipient must periodically interview a sufficient number of employees entitled to the Davis-Bacon prevailing wages to verify that contractors or subcontractors are paying the appropriate wage rates. All interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) found in the forms section or equivalent documentation to memorialize the interviews. The subrecipient must establish and follow an interview schedule based on its assessment of the risks of noncompliance with Davis-Bacon posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with Davis-Bacon. Subrecipients must immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. (See Section 5 of Appendix 1 and 2)
6. **Payroll Records** - Certified payroll records are required to be retained by the subrecipient and contractor for three years after completion of the construction project. The subrecipient must periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. (See Section 5 of Appendix 1 and 2)
7. **Wage Rate Poster** - Post the required Poster (WH-1321) and applicable wage rates at the construction site. The wage rate poster may be found at under the forms section of this document or at <http://www.dol.gov/whd/programs/dbra/wh1321.htm>. (See [Davis-Bacon Wage Rate Poster, WH-1321](#))
8. **Report Violations** - Subrecipients must immediately report violations of the Davis-Bacon prevailing wage requirements to the EPA Davis-Bacon Coordinator listed in the assistance

agreement and to the appropriate DOL WHD Office listed at <http://www.dol.gov/whd/america2.htm>. (See Section 5 of Appendix 1 and 2)

Davis-Bacon General Wage Determinations

A "wage determination" is the listing of wage and fringe benefit for each classification of laborers and mechanics which the Administrator of the Wage and Hour Division of the U.S. DOL has determined to be prevailing in a given area for a particular type of construction. The Davis-Bacon Wage Determinations are classified by the nature of the construction projects performed, specifically listed as "schedules": residential, building, highway, and heavy construction. A brief outline of the definitions for each schedule is listed below.

- **Construction Type: Heavy determination**
This determination includes those projects that are not properly classified as either "building," "highway," or "residential." Unlike these classifications, heavy construction is not a homogenous classification. Because of this catch-all nature, projects within the heavy classification may sometimes be distinguished on the basis of their particular project characteristics, and separate schedules may be issued for dredging projects, water and sewer line projects, dams, major bridges, and flood control projects.
- **Construction Type: Highway determination**
This determination includes construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.
- **Construction Type: Building determination**
This determination includes construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment or supplies; all construction of such structures; the installation of utilities and of equipment, both above and below grade levels; as well as incidental grading, utilities and paving. Such structures need not be "habitable" to be building construction. Also, the installation of heavy machinery and/or equipment does not generally change the project's character as a building.
- **Construction Type: Residential**
This determination includes the construction, alteration or repair of single-family houses, apartment buildings of no more than four stories in height. This includes all incidental items such as site work, parking areas, utilities, streets, and sidewalks.

Entities should review their contractor's wage decisions and confirm they provide an adequate classification of the labor required for the specific construction contract. Most CWSRF and DWSRF projects will fall under the "Heavy" construction type, but entities should ask their consulting engineers if unsure. Some contracts or projects may require more than one general schedule to be included depending on the nature and extent of the work (i.e. a building is constructed in a water treatment facility). This is described in more detail in DOL's All Agency Memorandum 130 with Addendum 131. See the DOL's website <http://www.dol.gov/whd/programs/dbra/memorand.htm>. In such cases, the contracting agency should designate the work to which each wage determination or part thereof applies per FAR 22.404-2 thru 404-3 (Federal Acquisition Regulations). Should

overlaps occur in the wage classification schedules for the contract(s), the owner may consider adopting the higher rate classification.

<https://www.acquisition.gov/browse/index/far>

In all cases, the entity is responsible to insure an adequate classification is provided to insure compliance with the law. Where contractors alert the owner that the classification is inadequate, the owner should work with the contractor and the DOL to address any valid concerns. See the Contact Information below for additional resources.

Requesting Additional Wage Determinations (Using SF 1444)

If the wage determinations found at <https://sam.gov/content/wage-determinations> are missing a wage rate needed for the specific job classification, construction type, and/or project location, it will be necessary to seek a conformance from U.S. Department of Labor (DOL). A conformance is a customized wage rate generally negotiated by the contractor and his or her employee(s) and approved by DOL, and is only valid for the particular project for which it is granted.

Ideally, the conformance process should be initiated after the bid is awarded, but before work has started on the project. Once the bid is awarded, the subrecipient should ask the winning bidder to review the wage determination to assess whether any job classifications necessary for the completion of the project are missing from the DOL's wage determination for the project's area.

The prime contractor for the SRF construction contract initiates the conformance request by completing a Standard Form (SF) 1444 – Request for Authorization of Additional Classification and Rate.

[See Appendix 3 for instructions on completing SF 1444 – Request for Authorization of Additional Classification and Rate.](#)

Contact Information

All questions regarding Davis-Bacon guidance can be directed to: U.S. Department of Labor Wage and Hour Division 1-866-4USWAGE (1-866-487-9243), TTY: 1-877-889-5627, Monday-Friday 8 a.m. to 8 p.m. Eastern Time.

If you require further information about Davis-Bacon and how to apply it to your project, please contact the Texas Water Development Board [Project Team Manager for your region](#) or Clay Schultz, Director, Regional Water Project Development at (512) 463-6277.

Additional Resources:

1. For Wage Determinations applicable to construction projects in Texas:
<https://sam.gov/content/wage-determinations>
2. For more information on prevailing wage and wage determinations visit the Prevailing Wage Resource Book: <https://www.dol.gov/whd/govcontracts/pwr/toc.htm>
3. The United States Department of Labor website:
<http://www.dol.gov/whd/govcontracts/dbra.htm>
The webpage provides an overview, compliance assistance material, poster information, recordkeeping, DOL contact information and more.
4. Davis-Bacon and Related Acts (DBRA) Frequently Asked questions
More in-depth information can be accessed at the Department of Labor (DOL) website:
<http://www.dol.gov/whd/programs/dbra/faqs.htm>

Contact Information – Department of Labor Texas Offices

| | | |
|---|--|---------------------------------------|
| Clear Lake District Office US Dept. of Labor Wage & Hour Division Camino Center II 17625 El Camino Real Suite 482 Houston, TX 77058 | Phone: (281) 488-0690 1-866-4-USWAGE (1-866-487-9243) | Adrian Samaniego District Director |
| Dallas District Office US Dept. of Labor Wage & Hour Division The Offices @ Brookhollow 1701 E. Lamar Blvd., Suite 270, Box 22 Arlington, TX 76006-7303 | Phone: (817) 861-2150 1-866-4-USWAGE (1-866-487-9243) | Jesus Valdez District Director |
| Houston District Office US Dept. of Labor Wage & Hour Division 8701 S. Gessner Drive, Suite 1164 Houston, TX 77074-2944 | Phone: (713) 339-5500 1-866-4-USWAGE (1-866-487-9243) | Robin Mallet District Director |
| McAllen District Office US Dept. of Labor Wage & Hour Division 1101 E. Hackberry Ave., Suite 400 McAllen, TX 78501 | Phone: (956) 682-4631 1-866-4-USWAGE (1-866-487-9243) | Nathan Barrow District Director |
| Corpus Christi Area Office US Dept. of Labor Wage & Hour Division Wilson Plaza 606 W. Carancahua, Suite 705 Corpus Christi, Texas 78476 | Phone: (361) 888-3152 1-866-4-USWAGE (1-866-487-9243) | Vacant District Director |
| San Antonio District Office US Dept. of Labor Wage & Hour Division Northchase 1 Office Building 10127 Morocco, Suite 140 San Antonio, TX 78216 | Phone: (210) 308-4515 1-866-4-USWAGE (1-866-487-9243) | Cynthia Ramos District Director |
| Austin District Office US Dept. of Labor Wage & Hour Division JJ Pickles Federal Building 300 East 8 th Street, Suite 865 Austin, TX 78701 | Phone: (512) 236-2560 1-866-4-USWAGE (1-866-487-9243) | Nicole Sellers District Director |

West Texas Panhandle and Northwest Quadrant: See Albuquerque, NM

| | | |
|---|--|-------------------------------------|
| Albuquerque District Office Mailing Address: US Dept. of Labor Wage and Hour Division P.O. Box 907 Albuquerque, NM 87103-0907 Physical Address: 500 Gold, SW - Suite 12000 Albuquerque, NM 87102 | Phone: (505) 248-6100 1-866-4-USWAGE (1-866-487-9243) | Evelyn Sanchez District Director |
|---|--|-------------------------------------|

Forms Section

Monthly Davis-Bacon Wage Rate Certificate of Compliance Submittal by Owner (Subrecipient)

TWDB Project No. _____

Loan No. _____

This executed certificate must be submitted with each Outlay report for labor included within construction contracts. This Certificate applies only for Financial Assistance CLOSED AFTER 10/30/2009.

I, _____, _____ of
(Name) (Title)

_____ hereby certify that periodic reviews of a
(Name of entity)
representative sample of the weekly payroll data, and contractor weekly payroll certifications, such as OMB No. 1235-0008, have been performed to verify that contractors and subcontractors are paying the appropriate wage rate for compliance with section 513 of the Federal Water Pollution Control Act (33 U.S.C. 1372) for the Clean Water State Revolving Fund or with section 1452(a)(5) of the Safe Drinking Water Act (42 U.S.C.300j-12(a)(5)) for the Drinking Water State Revolving Fund. These laws require payment of prevailing wages in accordance with 40 U.S.C. §§ 3141–3144, 3146, and 3147 (contained within the Davis-Bacon Act, as amended).

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date

Standard Form 1445 – Labor Standards Interview

| LABOR STANDARDS INTERVIEW | | | | | |
|---|------------|------------|---|------------|---------------|
| CONTRACT NUMBER | | | EMPLOYEE INFORMATION | | |
| NAME OF PRIME CONTRACTOR | | | LAST NAME | FIRST NAME | MI |
| NAME OF EMPLOYER | | | STREET ADDRESS | | |
| SUPERVISOR'S NAME | | | CITY | STATE | ZIP CODE |
| LAST NAME | FIRST NAME | MI | WORK CLASSIFICATION | | WAGE RATE |
| ACTION | | | | | CHECK BELOW |
| | | | | | YES |
| Do you work over 8 hours per day? | | | | | NO |
| Do you work over 40 hours per week? | | | | | |
| Are you paid at least time and a half for overtime hours? | | | | | |
| Are you receiving any cash payments for fringe benefits required by the posted wage determination decision? | | | | | |
| WHAT DEDUCTIONS OTHER THAN TAXES AND SOCIAL SECURITY ARE MADE FROM YOUR PAY? | | | | | |
| HOW MANY HOURS DID YOU WORK ON YOUR LAST WORK DAY BEFORE THIS INTERVIEW? | | | TOOLS YOU USE | | |
| DATE OF LAST WORK DAY BEFORE INTERVIEW (YYMMDD) | | | | | |
| DATE YOU BEGAN WORK ON THIS PROJECT (YYMMDD) | | | | | |
| THE ABOVE IS CORRECT TO THE BEST OF MY KNOWLEDGE | | | | | |
| EMPLOYEE'S SIGNATURE | | | | | DATE (YYMMDD) |
| INTERVIEWER | SIGNATURE | | TYPED OR PRINTED NAME | | DATE (YYMMDD) |
| INTERVIEWER'S COMMENTS | | | | | |
| WORK EMPLOYEE WAS DOING WHEN INTERVIEWED | | | ACTION (If explanation is needed, use comments section) | | YES |
| | | | IS EMPLOYEE PROPERLY CLASSIFIED AND PAID? | | |
| | | | ARE WAGE RATES AND POSTERS DISPLAYED? | | |
| FOR USE BY PAYROLL CHECKER | | | | | |
| IS ABOVE INFORMATION IN AGREEMENT WITH PAYROLL DATA? | | | | | |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | | | | | |
| COMMENTS | | | | | |
| | | | | | |
| CHECKER | | | | | |
| LAST NAME | | FIRST NAME | | MI | JOB TITLE |
| SIGNATURE | | | | | DATE (YYMMDD) |
| AUTHORIZED FOR LOCAL REPRODUCTION Previous edition not usable | | | | | |
| STANDARD FORM 1445 (REV. 12-96) Prescribed by GSA - FAR (48 CFR) 53.222(g) | | | | | |

Statement of Compliance Certification by Contractor for State Revolving Funds Federal Davis-Bacon Requirements

In accordance with Title 29 CFR Part 5.5(a)(3)(ii), each weekly payroll must be accompanied by a Statement of Compliance Certification executed by each contractor/subcontractor employing mechanics and laborers at the work site in which the federal government is to participate. Contractors may choose to use the DOL Form WH-347 payroll with the accompanying statement of compliance located on the back of Form WH-347 OR provide contractor's own payroll form using this TWDB Statement of Compliance Certification, DB-0155.

Date: _____
Estimate Number: _____ for the payroll period _____ to _____
Name of Project: _____ Location: _____
Contract Number: _____ TWDB SRF Project #: _____
Date Contract Awarded: _____

I _____ (Name and Title of Signatory Party)
do hereby state:

(1) That I pay or supervise the payment, during the above payroll period, of the persons employed by

_____ (Contractor or Subcontractor);
that all persons employed on said project have been paid the full weekly wages earned;
that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ (Contractor or Subcontractor)
from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145) as described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

DB-0155

3/10/2016

☐ in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) EXCEPTIONS below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ Each laborer or mechanic listed in the attached payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

| EXCEPTION (CRAFT) | EXPLANATION |
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REMARKS

NAME AND TITLE

SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

Rev Dec. 2008.

OMB No.: 1235-0008
Expires: 02/28/2018

ADDRESS

OR SUBCONTRACTOR

NAME OF CONTRACTOR

PAYROLL NO.

FOR WEEK ENDING

PROJECT AND LOCATION

PROJECT OR CONTRACT NO.

| (1) < |
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 3.5(f), The Copeland Act (40 U.S.C. § 3145), contractors and subcontractors performing work on Federally financed or assisted construction contracts to "turnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 3.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has received the prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits or more than the lower Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits or more than the lower Davis-Bacon prevailing wage rate for the work performed.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have comments regarding this estimate or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room 33502, 200 Constitution Avenue, N.W.

(over)

Date _____

I, _____ (Name of Signatory Party) _____ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ (Contractor or Subcontractor) _____ on the

_____ (Building or Work) _____; that during the payroll period commencing on the

_____ day of _____, and ending the _____ day of _____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ (Contractor or Subcontractor) _____ from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 945, 63 Stat. 108, 72 Stat. 967, 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ — in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ — Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

| EXCEPTION (CRAFT) | EXPLANATION |
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REMARKS

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| NAME AND TITLE | SIGNATURE |
| THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 2381 OF TITLE 31 OF THE UNITED STATES CODE. | |

EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor's Wage and Hour Division.



For additional information:

1-866-4-USWAGE
(1-866-487-9243) TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Employment Standards Administration | Wage and Hour Division

WH 1321 (Revised April 2009)

Appendix 1 – Applies to Governmental Entities (such as Cities and Districts)

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

- (i) While the solicitation remains open, the subrecipient shall monitor <https://sam.gov/content/wage-determinations> weekly to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the TWDB that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The TWDB will provide a report of its findings to the subrecipient.
- (ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from <https://sam.gov/content/wage-determinations> into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 CFR 5.1, the Water Resources Reform and Development Act of 2014 for a CWSRF-funded project or the Consolidated Appropriations Act, 2016 (or subsequent federal law) for a DWSRF-funded project, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, <https://sam.gov/content/wage-determinations>.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The TWDB shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the TWDB. The TWDB will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the TWDB, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s) shall, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such

worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the funds from the TWDB. Such documentation shall be available on request of the TWDB or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the TWDB indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the TWDB or EPA if requested by EPA, the TWDB, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5(a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5(a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the TWDB, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or TWDB may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for

the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and subrecipient(s), TWDB, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) found in TWDB guidance document TWDB-0156 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are also available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB.

Subrecipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence."

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA Region 6 DB Coordinator, TWDB, and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm>.

Appendix 2 – Applies to Non-Governmental Entities (such as Water Supply Corporations and Private Companies)

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients must obtain proposed wage determinations for specific localities at <https://sam.gov/content/wage-determinations>. After the subrecipient obtains its proposed wage determination, it must submit the wage determination to the TWDB for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the TWDB.)

(b) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the TWDB that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The TWDB will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from <https://sam.gov/content/wage-determinations> into the ordering instrument.

(d) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 CFR 5.1, the Water Resources Reform and Development Act of 2014 for a CWSRF-funded project or the Consolidated Appropriations Act, 2016 (or subsequent federal law) for a DWSRF-funded project, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, <https://sam.gov/content/wage-determinations>.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The TWDB shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient(s) to the TWDB. The TWDB will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the TWDB, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s) shall, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor,

applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the funds from the TWDB. Such documentation shall be available on request of the TWDB or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the TWDB indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the TWDB or EPA if requested by EPA, the TWDB, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5(a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5(a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or

indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the TWDB, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or TWDB may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), TWDB, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the

completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) found in TWDB guidance document TWDB-0156 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are also available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence."

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA Region 6 DB Coordinator, TWDB, and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm>.

Appendix 3 – Requesting Additional Wage Determinations

If the wage determinations found on <https://sam.gov/content/wage-determinations> are missing a wage rate needed for the specific job classification, construction type, and/or project location, it will be necessary to seek a conformance from U.S. Department of Labor (DOL). A conformance is a customized wage rate generally negotiated by the contractor and his or her employee(s) and approved by DOL, and is only valid for the particular project for which it is granted.

Ideally, the conformance process should be initiated after the bid is awarded, but before work has started on the project. Once the bid is awarded, the subrecipient should ask the winning bidder to review the wage determination to assess whether any job classifications necessary for the completion of the project are missing from the DOL's wage determination for the project's area.

The prime contractor for the SRF construction contract initiates the conformance request by completing a **Standard Form (SF) 1444 – Request for Authorization of Additional Classification and Rate** (found at the end of this document).

The following is an overview of the process that the TWDB and its subrecipients are required by EPA and DOL to follow:

1. Prime Contractor completes the SF 1444 and submits the fully executed form, along with the applicable existing DOL Wage Decision for the area, to the subrecipient (such as the City, District, or Water Supply Corporation).
2. Subrecipient reviews and, if it concurs, submits the SF 1444 and existing DOL Wage Decision for the area to the TWDB by emailing a scan of the completed form and Wage Decision to Wages@twdb.texas.gov.
3. TWDB reviews and submits the request to the DOL, along with a copy to EPA.
4. DOL responds to the TWDB with a decision.
5. TWDB informs the subrecipient of DOL's decision to approve, modify or deny the request.
6. Subrecipient incorporates the approved conformance wage determination into the construction contract and awards the contract within 180 days of the conformance issuance date. Copies of the conformance approval should be maintained with Davis-Bacon records.

Questions: Email TWDB at Wages@twdb.texas.gov

Before completing and submitting the SF 1444, please note:

All classes of laborers or mechanics that are not listed in an existing DOL wage determination and that are to be employed under the contract must be classified in conformance with the existing DOL wage determination for the area. Therefore, any additional classification, along with the associated wage rate and fringe benefits, may only be approved by DOL when the following have been met:

- (1) The work to be performed by the classification being requested on the SF 1444 is not performed by a classification that is already in an existing DOL wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any fringe benefits, bears a reasonable relationship to the wage rates contained in the existing DOL wage determination for the area.

Instructions for boxes on SF 1444:

Check "Construction Contract" at the top of the form

Box 2. Insert the following:

Texas Water Development Board
Austin, TX

Box 3. Prime Contractor's name

Box 4. Date the signed form was emailed to TWDB

Box 5. TWDB's Project Number

Box 6. The date the bid was opened (Bid letting date)

Box 7. The date the contract was awarded.

Box 8. The actual date the contractor will be starting or started work.

Box 9. *Leave blank - this section is not applicable.*

Box 10. List all subcontractors that will utilize the labor classification listed in box 13a. If none, enter "N/A."

Box 11. Project title and description of the project work.

Box 12. Location of project (include city, county and state).

Box 13. The information for "Number" and "Date" are found on the front page of the DOL's General Decision for the area.

Number: Look for the "General Decision Number" (for example: TX180116).

Dated: The date is immediately after the General Decision Number.

Box 13a. List all jobs for which you are requesting a wage (for either the prime or the subcontractor). **Include a detailed job description and duties to be performed. (Note: If the proposed job classification is not one that is commonly used by DOL in their Wage Determination in Texas, such as a “CARPENTER”, “ELECTRICIAN”, or “TRUCK DRIVER”, it is important to include a detailed description with the initial request. The DOL needing to follow up with a request for a detailed job description for a new classification name will delay their review and response significantly.)**

Boxes 13b and 13c. The proposed wage and fringe rates should bear a reasonable likeness to the category classification wage and fringe rates (operator, laborer, truck driver, etc.) listed in the existing DOL wage determination for the area.

Box 14. If there is a subcontractor listed on line 10, its representative signs on this line (include title).

Box 15. The prime contractor's representative must sign on this line (include title).

Box 16. If the prime contractor or subcontractor has a specific employee who will be performing the labor classification(s) listed in box 13a, or if the employees' have legal representation (such as a union), the employee or representative must sign and include their title. (Note: the designated representative of an existing employee cannot be the contractor's personnel office or any other contractor representative.) If no existing employee is known or identified to perform work under the listed classification, then enter "Unknown" in Box 16. The "Agree" or "Disagree" boxes are checked by anyone signing in boxes 14, 15, and 16.

| | | | |
|--|--|--|---|
| REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND RATE | | CHECK APPROPRIATE BOX <input type="checkbox"/> SERVICE CONTRACT <input type="checkbox"/> CONSTRUCTION CONTRACT | OMB No.: 9000-0089 Expires: 02/28/96 |
|--|--|--|---|

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (VRS), Office of Federal Acquisition Policy, GSA, Washington, DC 20405; and to the Office of Management and Budget, Paperwork Reduction Project (9000-0089), Washington, DC 20503.

NOTE: THE CONTRACTOR SHALL COMPLETE ITEMS 3 THROUGH 16 AND SUBMIT THE REQUEST, IN QUADRUPPLICATE, TO THE CONTRACTING OFFICER

| | | | |
|---|-------------------------------------|---|-------------------------------|
| 1. TO: ADMINISTRATOR, Employment Standards Administration WAGE AND HOUR DIVISION U.S. DEPARTMENT OF LABOR WASHINGTON, D.C. 20210 | | 2. FROM: (REPORTING OFFICE) | |
| 3. CONTRACTOR | | 4. DATE OF REQUEST | |
| 5. CONTRACT NUMBER | 6. DATE BID OPENED (SEALED BIDDING) | 7. DATE OF AWARD | 8. DATE CONTRACT WORK STARTED |
| 10. SUBCONTRACTOR (IF ANY) | | 9. DATE OPTION EXERCISED (IF APPLICABLE) (SCA ONLY) | |
| 11. PROJECT AND DESCRIPTION OF WORK (ATTACH ADDITIONAL SHEET IF NEEDED) | | | |
| 12. LOCATION (CITY, COUNTY AND STATE) | | | |
| 13. IN ORDER TO COMPLETE THE WORK PROVIDED FOR UNDER THE ABOVE CONTRACT, IT IS NECESSARY TO ESTABLISH THE FOLLOWING RATE(S) FOR THE INDICATED CLASSIFICATION(S) NOT INCLUDED IN THE DEPARTMENT OF LABOR DETERMINATION | | | |

| | |
|---|--|
| NUMBER: | DATED: |
| a. LIST IN ORDER: PROPOSED CLASSIFICATION TITLE(S); JOB DESCRIPTION(S); DUTIES; AND RATIONALE FOR PROPOSED CLASSIFICATIONS (SCA ONLY) <i>(Use reverse or attach additional sheets, if necessary)</i> | b. WAGE RATE(S) c. FRINGE BENEFITS PAYMENTS |

| | | | |
|--|--|--|--|
| 14. SIGNATURE AND TITLE OF SUBCONTRACTOR REPRESENTATIVE (IF ANY) | | 15. SIGNATURE AND TITLE OF PRIME CONTRACTOR REPRESENTATIVE | |
| 16. SIGNATURE OF EMPLOYEE OR REPRESENTATIVE | | TITLE | CHECK APPROPRIATE BOX-REFERENCED BLOCK 13: <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE |

TO BE COMPLETED BY CONTRACTING OFFICER (CHECK AS APPROPRIATE - SEE FAR 22.1019 (SCA) OR FAR 22.406-3 (DBA))

☐ THE INTERESTED PARTIES AGREE AND THE CONTRACTING OFFICER RECOMMENDS APPROVAL BY THE WAGE AND HOUR DIVISION. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.
☐ THE INTERESTED PARTIES CANNOT AGREE ON THE PROPOSED CLASSIFICATION AND WAGE RATE. A DETERMINATION OF THE QUESTION BY THE WAGE AND HOUR DIVISION IS THEREFORE REQUESTED. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.

(Send copies 1, 2, and 3 to Department of Labor)

| | | |
|--|------------------------------------|----------------|
| SIGNATURE OF CONTRACTING OFFICER OR REPRESENTATIVE | TITLE AND COMMERCIAL TELEPHONE NO. | DATE SUBMITTED |
|--|------------------------------------|----------------|

NSN 7540-01-268-0631
 Previous edition is usable.

DEPARTMENT OF LABOR

STANDARD FORM 1444 (REV. 12-90)
 Prescribed by GSA-FAR (48 CFR) 53.222(f)

TWDB SPECIAL ENVIRONMENTAL CONDITIONS:

1. To comply with the requirements of the Federal Emergency Management Agency regarding implementation of the National Flood Insurance Act, Flood Disaster Protection Act, National Flood Insurance Reform Act, Federal Executive Orders 11988 and 11990, and to comply with related state statutes and local floodplain development ordinances, proponents of construction projects in special flood hazard areas must coordinate in advance with the local floodplain administrator and obtain a floodplain development permit prior to design approval.



Texas Water Development Board
Supplemental Construction Contract
Conditions

For Equivalency Projects under the Clean
Water State Revolving Fund and Drinking
Water State Revolving Fund Programs

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I. INSTRUCTIONS FOR APPLICANTS

1. Applicability

These Supplemental Contract Conditions contain provisions that are worded to comply with certain statutes and regulations, which specifically relate to all Drinking Water State Revolving Fund (DWSRF) Equivalency Program and Clean Water State Revolving Fund (CWSRF) Equivalency Program projects. Provisions that are applicable to the project's funding source or dollar value of the contract are noted within these provisions.

2. Use of Conditions

The conditions and forms listed under **Section II: Instructions to Bidders** are to be included in the instructions to bidders for construction services. The provisions listed under **Section III: Construction Contract Supplemental Conditions** must be included, in their entirety, with the other general and special conditions that are typically included in the construction contract documents by the Consulting Engineer¹.

3. Modifications to Provisions

The Applicant may need to modify parts of these provisions to better fit the other provisions of the construction contract; however, everything herein must be included in the contract documents. The Applicant and the Consulting Engineer should carefully study these provisions before incorporating them into the construction contract documents. In particular, Water Districts and other types of Districts should be aware of statutes relating to their creation and operation, which may affect the application of these conditions. The TWDB Project Engineer/Reviewer should be consulted if the Applicant thinks there is a need to modify parts of these provisions.

The Applicant is to determine and incorporate the affirmative action goals for the project into Section III, Supplemental Contract Condition No. 14. Also, Section III Supplemental Condition No. 17 (Archeological Discoveries and Cultural Resources) and Section III Supplemental Condition No. 18 (Threatened and Endangered Species) may be superseded or modified by project-specific environmental conditions established during the environmental review process.

These documents may confer certain duties and responsibilities on the Consulting Engineer that are beyond, or short of, what the Applicant intends to delegate. The Applicant should ensure that the contractual agreement with the Consulting Engineer provides for the appropriate services.

¹ Throughout this document "Consulting Engineer" is used to mean Design Engineer/Engineer of Record, Prime Engineer, or Owner's Engineer, depending on the contract type between the Applicant and the Engineer and depending on the phase of the project (i.e., planning, design, or construction).

Otherwise, the Applicant should revise the wording in these special conditions to agree with actually delegated functions.

4. Good Business Practices

There are other contract provisions that the Applicant and Consulting Engineer need to include as a matter of good business practice. It is recommended that provisions addressing the following matters be included in the construction contract.

- (a) Specifying the time frame for accomplishing the construction of the project, and the consequences of not completing construction on time, including liquidation damages.
- (b) Specifying the type and dollar value of and the documentation of insurance the Contractor is to carry. At a minimum, the Contractor should carry worker's compensation, liability, and builder's risk insurance that will meet state statutory limits.
- (c) Identifying the responsibility of the Contractor - responsibility and warranty of work.
- (d) Price reduction for defective pricing of negotiated costs.
- (e) Differing site conditions - notice and claims regarding site conditions differing from indicated conditions.
- (f) Specifying maximum time allowed to submit an official Change Order after a field change has been authorized and implemented.
- (g) Covenants against contingent fees – prohibit contingent fees for securing business.
- (h) Gratuities – prohibitions against offering and accepting gratuities.
- (i) Auditing and accessing records.
- (j) Suspension of work – conditions under which the Applicant may suspend work.
- (k) Termination – conditions under which the Applicant may terminate.
- (l) Remedies – how disputes will be remedied.

5. Other Requirements

If applicable, Trench Safety requirements shall adhere to the [Health and Safety Code Chapter 756, Subchapter C](#), which includes reference to the Occupational Safety and Health Administration (OSHA) standards for trench safety in effect during the period of construction of the project and Owner's Geotechnical

information to assist Contractor in design of Trench Safety System

There may be other local government requirements and applicable Federal and State statutes and regulations which are not included or addressed by these conditions. It is the Applicant's responsibility to ensure that the project and all contract provisions are consistent with all relevant statutes and regulations.

6. Advertisements for Bids

State procurement statutes **require advertising a contract for bid at least once a week for at least two (2) consecutive weeks**². By not following this requirement, the project may need to be re-advertised (i.e., rebid). The official advertisement for bids that is published in the newspaper must include certain information such as, but not limited to, the following:

- (a) A clear description of what is being procured.
- (b) How to obtain plans and specifications, necessary forms and information.
- (c) The date and time by which bids are to be submitted (deadline).
- (d) The address where bids are to be provided.
- (e) A statement that the contract is contingent upon release of funds from the TWDB.
- (f) A statement that any contract(s) awarded under this Invitation for Bid (IFB), Request for Proposals (RFP), or Request for Qualifications (RFQ) is/are expected to be funded in part by financial assistance from the TWDB. Neither the U.S. Environmental Protection Agency (EPA) or the State of Texas, nor any of its departments, agencies, or employees, are or will be a party to this IFB, RFP, RFQ, or any resulting contract.
- (g) As directed by TWDB, **one** of the following must be included:
 - a. Beginning with SRF Equivalency projects approved under the 2023 Intended Use Plan (IUP) or later - Any contract(s) awarded under this Invitation for Bids is/are subject to the Build America, Buy America (BABA) Act requirements of Section 70901 of P.L. 117-58 of the Bipartisan Infrastructure Law, 2021; **or**
 - b. For SRF Equivalency projects approved under the 2022 IUP or earlier – Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of federal law, including federal appropriation acts and/or Section 608 of the Federal Water Pollution Control Act.
- (h) *This contract is subject to the Environmental Protection Agency's (EPA) Disadvantaged Business Enterprise (DBE) Program, which includes EPA-

² From LGC 252.041, Municipalities are required to advertise in a newspaper at least once a week for two consecutive weeks.

approved fair share goals toward procurement of Minority and Women-owned Business Enterprise (M/WBE) businesses. **EPA rules require that applicants and prime contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements** to M/WBEs through demonstration of the six affirmative steps. For more details of the DBE Program and the current, applicable fair share goals, please visit www.twdb.texas.gov/dbe.

- (i) *Equal Opportunity in Employment - All qualified Applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.
- (j) Acknowledgement of any special requirements such as mandatory pre-bid conference.
- (k) Right to reject any and all bids.
- (l) A statement that Davis-Bacon prevailing wage requirements apply to the construction, alteration, or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean or Drinking Water State Revolving Fund Programs (CWSRF or DWSRF).
- (m) For additional information on Davis-Bacon Wage Rate Requirements and its applicability to this contract, please consult TWDB Guidance No. DB-0156.

****Note: Items (h) and (i), above, referencing DBE and Equal Opportunity in Employment must be stated as written above in the Advertisement for Bid.***

7. Bid Proposal

The Bid proposal form should account for the following:

- (a) If a lump sum bid, include a list of the materials used and associated costs.
- (b) Distinguish TWDB-funding Eligible and Ineligible items.
- (c) Accommodate Trench Safety requirements with separate per unit pay item for trench excavation safety protection in accordance with [Health and Safety Code Chapter 756, Subchapter C](#) and as briefly noted below:
 - 1. Separate pay item for special shoring requirements; and

2. Separate pay item for trench excavation safety protection.
- (d) Include space for the Contractor to acknowledge receipt of each Addendum issued during the bidding process.

8. Bidding Process

The Plans and Specifications should include an explanation of how the bids will be processed and should include the following components:

- (a) Whether a Pre-bid Conference will be held, whether it is optional or mandatory, and where and when it will be held. If possible, it is recommended to hold the pre-bid via Zoom, Microsoft Teams, or other online platform, as well as in person. The TWDB Project Engineer/Reviewer is to be invited to the Pre-Bid Conference.
- (b) Specify the criteria and process for determining responsiveness and responsibility of the bidder.
- (c) Specify the method of determining the successful bidder and award (e.g., award to the lowest responsive, responsible bidder, accounting for any multiple parts to bids).
- (d) Allow for withdrawal of a bid due to a material mistake.
- (e) Identify the time frame that the bids may be held by the Applicant before awarding a contract (i.e., typically for 60 or 90 days).
- (f) Acknowledge the right of the Applicant to reject any and all bids.

9. Debarment and Suspension Certification

Financial assistance recipients must fully comply with the requirements of Subpart C of 2 CFR Part 180 – “*Responsibilities of Participants Regarding Transactions Doing Business with Other Persons*” - as implemented and supplemented by 2 CFR Part 1532. The recipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180 – “*Covered Transactions*” – includes a term or condition requiring compliance with Subpart C.

The recipient is fully responsible for requiring the inclusion of a similar term or condition in any subsequent lower-tier covered transactions.

Recipient acknowledges that failing to disclose the information required under 2 CFR 180.355 may result in the delay or negation of the financial assistance, or pursuance of legal remedies including debarment and suspension.

The recipient must complete and submit the **Debarment/Suspension Certification (SRF-404)**, certifying that it has checked the federal System for Award Management website (<https://sam.gov/content/home>) and determined that the Contractor is not an “excluded party” that is debarred, suspended, or

otherwise excluded from participation in federal assistance programs under Executive Order 12549, as required by 2 CFR Part 180 and 2 CFR Part 1532.

10. Release of Funds

Prior to the TWDB's authorization for the Applicant to issue a notice to proceed (NTP), and subsequent release of funds for construction (according to program specific requirements), the Applicant and its consultant must provide the following bid documents for TWDB review:

(a) Submittal of Bid Documents to TWDB Project Engineer/Reviewer to allow contingent award of contract:

- Advertisement and Affidavit of Advertisement (for municipalities, the project must be bid at least once a week for two (2) consecutive weeks in a newspaper),
- Bid tabulation,
- All Addenda submitted and approved for the contract,
- Bid proposal of apparent low bidder (or chosen bidder with explanation), including the Contractor's bid guarantee or bid bond,
- Applicant's Disadvantaged Business Enterprise forms TWDB-0216 and TWDB-0373,
- Contractor's Disadvantaged Business Enterprise forms TWDB-0216, -0217, and -0373,
- Applicant's Debarment/Suspension Certification for the Contractor,
- Site Certificate (ED-101),
- Consulting Engineer's recommendation to award letter,
- A description of any bidding irregularities,
- Construction inspection proposal, and
- Bidder's Certifications Form (WRD-255).

Then the TWDB can issue authorization for the Applicant to issue the contingent Notice of Award for the construction contract.

(b) Once the Applicant has issued their contingent Notice of Award of the construction contract, they must submit a bound copy (single file PDF document) of the **executed contract documents (including specifications)** and a bound copy (single file PDF document) of the **Approved Plan Set**. A complete set of bound executed contract documents should include:

- Front-End Documents, Addenda, Executed Agreement, and Technical Specifications as approved by the TWDB and TCEQ (as applicable),
- Contractor's Act of Assurance (TWDB Form ED-103),

- Contractor's Act of Assurance Resolution (TWDB Form ED-104),
- Payment and Performance Bonds (must be executed on or after the date of the contract),
- Contractor's Wage Rate Determination(s),
- Contractor's Certificate of Insurance, and
- **If applicable**, the Applicant's **Sufficiency of Funds letter**.

After reviewing and approving the executed contract documents, the TWDB will issue an authorization for the Applicant to issue a Notice to Proceed (NTP). At this time, TWDB staff can begin releasing construction funds **in accordance with program requirements**.

Once construction begins, the Applicant must submit **monthly** Outlay Requests. Outlay Requests that include requests for construction contract funds, must include the following documents:

- DB-0154 – Monthly Davis Bacon Wage Rate Certificate of Compliance; and either
- TWDB-1110-A Monthly Build America, Buy America (BABA) (as applicable) **or**
- TWDB-1106-A – Monthly American Iron and Steel Certificate (as applicable)

In addition, the first Outlay Request for construction contract funds must include **one** of the following:

- State Revolving Fund Project Public Awareness Certification ([TWDB-1109-A](#)); **or**
- BIL/IIJA State Revolving Fund Project Sign Certification ([TWDB-1109-B](#))

Failure to provide these certificates will result in denial of release of funds.

For any questions or proposed modifications to these conditions, please contact your TWDB Project Engineer/Reviewer.

II. INSTRUCTIONS TO BIDDERS

The language and conditions listed in this Section must be included in the "Instructions to Bidders" section of the construction contract documents.

1. Contingent Award of Contract

This contract is contingent upon release of funds from the Texas Water Development Board (TWDB). Any contract(s) awarded under this Invitation for Bids is/are expected to be funded in part by a loan or loan with principal forgiveness from the TWDB and a grant from the United States Environmental Protection Agency (EPA). Neither the State of Texas, the EPA, nor any of its departments, agencies, or employees, are or will be a party to this Invitation for Bids or any resulting contract.

2. Disadvantaged Business Enterprise Goals

The Texas Water Development Board's (TWDB) Clean Water and Drinking Water State Revolving Fund programs receive federal funding from the U. S. EPA. As a condition of federal grant awards, U.S. EPA regulations require that funding recipients (municipalities, towns, public water authorities, nonprofit water supply corporations, etc.) and sub-recipients (prime consultants, prime contractors, and subcontractors) make a **"good faith effort"** to award a fair share of work to Disadvantaged Business Enterprises (DBE) who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring Construction and Non-Construction (supplies, services and equipment). More information on DBE requirements is available in Section III, Supplemental Contract Conditions section of this guidance **No. 16. Disadvantaged Business Enterprises**.

The most current fair share goals for the State of Texas are located on the TWDB website at www.twdb.texas.gov/financial/programs/DBE/index.asp and as follows:

| Category | MBE | WBE |
|--|--------|--------|
| Construction | 24.50% | 11.34% |
| Non-Construction | 24.05% | 19.35% |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% |

3. Davis-Bacon Wage Rate Requirements

Davis-Bacon prevailing wage requirements apply to the construction, alteration or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) or a construction project financed, in whole or in part, from the Drinking Water State Revolving Fund (DWSRF).

The Davis-Bacon prevailing wage requirements apply to Contractors and

Subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration or repair (including painting) of a treatment works project under the CWSRF or a construction project under the DWSRF.

For prime contracts in excess of \$100,000, Contractors and Subcontractors must also, under the provisions of the Contract Wage Hours and Safety Standards Act (CWHSSA), as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

Any contracts in excess of \$2,000 must include the provisions of the Davis-Bacon Wage Rate Requirements. See Section III, Paragraph 11, Option 1 (governmental entities) and Option 2 (non-governmental entities) for contract clauses required for Davis-Bacon requirements. This information is also included in TWDB Guidance DB-0156, as follows (Applicant = Owner (sub-recipient)):

- If the Owner (sub-recipient) is a governmental entity such as a city or district, it must insert in full the contract clauses found in TWDB Guidance [DB-0156](#), Appendix 1: Section 3, Section 4 (if the contract exceeds \$100,000), and Section 5.
- If the Owner (sub-recipient) is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses found in TWDB Guidance [DB-0156](#), Appendix 2: Section 3, Section 4 (if the contract exceeds \$100,000), and Section 5.

The Owner (sub-recipient) must ensure all prime contracts require the same full text in any subcontracts. See TWDB Guidance [DB-0156](#) for the text of the contract language that must be included.

Additional information on Davis-Bacon Wage Rate Requirements and its applicability to this contract can be found in TWDB Guidance [DB-0156](#).

4. American Iron and Steel

Any contract(s) awarded under this Invitation for Bids (under the 2022 IUP or earlier) is/are subject to the American Iron and Steel (AIS) requirements of 33 U.S.C §1388 for Clean Water State Revolving Fund projects or Public Law 114-113, Consolidated Appropriations Act, 2016, or subsequent appropriations acts, for Drinking Water State Revolving Fund projects. The Contractor must complete the statement of understanding regarding this requirement, found in Supplemental Contract Conditions, Item No. 9. The statement of understanding must be signed by the Contractor.

5. Build America, Buy America (BABA) Act

Any contract(s) awarded under this Invitation for Bids (under the 2023 IUP or

later) is subject to the Build America, Buy America (BABA) Act requirements of Section 70901 of P.L. 117-58 of the Bipartisan Infrastructure Law, 2021. The Contractor must complete the statement of understanding regarding this requirement, found in Supplemental Contract Conditions, Item No. 10. The statement of understanding must be signed by the Contractor.

6. Equal Employment Opportunity and Affirmative Action

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

7. Debarment and Suspension Certification

This contract is subject to the federal requirements of Subpart C of 2 CFR Part 180 and Part 1532 regarding Debarment and Suspension. The Contractor will comply with the assurances provided with the bid that leads to a contract.

8. Bid Guarantee

Each bidder must furnish a bid guarantee equivalent to five percent (5%) of the bid price (Water Code 17.183). If a bid bond is provided, the Contractor must utilize a surety company that is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

9. Summary of Forms to be submitted with the Bid Documents:

- WRD-255, Bidder's Certifications regarding Equal Employment Opportunity and Non-Segregated Facilities.
- SRF-404, Certification Regarding Debarment, Suspension and Other Responsibility Matters, (to be completed and submitted by the sub-recipient).
- Disadvantaged Business Enterprise (DBE) Construction Contract Phase Forms

| Form | Prime Contractor | Submit Form To |
|-------------|-------------------------|-----------------------|
| TWDB-0216 | Required | TWDB |
| TWDB-0217 | Required | TWDB |
| TWDB-0373 | Required | TWDB |

III.SUPPLEMENTAL CONTRACT CONDITIONS

1. Supersession

The Owner and the Contractor agree that the TWDB Supplemental Conditions apply to that work eligible for TWDB assistance to be performed under this construction contract and these clauses supersede any conflicting provisions of this contract.

2. Privity of Contract

Funding for this project is expected to be provided in part by the TWDB. Neither the State of Texas, nor any of its departments, agencies or employees is, or will be, a party to this contract or any lower tier contract. This contract is subject to applicable provisions 31 TAC Chapter 371 (DWSRF) or 375 (CWSRF) in effect on the date of the assistance award for this project.

3. Definitions

- (a) The terms "Owner" or "Applicant" means the local entity contracting for the construction services.
- (b) The term "TWDB" means the Executive Administrator of the Texas Water Development Board, or other person who may be at the time acting in the capacity or authorized to perform the functions of such Executive Administrator, or the authorized representative thereof.
- (c) The term "Consulting Engineer" means the engineer the Owner has authorized to work on the project.

4. Laws to be Observed

In the execution of the Contract, the Contractor must comply with all applicable Local, State and Federal laws, including but not limited to laws concerned with labor, safety, minimum wages, and the environment. The Contractor shall make himself familiar with and at all times must observe and comply with all Federal, State, and Local laws, ordinances and regulations which in any manner affect the conduct of the work, and must indemnify and save harmless the Owner, Texas Water Development Board, and their representatives against any claim arising from violation of any such law, ordinance or regulation by the Contractor, their Subcontractor or their employees.

5. Review by Owner and TWDB

- (a) The Owner, authorized representatives and agents of the Owner, EPA, and TWDB must, at all times have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the Contractor only by

- the Owner through authorized representatives or agents.
- (b) Any such inspection or review by the TWDB must not subject the State of Texas, or its representatives, to any action for damages.

6. Performance and Payment Bonds

Each Contractor awarded a construction contract must furnish performance and payment bonds that include the following explicit conditions in the body of the bond:

- (a) The performance bond must include without limitation guarantees that work done under the contract will be completed and performed according to approved plans and specifications and in accordance with sound construction principles and practices;
- (b) The performance and payment bonds must be in a penal sum of not less than 100 percent of the contract price and remain in effect for one year beyond the date of approval by the Consulting Engineer of the political subdivision; and
- (c) The Contractor must utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

7. Payment Schedule and Cost Breakdown

- (a) The Contractor must submit for approval immediately after execution of the Agreement, a carefully prepared Progress Schedule, showing the proposed dates of starting and completing each of the various sections of the work.
- (b) The following paragraph applies only to contracts awarded on a lump sum contract price:

COST BREAKDOWN - The Contractor must submit to the Owner a detailed breakdown of the estimated cost of all work to be accomplished under the contract, arranged and itemized as to meet the approval of the Owner or funding agencies. This breakdown must be submitted promptly after execution of the agreement and before any payment is made to the Contractor for the work performed under the contract. After approval by the Owner, the unit prices established in the breakdown must be used in estimating the amount of the partial payments to be made to the Contractor.

8. Workman's Compensation Insurance Coverage (as applicable, consistent with Texas Labor Code § 406.096)

- (a) The Contractor must certify in writing that the Contractor provides workers' compensation insurance coverage for each employee of the Contractor employed on the public project.
- (b) Each Subcontractor on the public project must provide such a certificate relating to coverage of the Subcontractor's employees to the general

- Contractor, who shall provide the Subcontractor's certificate to the governmental entity.
- (c) A Contractor who has a contract that requires workers' compensation insurance coverage may provide the coverage through a group plan or other method satisfactory to the governing body of the governmental entity.
 - (d) The employment of a maintenance employee by an employer who is not engaging in building or construction as the employer's primary business does not constitute engaging in building or construction.
 - (e) In this section:
 - i. "Building or construction" includes:
 - erecting or preparing to erect a structure, including a building, bridge, roadway, public utility facility, or related appurtenance;
 - remodeling, extending, repairing, or demolishing a structure; or
 - otherwise improving real property or an appurtenance to real property through similar activities.
 - ii. "Governmental entity" means this state or a political subdivision of this state. The term includes a municipality.

9. American Iron & Steel

If BABA does **not** apply, then the following AIS statement must be completed by the Contractor and made a part of the agreement between the Owner and the Contractor. The statement must be on a dedicated page within the contract that includes the Contractor signature and date; or the Contractor can choose to sign this page of the TWDB-0550.

*The Contractor acknowledges to and for the benefit of the Owner ("Purchaser") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund or the Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel" that require all of the iron and steel products used in the project to be produced in the United States (**"American Iron and Steel Requirement"**) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information,*

certification, or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner to enforce this Agreement and recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation attorney's fees incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the TWDB or any damages owed to the Owner).

Additional information on the American Iron and Steel (AIS) and its applicability to this contract can be found in the TWDB-1106 guidance.

The Owner must receive and maintain files documenting the Contractor's use of AIS. Monthly compliance with AIS must be verified by the Owner through the submittal of the TWDB form TWDB-1106-A.

10. Build America, Buy America (BABA) Act

The following statement must be completed by the Contractor and made a part of the agreement between the Owner and the Contractor; the statement must be on a dedicated page within the contract that includes the Contractor signature:

*The Contractor acknowledges to and for the benefit of the Owner ("Purchaser") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund or Drinking Water State Revolving Fund that have statutory requirements commonly known as "Build America, Buy America;" that requires all of the iron and steel, manufactured products, and construction materials used in the project to be produced in the United States ("**Build America, Buy America Requirements**") including iron and steel, manufactured products, and construction materials provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner (a) the Contractor has reviewed and understands the Build America, Buy America Requirements, (b) all of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the Build America, Buy America Requirements, unless a waiver of the requirements is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the Build America, Buy America Requirements, as may be requested by the Owner. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph*

by the Contractor shall permit the Owner to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the TWDB or any damages owed to the Owner).

Additional information on the Build America, Buy America (BABA) Act and its applicability to this contract can be found in the TWDB-0559 guidance.

The Owner must receive and maintain files documenting the Contractor's use of BABA. Monthly compliance with BABA must be verified by the Owner through the submittal of the TWDB form TWDB-1110-B.

11. Davis-Bacon Wage Rate Requirements

(a) Compliance Procedures

To be held in compliance and satisfy this federal requirement, the following must be fulfilled:

- i. **Wage Determinations** - U.S. Department of Labor (DOL) wage determination must be included in the bidding and contract documents. DOL wage determinations may be obtained online at <https://sam.gov/content/wage-determinations>. Once it is determined that Davis-Bacon wage rates will apply to a construction contract, the Owner must state in the solicitation that Davis-Bacon prevailing wage rates are applicable and bid packages must include the current Davis-Bacon general wage determination for the area where construction will occur (generally this is the project county). While the solicitation remains open, the Owner must monitor <https://sam.gov/content/wage-determinations> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The Owner must amend the solicitation if the DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Owner may request a finding from the TWDB that there is not a reasonable amount of time to notify interested Contractors of the modification of the wage determination.

If a contract is not awarded within 90 days after bid opening, any revised general wage determination issued prior to award of the contractor is effective for that contract; unless the TWDB, at the request of the Owner, requests and obtains an extension of the 90-day period from DOL ([29 CFR 1.6\(c\)\(2\)\(ii\)\(D\)](#)).

Wage determinations must be updated after contract award when (1) the contract has a change order that adds substantial construction, alternation,

or repair work not within the original scope and the contract time is extended, or (2) the contract is a “work order” type contract (a general commitment to construction as the need arises, but exact construction is not necessarily specified). For “work order” type contracts, the most recent revision(s) of any applicable wage determination(s) on each anniversary date of the contract’s award (or each anniversary date of the beginning of construction when there is no award). ([29 CFR 1.6\(c\)\(2\)\(iii\)](#))

- ii. **Insert wage rate requirements in full for all contracts and subcontracts in excess of \$2,000** - If the Owner is a governmental entity such as a city or district, it must insert in full the contract clauses shown herein as Option 1: Section 3, Section 4 (if the contract exceeds \$100,000), and Section 5. If the Owner is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses shown herein as Option 2: Section 3, Section 4 (if the contract exceeds \$100,000), and Section 5.

The Owner must ensure all prime contracts require the same full text in any subcontracts. Davis Bacon applies regardless of whether the terms and conditions are included or not in all contracts and subcontracts. **Include the following text in all contracts:** “By accepting this award, the EPA Subrecipient acknowledges and agrees to the terms and conditions provided in the [DBRA requirements for contractors](#).”

- iii. **Monthly Certification** – The Owner must complete and submit monthly a Davis Bacon Wage Rate Certificate of Compliance once construction has begun. (Use [Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner \(Subrecipient\) DB-0154](#)).
- iv. **Contractor Payroll Requirements** - The Contractor is required to pay the prevailing wage rates on a weekly basis to laborers and mechanics in accordance with the requirements of [29 CFR 5.5](#), which are incorporated into the actual construction contract. Contractors/Subcontractors must furnish weekly a statement with respect to the wages paid to each employee during the preceding week. The signature by the contractor, subcontractor, or authorized officer/employee must be an original handwritten signature or a legally valid electronic signature (e.g., DocuSign). They may use the Department of Labor (DOL) Payroll Form WH-347 and weekly Statement of Compliance on the reverse, or their own payroll form with all of the same data elements as the DOL Payroll Form WH-347, and the TWDB’s form, [Statement of Compliance Certification by Contractor for SRF, DB-0155](#). The DOL Payroll Form WH-347 can be found under the forms section of this document or at the following link: www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification. (See [DOL Payroll Form WH-347](#))

- v. **Interviews** - The Owner must periodically interview a sufficient number of employees entitled to the Davis-Bacon prevailing wages to verify that Contractors or Subcontractors are paying the appropriate wage rates. All interviews must be conducted in confidence. The Owner must use Standard Form 1445 (SF 1445) found at the following link: https://www.gsa.gov/system/files/SF_1445.pdf or equivalent documentation to memorialize the interviews. The Owner must establish and follow an interview schedule based on its assessment of the risks of noncompliance with Davis-Bacon posed by Contractors or Subcontractors and the duration of the contract or subcontract. The Owner must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the Contractor or Subcontractor is not complying with Davis-Bacon. The Owner must immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. (See Section 5 of Option 1 [governmental entities] and Option 2 [non-governmental entities]).
- vi. **Payroll Records** - Certified payroll must be delivered by the Contractor or Subcontractor within seven (7) days after the regular payment date of the payroll period. Certified payroll records are required to be retained by the Owner and Contractor for three (3) years after completion of the construction project. The Owner must periodically conduct spot checks of a representative sample of weekly payroll data to verify that Contractors or Subcontractors are paying the appropriate wage rates. (See Section 5 of Options 1 and 2).

The payroll records must include the following: the name, Social Security number, last known address, telephone number, and email address of each laborer and mechanic; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.
- vii. **Wage Rate Poster** – The Contractor must post the required Poster (WH-1321) and applicable wage rates at the construction site in a prominent and accessible place where it can be easily seen by the workers. The wage rate poster may be found at www.dol.gov/whd/programs/dbra/wh1321.htm. (See [Davis-Bacon Wage Rate Poster, WH-1321](#))
- viii. **Report Violations** – The Owner must immediately report violations of the Davis-Bacon prevailing wage requirements to the EPA Davis-Bacon Coordinator listed in the assistance agreement and to the appropriate DOL WHD Office listed at <http://www.dol.gov/whd/america2.htm>.

(b) Subcontracts

The Contractor will insert in full the required wage rate requirement in any subcontract in excess of \$2,000 as specified in (a)(ii) of this section. Davis Bacon applies regardless of whether the terms and conditions are included or not in all contracts and subcontracts. **Include the following text in all contracts:** "By accepting this award, the EPA Subrecipient acknowledges and agrees to the terms and conditions provided in the [DBRA requirements for contractors](#)."

(c) Davis-Bacon General Wage Determinations

A "wage determination" is the listing of wage and fringe benefit for each classification of laborers and mechanics which the Administrator of the Wage and Hour Division of the U.S. DOL has determined to be prevailing in a given area for a construction. In general, the project area is the county where the project will take place. For the type of construction, the Davis-Bacon Wage Determinations are classified by the nature of the construction projects performed, specifically listed as "schedules": residential, building, highway, and heavy construction. A brief outline of the definitions for each schedule is listed below.

Construction Type: Residential determination

This determination includes the construction, alteration or repair of single-family houses, apartment buildings of no more than four stories in height. This includes all incidental items such as site work, parking areas, utilities, streets, and sidewalks.

Construction Type: Building determination

This determination includes construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment or supplies; all construction of such structures; the installation of utilities and of equipment, both above and below grade levels; as well as incidental grading, utilities and paving. Such structures need not be "habitable" to be building construction. Also, the installation of heavy machinery and/or equipment does not generally change the project's character as a building.

Construction Type: Highway determination

This determination includes construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

Construction Type: Heavy determination

This determination includes those projects that are not properly classified as either "building," "highway," or "residential." Unlike these classifications, heavy construction is not a homogenous classification. Because of this catch-all nature, projects within the heavy classification

may sometimes be distinguished on the basis of their particular project characteristics, and separate schedules may be issued for dredging projects, water and sewer line projects, dams, major bridges, and flood control projects.

The Owner should review their Contractor's wage decisions and confirm they provide an adequate classification of the labor required for the specific construction contract. Most CWSRF and DWSRF projects will fall under the "Heavy" construction type, but Owners should ask their Consulting Engineers if unsure.

Some contracts or projects may require more than one general schedule to be included depending on the nature and extent of the work (i.e. a building is constructed in a water treatment facility). This is described in more detail in DOL's All Agency Memorandum 130 with Addendum 131. See the DOL's website <http://www.dol.gov/whd/programs/dbra/memorand.htm>. In such cases, the contracting agency must incorporate the applicable wage determination for each type of construction involved that is anticipated to be substantial. The contracting agency is responsible for designating the specific work for which each incorporated wage determination applies (([29 CFR 1.6\(b\)\(1\)](#)). The contracting agency should designate the work or part thereof applies per Federal Acquisition Regulations (FAR) 22.404-2 thru 404-3 (www.acquisition.gov/far/22.404-2). Should overlaps occur in the wage classification schedules for the contract(s), the Owner may consider adopting the higher rate classification.

In all cases, the Owner is responsible to ensure an adequate classification is provided for compliance with the law. Where Contractors alert the Owner that the classification is inadequate, the Owner should work with the Contractor and the DOL to address any valid concerns.

All questions regarding Davis-Bacon guidance can be directed to: U.S. Department of Labor Wage and Hour Division 1-866-4USWAGE (1-866-487-9243), TTY: 1-877-889-5627, Monday-Friday 8 a.m. to 8 p.m. Eastern Time.

If you require further information about Davis-Bacon and how to apply it to your project, please contact the Texas Water Development Board [Regional Water Project Development \(RWPD\) Team Manager for your region](#).

The Owner and Contractor may obtain additional information on the Davis-Bacon Wage Rates requirements in the TWDB's Guidance [DB-0156 – "Guidance on Davis-Bacon Wage Rate Requirements"](#).

Option 1 – Applies to Governmental Entities (such as Cities and Districts)

1. Applicability of the Davis-Bacon and Related Acts Prevailing Wage Requirements.

Davis-Bacon and Related Acts (DBRA) prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by the Clean Water State Revolving Fund and to any construction project carried out in whole or in part by assistance made available by the Drinking Water State Revolving Fund. If an Owner encounters a unique situation at a site that presents uncertainties regarding DBRA applicability, the Owner must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Owners shall obtain the wage determination for the locality in which a covered activity subject to DBRA will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DBRA. These wage determinations must be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that Subcontractors follow the wage determination incorporated into the prime contract.

- (i) While the solicitation remains open, the Owner shall monitor <https://sam.gov/content/wage-determinations> weekly to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the TWDB that there is not a reasonable time to notify interested contractors of the modification of the wage determination. In the request, the subrecipient shall include documentation of the bid date and time and the DOL wage modification date. The TWDB will review the documentation and provide a report of its findings to the subrecipient. The subrecipient shall keep the report in the project contract file.
- (ii) If the Owner does not award the contract within 90 days of the bid opening, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the Owner, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The Owner shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the Owner carries out activity subject to DBRA by issuing a task order, work assignment or similar instrument to an existing Contractor (ordering instrument) rather than by publishing a solicitation, the Owner must insert the appropriate DOL wage determination from <https://sam.gov/content/wage-determinations> into the ordering instrument. For “work order” type contracts, the most recent revision(s) of any applicable wage determination(s) on each anniversary date of the contract’s award (or

each anniversary date of the beginning of construction when there is no award). ([29 CFR 1.6\(c\)\(2\)\(iii\)](#))

(c) Owners must review all subcontracts subject to DBRA entered into by Prime Contractors to verify that the prime Contractor has required its Subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to an Owner's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the Owner has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the Owner must either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The Owner's Contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

The subrecipient must insert in full in any contract to which Davis-Bacon and Related Acts apply, the following clauses. Reference to www.epa.gov/grants/contract-provisions-davis-bacon-and-related-acts and [29 CFR 5.5](#).

The Contractor acknowledges that by entering into this contract with a contracting agency, funded by an EPA Assistance agreement (grant), the Contractor agrees to comply with the following terms and conditions in accordance with 29 CFR 5.5, if this contract is for activities covered under Davis-Bacon and Related Acts (DBRA) and exceeds (or will exceed) \$2,000. Definitions for many of the terms used below are provided in 29 CFR 5.2.

(1) Minimum wages.

(i) Wage rates and fringe benefits

All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

As provided in paragraphs (d) and (e) of this section, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of [29 CFR 5.5\(a\)\(1\)\(v\)](#) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in [29 CFR 5.5\(a\)\(4\)](#).

Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under [29 CFR 5.5\(a\)\(1\)\(iii\)](#) of this section) and the [Davis-Bacon poster \(WH-1321\)](#) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) Frequently recurring classifications

(A) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR Part 1, a wage determination may contain, pursuant to [29 CFR 1.3\(f\)](#), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to [29 CFR 5.5\(a\)\(1\)\(iii\)](#), provided that:

- (1) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
- (2) The classification is used in the area by the construction industry; and
- (3) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(B) The Administrator will establish wage rates for such classifications in accordance with [29 CFR 5.5\(a\)\(1\)\(iii\)\(A\)\(3\)](#) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

(iii) Conformance

(A) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. Conformance of an additional classification and wage rate

and fringe benefits is appropriate only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is used in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(C) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to the TWDB. The TWDB will transmit the request to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(D) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(E) The contracting officer must promptly notify the contractor of the action taken by the [Wage and Hour Division under paragraphs \(a\)\(1\)\(iii\)\(C\) and \(D\)](#) of this section. The contractor must furnish a written copy of such determination to each affected worker, or it must be posted as part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph (a)(1)(iii)(C) or (D) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iv) Fringe benefits not expressed as an hourly rate

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an

hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(v) Unfunded plans

If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in [29 CFR 5.28](#), that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(vi) Interest

In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

(2) Withholding.

(i) Withholding requirements

The EPA, grant recipient, subrecipient at any tier, and/or contracting agency upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in paragraph (a) of this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in [29 CFR 5.2](#)).

The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure

to submit the required records as discussed in [29 CFR 5.5\(a\)\(3\)\(iv\)](#) of this section, the **EPA, grant recipient, subrecipient at any tier, and/or contracting agency** may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(ii) Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with [29 CFR 5.5\(a\)\(2\)\(i\)](#) or [29 CFR 5.5\(b\)\(3\)\(i\)](#) of this section, or both, over claims to those funds by:

(A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(B) A contracting agency for its procurement costs;

(C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(D) A contractor's assignee(s);

(E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

(3) Records and certified payrolls

(i) Basic record requirements

(A) Length of record retention

All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least three (3) years after all the work on the prime contract is completed.

(B) Information required

Such records must contain the name; Social Security number; last known address, telephone number, and email of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(C) Additional records relating to fringe benefits

Whenever the Secretary of Labor has found under [29 CFR 5.5\(a\)\(1\)\(v\)](#) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(D) Additional records relating to apprenticeship.

Contractors with apprentices working under approved programs must maintain written evidence of the apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

(ii) Certified payroll requirements

(A) Frequency and method of submission

The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts- covered work is performed, certified payrolls to the **contracting agency** if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the **contracting agency**. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least three (3) years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(B) Information required

The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under [29 CFR 5.5\(a\)\(3\)\(i\)\(B\)](#), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on the weekly transmittals. Instead the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at

<https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

(C) Statement of Compliance

Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(1) That the certified payroll for the payroll period contains the information required to be provided under [29 CFR 5.5\(a\)\(3\)\(iii\)](#), and such information and records are correct and complete;

(2) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(D) Use of Optional Form WH-347

The weekly submission of a properly executed certification set forth on the reverse side of [Optional Form WH-347](#) shall satisfy the requirement for submission of the "Statement of Compliance" required by [29 CFR 5.5\(a\)\(3\)\(ii\)\(C\)](#).

(E) Signature

The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(F) Falsification

The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(G) Length of certified payroll retention

The contractor or subcontractor must preserve all certified payrolls during the course of the work for a period of three (3) years after all the work on the prime contract is completed.

(iii) Contracts, subcontracts, and related documents

The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of three (3) years after all the work on the prime contract is completed.

(iv) Required disclosures and access

(A) Required record disclosure and access to workers

The contractor or subcontractor must make the records required under paragraph (a)(3)(i) through (iii) of this section, and any other documents that the **EPA, recipient, or subrecipient at any tier, and/or contracting agency**, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable [29 CFR 5.1](#), available for inspection, copying, or transcription by authorized representatives of the **TWDB, EPA, recipient, or subrecipient at any tier, and/or contracting agency**, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(B) Sanctions for non-compliance with records and worker access requirements

If the contractor or subcontractor fails to submit the required records or to make them available, or refuse to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to [29 CFR 5.12](#). In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(C) Required information disclosures

Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the Environmental Protection Agency if the agency is a party to the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the EPA, recipient, or subrecipient at any tier, contracting agency, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

(4) Apprentices and Equal Employment Opportunity

(i) Apprentices

(A) Rate of pay

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(B) Fringe benefits

Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(C) Apprenticeship ratio

The allowable ratio of apprentices to journey workers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to [29 CFR 5.5\(a\)\(4\)\(i\)\(D\)](#). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed

as stated in [29 CFR 5.5\(a\)\(4\)\(i\)\(A\)](#), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(D) Reciprocity of ratios and wage rates

Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journey worker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

(ii) Equal employment opportunity

The use of apprentices and journey workers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

(5) Is reserved.

(6) Subcontracts

The contractor or subcontractor must insert in any subcontracts the clauses contained in paragraphs (a)(1) through (11) of this section or a link to the **DBRA Requirements for Contractors and Subcontractors Under EPA Grants** document on EPA's [Contract Provisions for Davis-Bacon and Related Acts](#) webpage, along with the applicable wage determination(s) and such other clauses or contract modifications as the Environmental Protection Agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The Prime Contractor is responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the Prime Contractor and any Subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier Subcontractors, and may be subject to debarment, as appropriate.

(7) – (9) are reserved.

(10) Certificate of Eligibility

- (i) By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or [§ 5.12\(a\)](#).

- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or [§ 5.12\(a\)](#).
- (iii) The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

(11) Anti-Retaliation

It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- (i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);
- (ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);
- (iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or
- (iv) Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

4. Contract Provision for Contracts in Excess of \$100,000.

For contracts over \$100,000, additional Terms and Conditions apply. The DBRA Requirements for Contracts in Excess of \$100,000 Under EPA Grants document is available on EPA's [Contract Provisions for Davis-Bacon and Related Acts](#) webpage provides the additional requirements provided under [29 CFR 5.5](#). This information is included as follows:

(b) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (b)(1) through (5) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by [29 CFR 5.5\(a\)](#), above or [29 CFR 4.6](#). As used in this paragraph, the terms "laborers and mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which they are employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in [29 CFR 5.5\(b\)\(1\)](#) the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in [29 CFR 5.5\(b\)\(1\)](#), in the sum of \$32 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in [29 CFR 5.5\(b\)\(1\)](#).

(3) Withholding for unpaid wages and liquidated damages.

(i) Withholding process. The subrecipient may, upon its own action, or must upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this [29 CFR 5.5\(b\)](#) on this contract, any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, that is held by the same prime contractor (as defined in [29 CFR 5.2](#)). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(ii) Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with [29 CFR 5.5\(a\)\(2\)\(i\)](#) or [29 CFR 5.5\(b\)\(3\)\(i\)](#) of this section, or both, over claims to those funds by:

- (A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (B) A contracting agency for its procurement costs;
- (C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (D) A contractor's assignee(s);
- (E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

(4) Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in [29 CFR 5.5\(b\)\(1\)](#) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in [29 CFR 5.5\(b\)\(1\)](#) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

(5) Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

(iv) Informing any other person about their rights under CWHSSA or this part.

(c) CWHSSA required records clause. In addition to the clauses contained in [29 CFR 5.5\(b\)](#), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by [29 CFR 5.1](#), the Subrecipient must insert a clause requiring that the contractor or subcontractor must maintain payrolls and basic records during the course of the work and must preserve them for a period of three (3) years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each workers' correct classification(s) of work actually performed, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient must insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the

job.

(d) Incorporation of contract clauses and wage determinations by reference. Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.

(e) Incorporation by operation of law. The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by [29 CFR 5.1](#) to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

5. Compliance Verification and Enforcement

(a) Agency responsibilities.

(1)(i) The Federal agency has the initial responsibility to ascertain whether the clauses required by [29 CFR 5.5](#) and the appropriate wage determination(s) have been incorporated into the contracts subject to the labor standards provisions of the laws referenced by [29 CFR 5.1](#). Additionally, a Federal agency that provides Federal financial assistance that is subject to the labor standards provisions of the Act must promulgate the necessary regulations or procedures to require the recipient or sub-recipient of the Federal assistance to insert in its contracts the provisions of [29 CFR 5.5](#). No payment, advance, grant, loan, or guarantee of funds will be approved by the Federal agency unless it ensures that the clauses required by [29 CFR 5.5](#) and the appropriate wage determination(s) are incorporated into such contracts. Furthermore, no payment, advance, grant, loan, or guarantee of funds will be approved by the Federal agency after the beginning of construction unless there is on file with the Federal agency a certification by the contractor that the contractor and its subcontractors have complied with the provisions of [29 CFR 5.5](#) or unless there is on file with the Federal agency a certification by the contractor that there is a substantial dispute with respect to the required provisions.

(ii) If a contract subject to the labor standards provisions of the applicable statutes referenced by [29 CFR 5.1](#) is entered into without the incorporation of the clauses required by [29 CFR 5.5](#), the agency must, upon the request of the Administrator or upon its own initiative, either terminate and resolicit the contract with the required contract clauses, or incorporate the required clauses into the contract (or ensure they are so incorporated) through supplemental agreement, change order, or any and all authority that may be needed. Where an agency has not entered directly

into such a contract but instead has provided Federal financial assistance, the agency must ensure that the recipient or sub-recipient of the Federal assistance similarly incorporates the clauses required into its contracts. The method of incorporation of the correct wage determination, and adjustment in contract price, where appropriate, should be in accordance with applicable law. Additionally, the following requirements apply:

- (A) Unless the Administrator directs otherwise, the incorporation of the clauses required by [29 CFR 5.5](#) must be retroactive to the date of contract award or start of construction if there is no award.
 - (B) If this incorporation occurs as the result of a request from the Administrator, the incorporation must take place within 30 days of the date of that request, unless the agency has obtained an extension from the Administrator.
 - (C) The contractor must be compensated for any increases in wages resulting from incorporation of a missing contract clause.
 - (D) If the recipient refuses to incorporate the clauses as required, the agency must make no further payment, advance, grant, loan, or guarantee of funds in connection with the contract until the recipient incorporates the required clauses into its contract, and must promptly refer the dispute to the Administrator for further proceedings under [29 CFR 5.13](#).
 - (E) Before terminating a contract pursuant to this section, the agency must withhold or cross-withhold sufficient funds to remedy any back wage liability resulting from the failure to incorporate the correct wage determination or otherwise identify and obligate sufficient funds through a termination settlement agreement, bond, or other satisfactory mechanism.
 - (F) Notwithstanding the requirement to incorporate the contract clauses and correct wage determination within 30 days, the contract clauses and correct wage determination will be effective by operation of law, retroactive to the beginning of construction, in accordance with [29 CFR 5.5\(e\)](#).
- (2) (i) Certified payrolls submitted pursuant to [29 CFR 5.5\(a\)\(3\)\(ii\)](#) must be preserved by the Federal agency for a period of three (3) years after all the work on the prime contract is completed, and must be produced at the request of the Department of Labor at any time during the 3-year period, regardless of whether the Department of Labor has initiated an investigation or other compliance action.
- (ii) In situations where the Federal agency does not itself maintain certified payrolls required to be submitted pursuant to [29 CFR 5.5\(a\)\(3\)\(ii\)](#), upon the request of the Department of Labor the Federal agency must ensure that such certified payrolls are provided to the Department of Labor. Such certified payrolls may be provided by the applicant, sponsor, owner, or other entity, as the case may be, directly to the Department of Labor, or to the Federal agency which, in turn, must provide those records to the Department of Labor.
- (3) The Federal agency will cause such investigations to be made as may be

necessary to assure compliance with the labor standards clauses required by [29 CFR 5.5](#) and the applicable statutes referenced in [29 CFR 5.1](#). Investigations will be made of all contracts with such frequency as may be necessary to assure compliance. Such investigations will include interviews with workers, which must be taken in confidence, and examinations of certified payrolls, regular payrolls, and other basic records required to be maintained under [29 CFR 5.5\(a\)\(3\)](#). In making such examinations, particular care must be taken to determine the correctness of classification(s) of work actually performed, and to determine whether there is a disproportionate amount of work by laborers and of apprentices registered in approved programs. Such investigations must also include evidence of fringe benefit plans and payments thereunder. Federal agencies must give priority to complaints of alleged violations.

(4) In accordance with normal operating procedures, the contracting agency may be furnished various investigatory material from the investigation files of the Department of Labor. None of the material, other than computations of back wages, liquidated damages, and monetary relief for violations of [29 CFR 5.5\(a\)\(11\)](#) or [\(b\)\(5\)](#), and the summary of back wages due, may be disclosed in any manner to anyone other than Federal officials charged with administering the contract or program providing Federal assistance to the contract, without requesting the permission and views of the Department of Labor.

(b) Department of Labor Investigations and other compliance actions.

(1) The Administrator will investigate and conduct other compliance actions as deemed necessary in order to obtain compliance with the labor standards provisions of the applicable statutes referenced by [29 CFR 5.1](#), or to affirm or reject the recommendations by the Agency Head with respect to labor standards matters arising under the statutes referenced by [29 CFR 5.1](#).

(2) Federal agencies, contractors, subcontractors, sponsors, applicants, owners, or other entities, as the case may be, must cooperate with any authorized representative of the Department of Labor in the inspection of records, in interviews with workers, and in all other aspects of the investigations or other compliance actions.

(3) The findings of such an investigation or other compliance action, including amounts found due, may not be altered or reduced without the approval of the Department of Labor.

(4) Where the underpayments disclosed by such an investigation or other compliance action total \$1,000 or more, where there is reason to believe that the contractor or subcontractor has disregarded its obligations to workers or subcontractors, or where liquidated damages may be assessed under CWHSSA, the Department of Labor will furnish the Federal agency an enforcement report detailing the labor standards violations disclosed by the investigation or other compliance action and any action taken by the contractor or subcontractor to correct the violations, including any payment of back wages or any other relief provided workers or remedial actions taken for violations of [29 CFR 5.5\(a\)\(11\)](#) or

[\(b\)\(5\)](#). In other circumstances, the Department of Labor will furnish the Federal agency a notification summarizing the findings of the investigation or other compliance action.

(c) Confidentiality requirements. It is the policy of the Department of Labor to protect from disclosure the identity of its confidential sources and to prevent an unwarranted invasion of personal privacy. Accordingly, the identity of a worker or other informant who makes a written or oral statement as a complaint or in the course of an investigation or other compliance action, as well as portions of the statement which would tend to reveal the identity of the informant, will not be disclosed in any manner to anyone other than Federal officials without the prior consent of the informant. Disclosure of such statements is also governed by the provisions of the "Freedom of Information Act" ([5 U.S.C. 552](#), see part 70 of this subtitle) and the "Privacy Act of 1974" ([5 U.S.C. 552a](#), see part 71 of this subtitle).

Option 2 – Applies to Non-Governmental Entities (such as Water Supply Corporations and Private Companies)

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Owner must obtain proposed wage determinations for specific localities at <https://sam.gov/content/wage-determinations>. After the Owner obtains its proposed wage determination, it must submit the wage determination to the TWDB for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the TWDB.)

(b) Owner shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the Owner shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the TWDB that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The TWDB will provide a report of its findings to the subrecipient.

(ii) If the Owner does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the Owner, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The Owner shall monitor <https://sam.gov/content/wage-determinations> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the Owner carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing Contractor (ordering instrument) rather

than by publishing a solicitation, the Owner shall insert the appropriate DOL wage determination from <https://sam.gov/content/wage-determinations> into the ordering instrument.

(d) Owners shall review all subcontracts subject to DB entered into by prime Contractors to verify that the prime Contractor has required its Subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to an Owner's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the Owner has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the Owner shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The Owner's Contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

The subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in [29 CFR 5.1](#), the following clauses:

(1) Minimum wages.

(i) Wage rates and fringe benefits.

All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

As provided in paragraphs (d) and (e) of this section, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or

mechanics, subject to the provisions of [29 CFR 5.5\(a\)\(1\)\(v\)](#); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in [29 CFR 5.5\(a\)\(4\)](#). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under [29 CFR 5.5\(a\)\(1\)\(iii\)](#)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, <https://sam.gov/content/wage-determinations>.

(ii) Frequently recurring classifications.

(A) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR Part 1](#), a wage determination may contain, pursuant to [§ 1.3\(f\)](#), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to [29 CFR Part 5.5\(a\)\(1\)\(iii\)](#), provided that:

- (1) The work to be performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(B) The Administrator will establish wage rates for such classifications in accordance with [29 CFR 5.5\(a\)\(1\)\(iii\)\(A\)\(3\)](#). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

(iii) Conformance.

(A) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional

classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is used in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(C) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Owner(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the Owner(s) to the TWDB. The TWDB will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor via email to DBAconformance@dol.gov, and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(D) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Owner(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the TWDB, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(E) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under [29 CFR 5.5\(a\)\(1\)\(iii\)\(C\)](#) and [\(D\)](#). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to [29 CFR 5.5\(a\)\(1\)\(iii\)\(C\)](#) and [\(D\)](#) must be paid to all

workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iv) Fringe benefits not expressed as an hourly rate. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(v) Unfunded plans. If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the Contractor, in accordance with the criteria set forth in [§ 5.28](#), that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(vi) Interest. In the event of a failure to pay all or part of the wages required by the contract, the Contractor will be required to pay interest on any underpayment of wages.

(2) Withholding

(i) Withholding requirements. The Owner(s) may, upon its own action or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor, so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the Prime Contractor or any Subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in [29 CFR 5.5\(a\)](#) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same Prime Contractor (as defined in [§ 5.2](#)). The necessary funds may be withheld from the Contractor under this contract, any other Federal contract with the same Prime Contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same Prime Contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the Contractor liability for which the funds were withheld. In the event of a Contractor's failure to pay laborers and mechanics, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the Contractor's failure to submit the required records as discussed in [29 CFR 5.5\(a\)\(3\)\(iv\)](#), the EPA may, on its own initiative and after written notice to the Contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(ii) Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with [29 CFR \(a\)\(2\)\(i\)](#) or [\(b\)\(3\)\(i\)](#), or both, over claims to those funds by:

(A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(B) A contracting agency for its reprocurement costs;

(C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(D) A contractor's assignee(s);

(E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

(3) Records and certified Payrolls.

(i) Basic Record requirements.

(A) Length of record retention. All regular payrolls and other basic records must be maintained by the Contractor any Subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise work in construction or development of the project under a development statute) for a period of at least three (3) years after all the work on the prime contract is completed.

(B) Information required. Such records shall contain the name, last known address, Social Security Number, telephone number, and email address of each such worker, each worker's correct classification(s) of work actually performed, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act), daily and weekly number of hours actually worked in total and on each covered contract, deductions made, and actual wages paid.

(C) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under [29 CFR 5.5\(a\)\(1\)\(v\)](#) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the Contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(D) Additional records relating to apprenticeship. Contractors with

apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

(ii) Certified payroll requirements.

(A) Frequency and method of submission. The Contractor or Subcontractor must submit weekly, for each week in which any DBA-or Related Acts-covered work is performed, certified payrolls to the Owner, that is, the entity that receives the funds from the TWDB. The Prime Contractor is responsible for the submission of all certified payrolls by Subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature (e.g., DocuSign); the system allows the Contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least three (3) years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system. Such documentation shall be available on request of the TWDB or EPA.

(B) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under [29 CFR 5.5\(a\)\(3\)\(i\)\(B\)](#), except that full Social Security Numbers and last known addresses, telephone numbers, and email addresses must not be included on the weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the employee's social security number). The required weekly certified payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division (WHD) Web site at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf> or its successor site. It is not a violation of this section for a Prime Contractor to require a Subcontractor to provide full Social Security Numbers and last known addresses, telephone numbers, and email addresses to the Prime Contractor for its own records, without weekly submission by the Subcontractor to the TWDB (or the applicant, sponsor, owner, or other entity as the case may be, that maintains such records).

(C) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the Contractor or Subcontractor or their agent who pays or supervises the payment of the persons working on the contract and must certify the following:

- (1) That the certified payroll for the payroll period contains the information required to be provided under [29 CFR 5.5 \(a\)\(3\)\(ii\)](#), the appropriate information and basic records are being maintained under

[29 CFR 5.5 \(a\)\(3\)\(i\)](#), and that such information and records are correct and complete;

(2) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(D) Use of the Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph [29 CFR 5.5\(a\)\(3\)\(ii\)\(C\)](#).

(E) Signature. The signature by the Contractor, Subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature (e.g DocuSign).

(F) Falsification. The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [section 1001 of title 18](#) and [section 3729 of title 31](#) of the United States Code.

(G) Length of certified payroll retention. The Contractor or Subcontractor must preserve all certified payrolls during the course of the work and for a period of three (3) years after all the work on the prime contract is completed.

(iii) Contracts, subcontracts, and related documents. The Contractor or Subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The Contractor or Subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of three (3) years after all the work on the prime contract is completed.

(iv) Required disclosures and access.

(A) Required record disclosures and access to workers. The Contractor or Subcontractor must make the records required under [29 CFR 5.5 \(a\)\(3\)\(i\)](#) through [\(iii\)](#), and any other documents that the EPA or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by [§ 5.1](#), available for inspection, copying, or transcription by authorized representatives of the

TWDB, EPA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(B) Sanctions for non-compliance with records and worker access requirements. If the Contractor or Subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to [29 CFR 5.12](#). In addition, any Contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(C) Required information disclosures. Contractors and Subcontractors must maintain the full Social Security Number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the EPA if the agency is a party to the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the Contractor, Subcontractor, or both, must, upon request, provide the full Social Security Number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the TWDB, EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

(4) Apprentices and equal employment opportunity

(i) Apprentices.

(A) Rate of pay. Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for

probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(B) Fringe benefits. Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(C) Apprenticeship ratio. The allowable ratio of apprentices to journeymen on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to [29 CFR 5.5\(a\)\(4\)\(i\)\(D\)](#) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in [29 CFR 5.5\(a\)\(4\)\(i\)\(A\)](#) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(D) Reciprocity of ratios and wage rates. Where a Contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) applicable within the locality in which construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the Contractor's registered program must be observed.

(ii) Equal employment opportunity. The use of apprentices and journeymen under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and [29 CFR part 30](#).

(5) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of [29 CFR part 3](#), which are incorporated by reference in this contract.

(6) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses contained in [29 CFR 5.5\(a\)\(1\)](#) through (11) along with the applicable

wage determination(s) and such other clauses or contract modifications as the EPA determines may be required by appropriate instructions, and a clause requiring the Subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The Prime Contractor is responsible for the compliance by any Subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5. In the event of any violations of these clauses, the Prime Contractor and any Subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

(7) Contract termination; debarment. A breach of the contract clauses in [29 CFR 5.5](#) may be grounds for termination of the contract, and for debarment as a Contractor and a Subcontractor as provided in [29 CFR 5.12](#).

(8) Compliance with Davis-Bacon and Related Acts requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in [29 CFR parts 1, 3, and 5](#) are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in [29 CFR parts 5, 6, and 7](#). Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Owner(s), TWDB, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the Contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or [29 CFR 5.12\(a\)](#).

(ii) No part of this contract shall be Subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or [29 CFR 5.12\(a\)](#).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, [18 U.S.C. 1001](#)

(11) Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(i) Notifying any Contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR](#)

[part 1](#) or [3](#);

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);
or

(iv) Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

4. Contract Provision for Contracts in Excess of \$100,000

(b) Contract Work Hours and Safety Standards Act. The Owner shall insert the following clauses set forth in paragraphs (b)(1) through (5) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by [29 CFR 5.5\(a\)](#) or [29 CFR 4.6](#). As used in this paragraph, the terms "laborers and mechanics" include watchmen and guards.

(1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which they are employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in [29 CFR 5.5\(b\)\(1\)](#) the Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such Contractor and Subcontractor shall be liable to the United States, for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in [29 CFR 5.5\(b\)\(1\)](#), in the sum of \$32 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in [29 CFR 5.5\(b\)\(1\)](#).

(3) Withholding for unpaid wages and liquidated damages.

(ii) Withholding process. The Owner may, upon its own action, or must upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the Prime Contractor or any Subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages

required by the clauses set forth in [29 CFR 5.5\(b\)](#), any other Federal contract with the same Prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, that is held by the same Prime Contractor (as defined in [29 CFR 5.2](#)). The necessary funds may be withheld from the Contractor under this contract, any other Federal contract with the same Prime Contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(ii) Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with [29 CFR 5.5\(a\)\(2\)\(i\)](#) or [29 CFR 5.5\(b\)\(3\)\(i\)](#) of this section, or both, over claims to those funds by:

- (A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (B) A contracting agency for its procurement costs;
- (C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (D) A contractor's assignee(s);
- (E) A contractor's successor(s); or
- (F) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

(4) Subcontracts. The Contractor or Subcontractor must insert in any subcontracts the clauses set forth in [29 CFR 5.5\(b\)\(1\)](#) through [\(5\)](#) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in [29 CFR 5.5\(b\)\(1\)](#) through [\(5\)](#). In the event of any violations of these clauses, the Prime Contractor and any Subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

(5) Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- (i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

(iv) Informing any other person about their rights under CWHSSA or this part.

(c) CWHSSA required records clause. In addition to the clauses contained in [29 CFR 5.5\(b\)](#), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by [29 CFR 5.1](#), the Owner must insert a clause requiring that the Contractor or Subcontractor must maintain payrolls and basic records during the course of the work and must preserve them for a period of three (3) years after all the work on the Prime Contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and Social Security Number of each such worker; each workers' correct classification(s) of work actually performed, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Owner must insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

(d) Incorporation of contract clauses and wage determinations by reference. Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and Contractors and Subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.

(e) Incorporation by operation of law. The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by [29 CFR 5.1](#) to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

5. Compliance Verification and Enforcement

(a) Agency responsibilities.

(1)(i) The Federal agency has the initial responsibility to ascertain whether the clauses required by [29 CFR 5.5](#) and the appropriate wage determination(s) have been incorporated into the contracts subject to the labor standards provisions of the laws referenced by [29 CFR 5.1](#). Additionally, a Federal agency that provides Federal financial assistance that is subject to the labor standards provisions of the Act must promulgate the necessary regulations or procedures to require the recipient or sub-recipient of the Federal assistance to insert in its contracts the provisions of [29 CFR 5.5](#). No payment, advance, grant, loan, or guarantee of funds will be approved by the Federal agency unless it ensures that the clauses required by [29 CFR 5.5](#) and the appropriate wage determination(s) are incorporated into such contracts. Furthermore, no payment, advance, grant, loan, or guarantee of funds will be approved by the Federal agency after the beginning of construction unless there is on file with the Federal agency a certification by the contractor that the contractor and its subcontractors have complied with the provisions of [29 CFR 5.5](#) or unless there is on file with the Federal agency a certification by the contractor that there is a substantial dispute with respect to the required provisions.

(ii) If a contract subject to the labor standards provisions of the applicable statutes referenced by [29 CFR 5.1](#) is entered into without the incorporation of the clauses required by [29 CFR 5.5](#), the agency must, upon the request of the Administrator or upon its own initiative, either terminate and resolicit the contract with the required contract clauses, or incorporate the required clauses into the contract (or ensure they are so incorporated) through supplemental agreement, change order, or any and all authority that may be needed. Where an agency has not entered directly into such a contract but instead has provided Federal financial assistance, the agency must ensure that the recipient or sub-recipient of the Federal assistance similarly incorporates the clauses required into its contracts. The method of incorporation of the correct wage determination, and adjustment in contract price, where appropriate, should be in accordance with applicable law. Additionally, the following requirements apply:

(A) Unless the Administrator directs otherwise, the incorporation of the clauses required by [29 CFR 5.5](#) must be retroactive to the date of contract award or start of construction if there is no award.

(B) If this incorporation occurs as the result of a request from the Administrator, the incorporation must take place within 30 days of the date of that request, unless the agency has obtained an extension from the Administrator.

(C) The contractor must be compensated for any increases in wages resulting from incorporation of a missing contract clause.

(D) If the recipient refuses to incorporate the clauses as required, the agency must make no further payment, advance, grant, loan, or guarantee of funds in connection with the contract until the recipient incorporates the required clauses into its contract, and must promptly refer the dispute to the Administrator for further proceedings under [29 CFR 5.13](#).

(E) Before terminating a contract pursuant to this section, the agency must withhold or cross-withhold sufficient funds to remedy any back wage liability resulting from the failure to incorporate the correct wage determination or otherwise identify and obligate sufficient funds through a termination settlement agreement, bond, or other satisfactory mechanism.

(F) Notwithstanding the requirement to incorporate the contract clauses and correct wage determination within 30 days, the contract clauses and correct wage determination will be effective by operation of law, retroactive to the beginning of construction, in accordance with [29 CFR 5.5\(e\)](#).

(2) (i) Certified payrolls submitted pursuant to [29 CFR 5.5\(a\)\(3\)\(ii\)](#) must be preserved by the Federal agency for a period of three (3) years after all the work on the prime contract is completed, and must be produced at the request of the Department of Labor at any time during the 3-year period, regardless of whether the Department of Labor has initiated an investigation or other compliance action.

(ii) In situations where the Federal agency does not itself maintain certified payrolls required to be submitted pursuant to [29 CFR 5.5\(a\)\(3\)\(ii\)](#), upon the request of the Department of Labor the Federal agency must ensure that such certified payrolls are provided to the Department of Labor. Such certified payrolls may be provided by the applicant, sponsor, owner, or other entity, as the case may be, directly to the Department of Labor, or to the Federal agency which, in turn, must provide those records to the Department of Labor.

(3) The Federal agency will cause such investigations to be made as may be necessary to assure compliance with the labor standards clauses required by [29 CFR 5.5](#) and the applicable statutes referenced in [29 CFR 5.1](#). Investigations will be made of all contracts with such frequency as may be necessary to assure compliance. Such investigations will include interviews with workers, which must be taken in confidence, and examinations of certified payrolls, regular payrolls, and other basic records required to be maintained under [29 CFR 5.5\(a\)\(3\)](#). In making such examinations, particular care must be taken to determine the correctness of classification(s) of work actually performed, and to determine whether there is a disproportionate amount of work by laborers and of apprentices registered in approved programs. Such investigations must also include evidence of fringe benefit plans and payments thereunder. Federal agencies must give priority to complaints of alleged violations.

(4) In accordance with normal operating procedures, the contracting agency may be furnished various investigatory material from the investigation files of the Department of Labor. None of the material, other than computations of back wages, liquidated damages, and monetary relief for violations of [29 CFR 5.5\(a\)\(11\)](#) or [\(b\)\(5\)](#), and the summary of back wages due, may be disclosed in any manner to anyone other than Federal officials charged with administering the contract or program providing Federal assistance to the contract, without requesting the permission and views of the Department of Labor.

(b) Department of Labor Investigations and other compliance actions.

- (5) The Administrator will investigate and conduct other compliance actions as deemed necessary in order to obtain compliance with the labor standards provisions of the applicable statutes referenced by [29 CFR 5.1](#), or to affirm or reject the recommendations by the Agency Head with respect to labor standards matters arising under the statutes referenced by [29 CFR 5.1](#).
- (6) Federal agencies, contractors, subcontractors, sponsors, applicants, owners, or other entities, as the case may be, must cooperate with any authorized representative of the Department of Labor in the inspection of records, in interviews with workers, and in all other aspects of the investigations or other compliance actions.
- (7) The findings of such an investigation or other compliance action, including amounts found due, may not be altered or reduced without the approval of the Department of Labor.
- (8) Where the underpayments disclosed by such an investigation or other compliance action total \$1,000 or more, where there is reason to believe that the contractor or subcontractor has disregarded its obligations to workers or subcontractors, or where liquidated damages may be assessed under CWHSSA, the Department of Labor will furnish the Federal agency an enforcement report detailing the labor standards violations disclosed by the investigation or other compliance action and any action taken by the contractor or subcontractor to correct the violations, including any payment of back wages or any other relief provided workers or remedial actions taken for violations of [29 CFR 5.5\(a\)\(11\)](#) or [\(b\)\(5\)](#). In other circumstances, the Department of Labor will furnish the Federal agency a notification summarizing the findings of the investigation or other compliance action.
- (c) Confidentiality requirements. It is the policy of the Department of Labor to protect from disclosure the identity of its confidential sources and to prevent an unwarranted invasion of personal privacy. Accordingly, the identity of a worker or other informant who makes a written or oral statement as a complaint or in the course of an investigation or other compliance action, as well as portions of the statement which would tend to reveal the identity of the informant, will not be disclosed in any manner to anyone other than Federal officials without the prior consent of the informant. Disclosure of such statements is also governed by the provisions of the "Freedom of Information Act" ([5 U.S.C. 552](#), see part 70 of this subtitle) and the "Privacy Act of 1974" ([5 U.S.C. 552a](#), see part 71 of this subtitle).

12. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

Effective August 13, 2020, all recipients of CWSRF and DWSRF Equivalency funding, regardless of the date of the TWDB commitment, closing date, or Intended Use Plan, must comply with regulations at [2 CFR 200.216](#), ***Prohibition on certain telecommunication and video surveillance services or equipment***,

implementing Section 889 of [Public Law 115-232](#).

The following must be included in *all* project construction contracts associated with equivalency assistance agreements. It must also be in any sub-contract that involves the purchase of telecommunications or video surveillance services or equipment.

Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

This term and condition implements 2 CFR 200.216 and is effective for obligations and expenditures of EPA financial assistance funding on or after 8/13/2020.

As required by [2 CFR 200.216](#), EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

Recipients, subrecipients, and borrowers also may not use EPA funds to purchase:

- a. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- b. Telecommunications or video surveillance services provided by such entities or using such equipment.
- c. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Consistent with [2 CFR 200.471](#), costs incurred for telecommunications and video surveillance services or equipment

such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:

a. Obligating or expending EPA funds for covered telecommunications and video surveillance services or equipment or services as described in 2 CFR 200.216 to:

- (1) Procure or obtain, extend or renew a contract to procure or obtain;
- (2) Enter into a contract (or extend or renew a contract) to procure; or
- (3) Obtain the equipment, services, or systems.

Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the System for Award Management (<https://sam.gov/content/home>) exclusion list.

Additional details:

Neither TWDB nor EPA have an exhaustive list of components and services that fall under the prohibition. EPA recommends recipients be mindful of automatic meter reading (AMR) technology and advanced metering infrastructure (AMI), instrumentation control systems (e.g., process control systems, distributed control systems and programmable logic controls), and security cameras and other electronic security measures to ensure that those items are procured from a non-excluded entity. Items included in the prohibition are not eligible SRF costs and the TWDB SRF programs cannot reimburse recipients for these costs.

13. Payments

(a) Progress Payments:

i. The Contractor shall prepare their requisition for progress payment as of the last day of the payment month and submit it, with the required number of copies, to the Owner/Consulting Engineer for review. Except as provided in Paragraph (iii) of this subsection, the amount of the payment due to the Contractor shall be determined by:

- Adding to the total value of work completed to date,
- The value of materials properly stored on the site, and
- Deducting (1) five percent (5%) minimum of the total amount, as a retainage and (2) the amount of all previous payments.

The total value of work completed to date shall be based on the actual or estimated quantities of work completed and on the unit prices contained in the agreement (or cost breakdown approved pursuant to Section 7.b relating to lump sum bids) and adjusted by approved Change Orders. The

value of materials properly stored on the site shall be based upon the estimated quantities of such materials and the invoices prices.

Copies of all invoices shall be available for inspection by the TWDB Project Engineer/Reviewer.

- ii. The Contractor shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the Owner. Such payments shall not constitute a waiver of the right of the Owner to require the fulfillment of all terms of the contract and the delivery of all improvements embraced in the contract complete and satisfactory to the Owner in all details.
- iii. Only one of the following clauses applies:
 - This clause applies to contracts when the Owner is a District or Authority. This clause applies to contracts when the Owner is a District or Authority. The retainage shall be ten (10%) percent minimum of the amount otherwise due until at least fifty (50%) of the work has been completed. After the project is fifty (50%) percent completed, and if the District or Authority's Board finds that satisfactory progress is being made, then the District may authorize any of the remaining progress payments to be made in full. The District is not obligated to pay interest earned on the first 50% of work completed (Texas Water Code Sec. 49.276(d)).
 - This clause applies to contracts when the Owner is a Public Entity (i.e., not a District and not an Authority). The five (5%) percent retainage of the progress payments due to the Contractor may not be reduced until the building of the project is substantially complete and a reduction in the retainage has been authorized by the TWDB.

(b) Withholding Payments.

The Owner may withhold from any payment otherwise due to the Contractor so much as may be necessary to protect the Owner, and if so elects, may also withhold any amounts due from the Contractor to any Subcontractors or material dealers for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and Subcontractors or material dealers, or to withhold any monies for their protection unless the Owner elects to do so.

The failure or refusal of the Owner to withhold any monies from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this contract.

(c) Payments Subject to Submission of Certificates.

Each payment to the Contractor by the Owner shall be made subject to

submission by the Contractor of all written certifications required of the Subcontractors by general and special conditions pertaining to this contract.

(d) Final Payment.

- i. Upon satisfactory completion of the work performed under this contract, as a condition before final payment under this contract or as a termination settlement under this contract, the Contractor shall execute and deliver to the Owner a release of all claims against the Owner arising under, or by virtue of, this contract, except claims which are specifically exempted by the Contractor to be set forth therein. Unless otherwise provided in this contract, by State law or otherwise expressly agreed to by the parties to this contract, final payment under this contract or settlement upon termination of this contract shall not constitute a waiver of the Owner's claims against the Contractor or his sureties under this contract or applicable performance and payment bonds.
- ii. After final inspection and acceptance by the Owner of all work under the contract, the Contractor shall prepare their requisition for final payment which shall be based upon the carefully measured or computed quantity of each item of work at the applicable unit prices stipulated in the Agreement or cost breakdown (if lump sum), as adjusted by approved Change Orders. The total amount of the final payment due to the Contractor under this contract shall be the amount computed as described above, less all previous payments.
- iii. The retainage and its interest earnings, if any, shall not be paid to the Contractor until the TWDB has authorized a reduction in, or release of, retainage on the contract work (see Item 24 Close-Out Procedures for additional information).
- iv. Withholding of any amount due to the Owner, under general or special conditions regarding "Liquidated Damages," shall be deducted from the final payment due the Contractor.

14. Equal employment opportunity and affirmative action

This provision applies to Clean Water State Revolving Fund Program and Drinking Water State Revolving Fund projects where the contract agreement is for more than \$10,000.

During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment

advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

- (2) The Contractor will, in all solicitations or advancements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.
- (4) The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders,

this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

- (8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the notice which contains the applicable goals set for minority and female participation and which is set forth in the solicitations from which this contract resulted.

15. Debarment and Suspension

Equivalency DWSRF and CWSRF construction contracts are subject to the Title 40 Code of Federal Regulations Part 32 concerning Debarment and Suspension. The Contractor will comply with the assurances provided with the bid that led to this contract. The Contractor can use the Debarment/Suspension Certification ([SRF-404](#)) for self-certification. The Applicant/Owner must verify that the selected Contractor is not debarred or suspended by reviewing the www.sam.gov website. The Applicant/Owner can use the Debarment/Suspension Certification ([SRF-404](#)) for verification of a contractor's status. Both the Contractor and the Applicant/Owner must submit their Debarment/Suspension Certifications (SRF-404) to the TWDB Project Engineer/Reviewer.

Instructions for Certification

- (a) By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
- (b) The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available

to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

- (c) The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.
- (d) The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- (e) The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- (f) The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- (g) A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Non-procurement Programs.
- (h) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- (i) Except for transactions authorized under paragraph (e) of these

instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions.

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

16. Disadvantaged Business Enterprises

The TWDB Clean Water and Drinking Water State Revolving Fund programs receive federal funds from the U. S. Environmental Protection Agency (EPA). As a condition of federal grant awards, EPA regulations require that financial assistance recipients (Owners and Prime Contractors/Consultants) make a "good faith effort" to award a fair share of work to DBE's who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring construction, supplies, services, and equipment. This requirement only applies to projects receiving SRF Equivalency funding.

The most current fair share goals for the State of Texas are located on the TWDB website at www.twdb.texas.gov/financial/programs/DBE/index.asp and as follows:

| Category | MBE | WBE |
|--|------------|------------|
| Construction | 24.50% | 11.34% |
| Non-Construction | 24.05% | 19.35% |
| Total Combined Construction and Non-Construction | 24.16% | 17.38% |

Both the project Owner and Prime Consultants/Contractors must submit forms periodically to the TWDB to validate compliance with DBE requirements.

The Applicant (Owner) must submit form TWDB-0215 with the financial assistance application. The TWDB must approve this form as completed prior to Board consideration for any financial assistance commitment. A DBE packet must be submitted *at least 30 days prior* to closing; the DBE packet includes the Owner's forms TWDB-0216 and TWDB-0373 and the project's respective Prime Engineer (Prime Eng), Financial Advisor (FA), Bond Counsel (BC), and any other hired

Consultants or Contractors must complete a TWDB-0217 form. The TWDB-0217 form will indicate if any subcontracting opportunities will be available or if the Consultant or Contractor will be self-performing the contract. Regardless of the procurement's outcome, the Owner must submit a TWDB-0373 and list all of the Consultants and Contractors selected by the Owner for the project. **Failure to include a Consultant or Contractor and the associated contract amount on the TWDB-0373 will result in denial of payment until the proper documentation has been reviewed and approved.**

For each construction contract, the Owner is required to submit a TWDB-0216 and TWDB-0373 for the procurement of the construction project's Prime Contractor. If the Prime Contractor is utilizing Subcontractors for the project, then the Prime Contractor is also required to submit its own set of TWDB-0216 and TWDB-0373 forms for procurement of Subcontractors prior to request for payment.

The following chart illustrates what forms are required for each type of contract:

| Form | Phase (as applicable) | Completed by |
|-----------|--|--|
| TWDB-0215 | Application | Owner |
| TWDB-0216 | Closing (Procurement of Professional Services) | Owner (for Prime Eng, FA, & BC); Prime Eng, FA, and/or BC (for subconsultants); |
| | Planning & Design | Prime Eng (for subconsultants) |
| | Construction | Owner (for Prime Contractor); Prime Contractor (for subcontractors) |
| TWDB-0217 | Closing (Procurement of Professional Services) | Prime Eng, FA, and/or BC |
| | Planning & Design | Prime Eng |
| | Construction | Prime Contractor |
| TWDB-0373 | Closing (Procurement of Professional Services) | Owner (for Prime Eng, FA, & BC); Prime Eng, FA, and/or BC (for subconsultants) |
| | Planning & Design | Prime Eng (for subconsultants) |
| | Construction | Owner (for Prime Contractor); Prime Contractor (for subcontractors) |

Note: All forms are to be submitted to the TWDB at the beginning of the applicable project phase.

The Consultant or Contractor shall, if awarding subcontracts, to the extent appropriate for the goals listed in the Instructions to Bidders, make a good faith effort to award a fair share of work to DBE's who are MBE's and WBE's as sources of Construction and Non-Construction (supplies, equipment, and services) by taking the following steps:

- a. Ensure DBEs are made aware of contracting opportunities by including qualified small, minority, and women's businesses on solicitation lists;
- b. Assuring that small, minority, and women's businesses are solicited whenever they are potential sources;
- c. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of small, minority, and women's businesses;
- d. Establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority, and women's businesses; and
- e. Using the services and assistance of the Small Business Administration, Minority Business Development Agency of the U.S. Department of Commerce, and Texas Marketplace, as appropriate.

17. Archeological Discoveries and Cultural Resources

No activity which may affect properties listed or properties eligible for listing in the National Register of Historic Places or that are designated or eligible for designation as a State Archeological Landmark is authorized until the Owner has complied with the provisions of the National Historic Preservation Act and the Antiquities Code of Texas.

The Owner has previously coordinated with the appropriate agencies and impacts to known cultural or archeological deposits have been avoided or mitigated. However, the Contractor may encounter unanticipated cultural or archeological deposits during construction.

If archeological sites or historic structures which may qualify for designation as a State Archeological Landmark according to the criteria in 13 TAC Chapter 26, or that may be eligible for listing on the National Register of Historic Places in accordance with 36 CFR Part 800, are encountered after construction operations are begun, the Contractor must immediately cease operations in that particular area, avoid disturbance of the cultural resources, and notify the Owner, the TWDB, and the Texas Historical Commission, P.O. Box 12276, Capitol Station, Austin, Texas 78711.

The Contractor must take reasonable steps to protect and preserve the discoveries until they have been inspected by the Owner's representative and the TWDB. The Owner will promptly coordinate with the State Historic Preservation Officer, the Texas Historical Commission, and any other appropriate agencies to obtain any necessary approvals or permits to enable the work to continue. The Contractor must not resume work in the area of discovery until authorized to do so by the Owner.

18. Threatened and Endangered Species

No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), or the State of Texas Parks and Wildlife Code on threatened, endangered and state-listed species, or to destroy or adversely modify the habitat of such species.

If a threatened, endangered, or state-listed species is encountered during construction, the Contractor must immediately cease work in the area of the encounter, avoid disturbance of the animal or plant, and notify the TWDB and the Owner, who will immediately implement actions in accordance with the ESA and applicable State statutes. These actions must include reporting the encounter to the TWDB, the U. S. Fish and Wildlife Service, and the Texas Parks and Wildlife Department, obtaining any necessary approvals or permits to enable the work to continue, and implementing other mitigation actions as directed. The Contractor must not resume construction in the area of the encounter until authorized to do so by the Owner.

19. Hazardous Materials

Materials utilized in the project must be free of any hazardous materials, except as may be specifically provided for in the specifications.

If the Contractor encounters existing hazardous material on sites owned or controlled by the Owner, or in material sources that are suspected by visual observation or smell to contain hazardous materials, the Contractor must immediately notify the Consulting Engineer and the Owner, who will immediately notify TWDB and appropriate authorities, depending on the circumstances, such as local emergency responders, the Texas Commission on Environmental Quality (TCEQ), The U.S. Environmental Protection Agency (EPA), and others.

Unless otherwise directed by appropriate authorities, the Owner will be responsible for the testing and removal or disposal of hazardous materials on sites owned or controlled by the Owner, and may suspend work in the area of the encounter, wholly or in part, during testing, removal, or disposal operations.

Funding from the TWDB must not be used for sampling, testing, removing, or disposing of contaminated soils or media at the project site, except for an LSLR project or associated activity directly connected to the identification, planning, design, and replacement of lead service lines. The Obligations within the contract must include an environmental indemnification provision wherein the Owner/Applicant agrees, and agrees to cause its construction contractors, to indemnify, hold harmless and protect the TWDB from any and all claims, causes of action, or damages arising from activities performed during the project funded by TWDB, including their officials and employees, in connection with the project, to the extent permitted by law

20. Project Signage

The Owner must implement one of the signage options below as described in

TWDB Project Public Awareness (PPA) Guidance ([TWDB-1109](#)); and submit the applicable PPA Certification (TWDB-1109-A for AIS; TWDB-1109-B for BABA):

- Online signage placed on community website or social media outlet;
- Press release;
- Posters or wall signage in a public building or location;
- Newspaper or periodical advertisement for project construction, groundbreaking ceremony, or operation of the new or improved facility; or
- On-site signage erected in a prominent location at the construction project site or along a major thoroughfare within the community as directed by the Owner. **Note that this type of construction sign is required on projects utilizing BIL/IIJA funding.**

If the Owner decides on a public or media event to publicize the accomplishment of significant events related to construction of the project, the U.S. Environmental Protection Administration, Region 6, must be provided with at least a ten (10) working day notice of the event and provided the opportunity to attend and participate. Please contact Section Supervisor Denise Hamilton, who can be reached at (214) 665-2775 or Hamilton.Denise@epa.gov.

21. Changes

*Provisions identified with an asterisk below are consistent with Local Government Code 271.060. Counties and Municipalities may modify the identified provisions, when applicable, to conform to Local Government Code 262.031 (Counties) or 252.048 (Municipalities).

- (a) The Owner may at any time, without notice to any surety, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including but not limited to changes:
 - i. In the specifications (including drawings and designs);
 - ii. In the time, method, or manner of performance of the work;
 - iii. To decrease or increase the quantity of work to be performed or materials, equipment, or supplies to be furnished;
- (b) *The total price of a contract may not be increased by a change order unless provision has been made for the payment of the added cost by the appropriation of current funds or bond funds for that purpose, by the authorization of the issuance of certificates, or by a combination of those procedures.
- (c) *A contract with an original contract price of \$1 million or more may not be increased by more than 25 percent. If a change order for a contract with an original contract price of less than \$1 million increases the contract amount

to \$1 million or more, subsequent change orders may not increase the revised contract amount by more than 25 percent.

- (d) *A governing body may grant authority to an official or employee responsible for purchasing or for administering a contract to approve a change order that involves an increase or decrease of \$50,000 or less.
- (e) Changes that involve an increase in price will be supported by documentation of the cost components. For projects funded through the EDAP program, or with grant proceeds, TWDB staff may request this information to be provided in a format equivalent to the Cost and Pricing Information form (No. WRD-277).
- (f) Any change orders involving a change in the project requiring a relocation of project components, sizing, or process may require additional environmental approval. A map and description of the proposed changes should be sent to the TWDB Environmental Reviewer for coordination and approval as soon as possible to avoid any delay.

22. Operation and Maintenance Manuals and Training

- (a) The Contractor shall obtain installation, operation, and maintenance manuals from manufacturers and suppliers for equipment furnished under the contract. The Contractor must submit an electronic copy (e.g., PDF) with bookmarks of each complete manual to the Owner's Consulting Engineer within 90 days after approval of shop drawings, product data, and samples, and not later than the date of shipment of each item of equipment to the project site or storage location. One (1) hard copy, with divider tabs in a binder, must be submitted to the Owner's Consulting Engineer upon request.
- (b) The Owner shall require their Consulting Engineer to promptly review each manual submitted, noting necessary corrections and revisions. If the Owner's Consulting Engineer rejects the manual, the Contractor must correct and resubmit the manual until it is acceptable to the Owner's Consulting Engineer as being in conformance with the design concept of the project and for compliance with information given in the Contract Documents. Owner may assess the Contractor a charge for reviews of the same items in excess of two (2) times. Such procedure shall not be considered cause for delay.
- (c) Acceptance of manuals by Owner's Consulting Engineer does not relieve the Contractor of any requirements of terms of Contract.
- (d) The Contractor shall provide the services of trained, qualified technicians to check final equipment installation, to assist as required in placing same in operation, and to instruct operating personnel in the proper manner of performing routine operation and maintenance of the equipment.
- (e) Operations and maintenance manuals specified hereinafter are in addition

to any operation, maintenance, or installation instructions required by the Contractor to install, test, and start-up the equipment. Each manual is to be bound in a folder and labeled to identify the contents and project to which it applies. The manual shall contain the following applicable items:

- i. A listing of the manufacturer's identification, including order number, model, serial number, and location of parts and service centers.
- ii. A list of recommended stock of parts, including part number and quantity.
- iii. Complete replacement parts list.
- iv. Performance data and rating tables.
- v. Specific instructions for installation, operation, adjustment, and maintenance.
- vi. Exploded view drawings for major equipment items.
- vii. Lubrication requirements.
- viii. Complete equipment wiring diagrams and control schematics with terminal identification.

23. As-Built Dimensions and Record Drawings

- (a) The Contractor shall make appropriate daily measurements of facilities constructed and keep accurate records of location (horizontal and vertical) of all facilities.
- (b) Upon completion of each facility, the Contractor shall furnish the Owner with one (1) set of full-size direct prints, marked with red pencil, to show as-built dimensions and locations of all work constructed (Record Drawings) and one (1) full-size electronic set of these drawings (e.g., PDF). As a minimum, the final drawings shall include the following:
 - i. Horizontal and vertical locations of work.
 - ii. Changes in equipment and dimensions due to substitutions.
 - iii. "Nameplate" data on all installed equipment.
 - iv. Deletions, additions, and changes to scope of work.
 - v. Any other changes made.

24. Close-Out Procedures

To close-out the construction contract and release final retainage, the following steps must be completed:

- (a) TWDB Staff must conduct a construction contract Final Site Visit (FSV) and issue a FSV Report;
- (b) The following submittals must be received, reviewed, and accepted by the TWDB:
 - i. The final change order, adjustment of quantities, or a statement that all change orders have previously been submitted and there will be no more change orders;
 - ii. The final pay request from the Contractor;
 - iii. An affidavit by the Contractor that all bills have been paid;
 - iv. Certification by the Consulting Engineer that the work has been completed and was constructed in accordance with the approved plans and specifications and sound engineering principals and construction practices;
 - v. Certification by the Owner that the work has been completed and was constructed in accordance with the approved plans and specifications;
 - vi. Acceptance of the project by the Owner in the form of a written resolution or other formal action;
 - vii. A warranty statement from the Consulting Engineer with a duration of at least 12 months from the date of project's completion is required; and the warranty's start date specified;
 - viii. The Owner's Final AIS Certification (TWDB-1106-C) **OR** Final BABA Certification (TWDB-1110-B), whichever is applicable;
 - ix. If this is the first construction contract, then a TWDB-1109-A form certifying the Project Public Awareness method and supporting documentation showing the actual signage used (applies to the entire SRF project);
 - x. Confirmation that the Owner and the Consulting Engineer have both received copies of the Record Drawings from the Contractor; and
 - xi. If CWSRF or DWSRF funds were used by the entity to prepare a Fiscal Sustainability Plan (FSP) or an Asset Management Plan (AMP), then the Owner must submit a copy of the applicable plan;
- (c) Once items (a) and (b) have been completed, the TWDB will be able to issue a Certificate of Approval, which will then allow the release of the construction contract's retainage.

25. Additional Forms and Information

The forms and guidance documents, mentioned throughout this Guidance and

below, are available at the following TWDB website:

<http://www.twdb.texas.gov/financial/instructions/index.asp>

Search by either the document number or name.

Forms:

- Contractor's Act of Assurance (ED-103)
- Contractor's Resolution on Authorized Representative (ED-104)
- Debarment / Suspension Certification (SRF-404)
- Bidder's Certifications- EEO (WRD-255)
- DBE Affirmative Steps solicitation Report (TWDB-0216)
- DBE Prime Contractor Affirmative Steps Certification & Goals (TWDB-0217)
- DBE Loan/Grant Participation Summary (TWDB-0373)
- Monthly American Iron and Steel Certificate (TWDB-1106-A)
- American Iron and Steel (AIS) De Minimis Log (TWDB-1106-B)
- Final AIS Certification by Owner (TWDB-1106-C)
- Monthly Buy America, Build America (BABA) Act Certificate (TWDB-1110-A)
- Final Buy America, Build America (BABA) Act Certification (TWDB-1110-B)
- Final BABA Certification by Owner (TWDB-1110-B)
- State Revolving Fund (SRF) Project Public Awareness Certification (TWDB-1109-A)
- IJJA State Revolving Fund (SRF) Project Signage Certification (TWDB-1109-B)
- Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner (Sub-Recipient) (DB-0154)

Guidance Documents:

- CWSRF Guidance Manual (TWDB-0100)
- DWSRF Guidance Manual (TWDB-0115)
- TWDB-0210 Disadvantaged Business Enterprise Guidance
- Requirements for American Iron and Steel (AIS) Guidance (TWDB-1106)
- Requirements for Build America, Buy America (BABA) Act Guidance (TWDB-0558)
- Guidance on Davis-Bacon Wage Rate Requirements for State Revolving Fund Projects (DB-0156)

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(202) 347-7474
www.acec.org

American Society of Civil Engineers
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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, 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.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, 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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *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, or both; 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, or both; 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; or (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. 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), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the 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. *Engineer*—The individual or entity named as such in the Agreement.
21. *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.
22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *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.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *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.
28. *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.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *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.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *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.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *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.
36. *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.
37. *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 furnished by Owner which are designated for the use of Contractor.
 38. *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.
 39. *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.
 40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
 41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
 42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
 43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
 44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
 45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
 46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
 47. *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.

48. *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 the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. 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. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), 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 executed 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 specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
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 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. 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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the 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 Documents 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 Documents 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:*

1. 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 shall 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 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 thereunder.
- 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 give written notice to Owner and Contractor 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:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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.
 - 1. 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 shall 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 shall 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 the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall 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 utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 - 4. acts of war or terrorism.
- D. 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.

- E. Paragraph 8.03 governs 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.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times 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.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- 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; 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 7.12, 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 at law; 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 shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site 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 known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

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 either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
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; or
 - 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 as 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, or both, then any such adjustment shall 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, or both, 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.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

- d. 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 in the Contract Documents, or was not shown or indicated 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), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; 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 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. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. 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, or both, then any such adjustment shall 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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. 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 Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for 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, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, 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.
- 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 or 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.H shall obligate 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 shall obligate 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 all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, 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 shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

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. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) 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 Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

6.05 *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 full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available

under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed 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.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- 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 notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

- E. *Additional Insurance*: 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 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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 shall extend 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. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial 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.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of

recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work 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 any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

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

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, 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.

7.03 *Services, Materials, and Equipment*

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

7.04 *"Or Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the 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 material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

- 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment 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 material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
1. 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 material or equipment from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:

- a. shall 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 that specified, and
 - 3) be suited to the same use as that 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 that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall 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 shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.

- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

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

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

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of 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

7.09 *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.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work 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 shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *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.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor 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).

- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall 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.

7.13 *Safety Representative*

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

7.14 *Hazard Communication Programs*

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

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 threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

- A. *Shop Drawing and Sample Submittal Requirements:*
 - 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.
 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.D.
 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction 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 shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 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.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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 and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal;
 - 6. the issuance of a notice of acceptability by Engineer;
 - 7. any inspection, test, or approval by others; or
 - 8. any correction of defective Work by Owner.
- D. 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 shall 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 from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for

Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

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 at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- 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. 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 to 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.
- C. 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 to Contractor.
- D. 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 shall 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 Documents (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 10.08. 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 *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 Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer’s consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer’s authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *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.

10.07 *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.

10.08 *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, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *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 (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not 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, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* 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 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
 - 3. *Field Orders:* 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. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *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. Such changes shall be supported by Engineer's recommendation, to the extent the change

involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

11.03 *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.

11.04 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
 - 2. 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 11.04.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 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and

11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

- d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole,

approve it in whole, or deny it in part and approve it in part. Such actions shall 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.

3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

- B. *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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 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 11.02, (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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *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 shall be submitted 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; and
 - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, 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 shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as 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 shall not include any of the following items:
 - 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

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:
 - 1. 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
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

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, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 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 will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

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 shall 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 shall 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 shall 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 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 shall 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 special 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, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, 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 shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

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 rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 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 on account of 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:*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
 - 1. 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;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for

- Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
- c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
 4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated 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;
 - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven 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 shall 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 seven 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:
 - 1. 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 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 6.05 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:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall 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 disputes that Contractor believes are unsettled; 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 Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. *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.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer

(less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- 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 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 terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with

respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 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) ten 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) 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 seven 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 shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; 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 on account of loss of anticipated overhead, profits, or revenue, 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 seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 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, seven days after written notice to Owner and Engineer, stop the

Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph 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; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
 - 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 Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

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

18.08 *Headings*

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

SUPPLEMENTAL CONDITIONS

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SUPPLEMENTARY CONDITIONS

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SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01.A.49 Add the following new paragraph after Paragraph 1.01.A.48:

Abnormal Weather Conditions - Conditions of extreme or unusual weather for a give region, elevation, or season as determined by Engineer. Extreme or unusual weather that is typical for a given region, elevation, or season shall not be considered Abnormal Weather Conditions.

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

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

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.B:

- C. The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:

None.

- D. Except as provided in Par. C above, or the Contract Docuements, no drawings of physical conditions relating to existing surface or subsurface structures at the Site are known to Owner.

- E. Copies of reports and drawings identified in SC-5.03.C and SC-5.03.D that are not included with the Bidding Documents may be requested from the Engineer and will be provided at the cost of reproduction.

SC-5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

SC-6.03 Add the following new paragraph immediately after Paragraph 6.03J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

- a. State: Statutory
- b. Applicable Federal (e.g., Longshoreman's): Statutory
- c. Employer's Liability: Statutory

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

- a. General Aggregate \$2,000,000
- b. Products - Completed Operations Aggregate \$2,000,000
- c. Personal and Advertising Injury \$1,000,000
- d. Each Occurrence (Bodily Injury and Property Damage) \$1,000,000
- e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.

3. Automobile Liability under Paragraph 6.03.D of the General Conditions:

- a. Bodily Injury:
 - Each person \$250,000
 - Each Accident \$500,000
- b. Property Damage:
 - Each Accident \$300,000

4. Excess or Umbrella Liability under Paragraph 6.03.E of the General Conditions:

- General Aggregate \$5,000,000
- Each Occurrence \$5,000,000

5. Contractor's Pollution Liability under Paragraph 6.03.F of the General Conditions:

| | |
|------------------|--------------------|
| Each Claim | <u>\$1,000,000</u> |
| Annual Aggregate | <u>\$2,000,000</u> |

6. Owner (by name) and KSA Engineers, Inc. to be included as Additional Insureds for commercial general liability, automobile liability, umbrella or excess and pollution liability policies

SC-7.01.C Add the following paragraph after 7.01.B

Contractor's resident superintendent shall be on site at all times during the progress of the work.

SC-7.09 Add a new paragraph immediately after Paragraph 7.09.A:

B. Owner is not exempt from payment of sales and compensating use taxes of the State and of the political subdivisions thereof on all materials to be incorporated into the Work.

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-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. For projects involving the services of a Resident Project Representative (RPR), the RPR will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

1. *General:* RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
2. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

3. ***Conferences and Meetings:*** Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
4. ***Liaison:***
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
5. ***Interpretation of Contract Documents:*** Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
6. ***Shop Drawings and Samples:***
 - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
7. ***Modifications:*** Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
8. ***Review of Work and Rejection of Defective Work:***
 - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will

imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

9. *Inspections, Tests, and System Startups:*

- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
- b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

10. *Records:*

- a. Prepare a daily report recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
- b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- c. Maintain records for use in preparing Project documentation.

11. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

12. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

13. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

14. *Completion:*

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

- 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
- 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
- 3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.
- 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.

5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
2. if there is no corresponding adjustment with respect to any other item of Work; and
3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-15.01 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. After presentation of the Application for Payment to Owner with Engineers's recommendation, the amount (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor in accordance with Chapter 2251 of the Texas Government Code.

Trench Safety

Contractor shall include the following statement, positioned before the signature blocks, on each pay request for submission to the Engineer and Owner for payment: "In accordance with the Contract Documents, based upon on-site observations and the data comprising the above application, the Engineer represents to the Owner to the best of the Engineer's knowledge, information and belief, the Work (excluding Trench Safety) has progressed to the point indicated, the quality of the Work is generally in accordance with the Contract Documents, and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled insofar as it is the Engineer's responsibility to observe Contractor's Work. The Contractor is solely responsible for trench safety and, as such, the Engineer makes no representation that this pay item has been performed in a manner consistent with the Contract Documents."

DIVISION 01000

GENERAL REQUIREMENTS

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.01 SCOPE INFORMATION

- A. The Contractor shall complete the work in strict accordance with the Plans and these Specifications and, in the event no such requirements are determined, in conformance with the Owner's and Engineer's written direction.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work covered by these contract documents comprises the construction of the City of Rockdale – DWSRF Water Distribution System Improvements – Phase II. In general terms, the following items are included:
 - 1. **Installation of approximately 344 LF of 2" waterline, 26,930 LF of 6" waterline, 10,430 LF of 8" waterline, and 610 LF feet of 12" waterline, including fire hydrants, valves, meters and appurtenances.**
 - 2. **Additive Alternate 1 consists of an additional 222 LF of 2" waterline, 912 LF of 4" waterline, 5,200 LF of 6" waterline including fire hydrants, valves, meters and appurtenances.**
 - 3. **Additive Aleternate 2 will consist of 8,860 LF of 6" waterline which includes fire hydrants, valves, meters and appurtenances.**
- B. The scope of work to be completed is defined by the Plans and these Specifications. In general terms the work consists of furnishing all labor, materials, equipment, tools and related items as required to complete the Project

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Perform Work to comply with Federal, State and Local ordinances and regulations.
- B. Provide materials and equipment that has National Science Foundation 60/61 approval for use in potable water supply systems. Advise the Engineer of any material requirements in these Contract Documents that conflict with National Science Foundation 60/61 requirements.
- C. Comply with the requirements of the various specifications and standards referred to in these Specifications, except where they conflict with the requirements of these Specifications. Such reference specifications and standards shall be the date of latest revision in effect at the time of receiving bids, unless the date is given.
- D. If the abbreviation TxDOT appears in these Specifications, it shall mean the 2004 edition of the Texas Department of Transportation specifications entitled "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES", including all applicable Addenda in effect at the time of receipt of bids. The TxDOT specifications may be obtained from the local Texas Department of Transportation District Office at (800) 558-9368, or may be downloaded via the internet at the following web address:
<http://www.txdot.gov/business/specifications.htm>.

- E. Comply with applicable building codes.
 - 1. Comply with all Federal, State and Local Codes as a minimum or the requirements of these documents if more stringent than codes.
 - 2. All work is to be inspected by the appropriate Code Enforcement Officers, as required.

1.04 LOCATION

- A. The improvements to be constructed herein are located within Milam County, Texas as shown on the location map of the Plans.
- B. Contractor's storage facilities, if necessary, shall be determined by the Contractor. Location of storage facilities is subject to Owner and Engineer approval. All storage costs and transportation are the responsibility of the Contractor.

1.05 PERMITS, CERTIFICATES, LAW AND ORDINANCES

- A. Contractor shall comply with all federal, state and local laws, ordinances or rules and regulations relating to the performance of the work.
- B. Obtain a building permit, if required, for the Project from the local authorities having jurisdiction.
- C. Obtain and pay for all other necessary permits including any and all necessary highway, street and road permits for transporting pipe and/or heavy equipment necessary for construction of the Project.
- D. Obtain and pay for other permits, certificates and licenses required by law necessary to conduct any part of the Work unless said permits have been previously acquired by the Owner and included in the Contract Documents.
- E. Retain copies of permits and licenses at the Site and observe and comply with all regulations and conditions of the permit or license, including additional insurance requirements.
- F. Arrange for inspections and certification by agencies having jurisdiction over the Work.
- G. Make arrangements with private utility companies and pay for fees associated with obtaining services, or for inspection fees.

1.06 MEASUREMENT AND PAYMENT

- A. Measurement and payment shall be as described in the "Bid Form" and Section 01270. Payment shall constitute complete compensation for all work involved in furnishing labor, materials, equipment, tools and related items to execute this contract.

1.07 PUBLIC UTILITY COORDINATION

- A. Construction shall accommodate the Owner's use of the premises during the construction period.
- B. Connection to existing piping may require water and/or wastewater system shutdown(s) or isolation. Contractor shall coordinate connections and shutdown/isolation requirements with the Owner.

- C. At no time shall Contractor or his employees modify operation of the existing water or wastewater treatment, water distribution or wastewater collection systems without permission from the Owner. In an emergency condition, Owner shall be notified immediately.

1.08 CONTRACTOR'S USE OF SITE

- A. Contractor shall assume full responsibility for the protection and safekeeping of all materials and products under this contract, stored at the site.
- B. Limit the use of Site for Work and storage to those areas designated on the Drawings or approved by the Engineer. Coordinate the use of the premises with the Engineer. Contractor shall move any materials or products stored outside the designated storage areas which interfere with operations of the Owner or other contractors, if applicable.
- C. Contractor shall maintain roads and access during construction and restore all roads and surrounding properties to their original condition.
- D. All driveways and thoroughfares cut by trenching or otherwise damaged as a result of the Contractor's operations shall be repaired and resurfaced by the Contractor at his expense. All damaged driveways and thoroughfares shall be resurfaced with like materials equal to or better than the damaged surface. The Contractor shall be responsible for notifying all affected persons prior to cutting driveways. The Contractor shall at all times accommodate any person desiring passage across the open trench.
- E. The Contractor must use public easement and rights-of-way for execution of the work and will at no time enter onto private property. The Owner assumes no responsibility for Contractor equipment left on-site at any time.
- F. The Contractor shall be responsible for any damage that may occur to the existing improvements and facilities as a result of improper construction procedures or negligent practices. The extent of responsibility will be determined by the Owner and or Engineer.
- G. Contractor, during construction, shall coordinate with businesses to provide access during operating hours.
- H. Contractor shall notify all affected businesses and residents 24 hours prior to construction on the adjacent road or street. Notification shall be in the form of a leaflet or door-to-door.
- I. Do not permit alcoholic beverages or illegal substances on the Site. Do not allow persons under the influence of alcoholic beverages or illegal substances to enter or remain on the Site at any time. Persons on Site under the influence of alcoholic beverages or illegal substances will be permanently prohibited from returning to the Site. Criminal or civil penalties may also apply.
- J. Park construction equipment in designated areas only and provide spill control measures as discussed in Section 01500 – Temporary Facilities and Controls.
- K. Park employees' vehicles in designated areas only.
- L. Do not allow the use of audio devices, obnoxious, vulgar or abusive language, or sexual harassment in any form. These actions will cause immediate and permanent removal of the offender from the premises. Criminal or civil penalties may apply.
- M. Require Workers to wear clothing that is inoffensive and meets safety requirements. Do not allow sleeveless shirts, shorts, exceedingly torn, ripped or soiled clothing to be worn on the project.

- N. Do not allow firearms or weapons of any sort to be brought on to the Site under any conditions. No exception is to be made for persons with concealed handgun permits. Remove any firearms or weapons and the person possessing these firearms or weapons permanently and immediately from the Site.

1.09 ACCESS TO THE SITE

- A. Maintain access to the facilities at all times. Do not obstruct roads, pedestrian walks, or access to the various buildings, structures, stairways, or entrances. Provide safe temporary walks or other structures to allow access for normal operations during construction.
- B. Provide adequate and safe access for inspections. Leave ladders, bridges, scaffolding and protective equipment in place until inspections have been completed. Construct additional safe access if required for inspections.
- C. Provide security at the Site as necessary to protect against vandalism and loss by theft.
- D. Use State, County, or City roadways for construction traffic only with written approval of the appropriate representatives of each entity. State, County, or City roadways may not all be approved for construction traffic. Obtain written approval to use State, County, City or private roads to deliver pipe and/or heavy equipment to the Site. Copies of the written approvals must be furnished to the Owner as Record Data before Work begins. No additional compensation will be paid because the Contractor is unable to gain access to the easement from public roadways.

1.10 PROTECTION OF UTILITIES AND PERMANENT STRUCTURES

- A. Examine the project site and review the available information concerning the site. Locate utilities, streets, driveways, fences, drainage structures, sidewalks, curbs, and gutters. Verify the elevations of the structures adjacent to excavations. Report these to the Engineer before beginning construction.
- B. The Contractor shall exercise care when working in the vicinity of existing utility lines. All utilities are **not** shown on the plans. Cutting or breaking of existing telephone lines, water lines, sewer lines, gas lines and oil pipelines shall be avoided. The Contractor shall contact each utility authority and verify location of all utility lines. Such lines, if broken or cut, shall be promptly restored to their original condition by the Contractor at his expense.
- C. Make adequate provisions to maintain the flow of storm sewers, sanitary sewers, drains and water courses encountered during the construction. Provide temporary service around the construction or otherwise construct the structure in a manner that the flow is not curtailed. Restore structures which may have been disturbed during construction to their original position as soon as construction in the area is completed. When active sanitary sewer lines are cut in the excavation operations, temporary flumes shall be constructed across the trench. The lines shall be restored to their original condition and elevation when backfilling has progressed to the original bedding lines.
- D. The Contractor should use care and judgment to realign proposed water mains to avoid disturbing any and all permanent structures situated in and along the proposed route of the water main and note such realignment on the Record Drawings. The term permanent structures includes, but is not limited to, power poles, light poles, and trees. The Contractor shall contact the Engineer in any situation where a permanent structure cannot be avoided.

- E. Protect buildings, utilities, street surfaces, driveways, sidewalks, curb and gutter, fences, wells, drainage structures, piping, valves, manholes, electrical conduits, and other systems or structures unless they are shown to be replaced or relocated on the Drawings. Restore damage to items to be protected to the satisfaction of the Engineer, utility owner and Owner without additional compensation from the Owner.
- F. Protect trees, fences, signs, poles, guy wires, and all other property unless their removal is authorized. Restore any property damaged to equal or better. All fences crossed by the new construction or otherwise damaged as a result of Contractor's operations, shall be repaired at his expense. Repair shall be accomplished immediately after the work has progressed past the damaged areas. The damaged fences shall be mended to a condition equal to, or better than, their existing state.
- G. Carefully support and protect all structures and/or utilities so that there will be no failure or settlement where excavation or demolition endangers adjacent structures and utilities. Do not take existing utilities out of service unless shown in the Contract Documents or approved by the Engineer. Notify and cooperate with the utility owner if it is necessary to move services, poles, guy wires, pipelines or other obstructions.
- H. Protect existing trees and landscaping at the site.
 - 1. Visit site with Engineer to identify trees that may be removed during construction.
 - 2. Mark trees to be removed with paint.
 - 3. Protect trees to remain from damage by wrapping trunks with 2 x 4 timbers around the perimeter, securely wired in place, where machinery must operate around existing trees. Protect branches and limbs from damage by equipment.
- I. Protect buildings from damage when handling material or equipment. Protect finished surfaces, including floors, doors, and jambs. Remove doors and install temporary wood protective coverings over jambs.

1.11 DISRUPTION TO SERVICES / CONTINUED OPERATIONS

- A. Existing facilities are to continue in service as usual during the construction unless noted otherwise. Owner or utilities must be able to operate and maintain the facilities. Disruptions to existing utilities, piping, process piping, or electrical services shall be kept to a minimum.
 - 1. Do not restrict access to critical valves, operators, or electrical panels.
 - 2. Do not store material or products inside structures.
 - 3. Limit operations to the minimum amount of space needed to complete the specified Work.
 - 4. Maintain storm sewers and sanitary sewers in service at all times. Provide temporary service around the construction or otherwise construct the structure in a manner that the flow is not restricted.

1.12 CLEANING DURING CONSTRUCTION

- A. Provide positive methods to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from discharging into the atmosphere. Control dust and dirt from demolition, cutting, and patching operations.
- B. Clean the Project as Work progresses and dispose of waste materials, keeping the Site free from accumulations of waste or rubbish. Provide containers on Site for waste collection. Do

not allow waste materials or debris to blow around or off of the Site. Control dust from waste materials. Transport waste materials with as few handlings as possible.

- C. Comply with codes, ordinances, regulations, and anti-pollution laws. Do not burn or bury waste materials. Remove waste materials, rubbish and debris from the Site and legally dispose of these at public or private dumping areas.

1.13 MAINTENANCE OF ROADS, DRIVEWAYS AND ACCESS

- A. Maintain roads and streets in a manner that is suitable for safe operations of public vehicle during all phases of construction unless the Owner approves a street closing. Submit a written request for Owner's approval of a street closing. The request shall state:
 - 1. The reason for closing the street.
 - 2. How long the street will remain closed.
 - 3. Procedures to be taken to maintain the flow of traffic.
 - 4. Do not close public roads overnight.
- B. Construct temporary detours, including by-pass roads around construction, with adequately clear width to maintain the free flow of traffic at all times. Maintain barricades, signs, and safety features around the detour and excavations.
- C. Maintain barricades, signs, and safety features around the Work in accordance with all provisions of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- D. Assume responsibility for any damage resulting from construction along roads or drives.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01270
BID ITEM DESCRIPTIONS

PART 1 GENERAL

1.01 GENERAL INFORMATION

- A. This section of the Specifications covers the components considered to be a portion of each pay item as may or may not be listed in the Unit Price Schedule and is furnished to aid the Contractor in preparing his bid.
 - 1. Of necessity, the items described as components of the various items are discussed in a general manner only, describing the major pieces of equipment and/or materials.
 - 2. Any items and/or appurtenances not specifically mentioned shall be considered a portion of the bid item to which, in the opinion of the Engineer, its function is most directly related.
 - 3. Failure to list all items and/or appurtenances does not relieve the Contractor from furnishing all apparatuses, devices, labor, or materials of whatever nature required for a complete and operating installation in accordance with the intent of the Drawings, approved Shop Drawings, and the Specifications.
- B. The successful Contractor shall, as soon as possible after award of the Contract, submit a list itemizing the components of each Lump Sum Bid Item and their respective costs to be used as an aid in the preparation of partial payments.
- C. The work called for by these Contract Documents shall be paid for under a single contract on a unit price basis.
- D. The total price bid shall constitute full compensation for all work indicated on the bid proposal.
- E. Partial payments shall be made to the Contractor based on monthly estimates submitted to the Engineer for approval in accordance with the General and Supplemental Conditions.
- F. All estimates for partial payment shall be based on completed work and corresponding dollar amounts as provided in the bid proposal and in accordance with the following schedule.
- G. Estimated Quantities
 - 1. Where estimated quantities are shown for the various classes of work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the work and for comparing the proposals offered for the work.
 - 2. It is understood that the actual amount of work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis of payment is the unit price method, payment shall be made for the actual amount of work done and the material furnished.
- H. The items for which payment is to be made to the Contractor are listed in the Proposal.
 - 1. Reference to any other statements in the Standard Specifications, which refer to additional pay items are hereby deleted.

2. Items shown on the plans for which there is no payment item included in the Bid Proposal shall be considered subsidiary to the other major bid items.

1.02 BASE BID

A. Mobilization, Insurance, and Bonding:

1. Item shall consist of all preparatory work and operations, including but not limited to insurance and bonds; those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings, and other facilities necessary for work on the project; and for all work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.
2. All work covered by this section shall be paid for at the contract lump sum price for "Mobilization."
3. Item shall include all cost associated with the coordination and payment for the right-of-entry permits, flagging, liability insurance, and appurtenances associated with the installation of utilities under the railroad.
4. Partial payments for this item shall be made with the first and second partial pay estimates paid on the contract, and shall be made at the rate of fifty percent (50%) of the lump sum price for "Mobilization, Insurance, & Bonding" on each of these partial pay estimates, provided the amount bid for "Mobilization, Insurance, & Bonding" does not exceed five percent (5%) of the total amount bid for the contract.
5. Where the amount bid for "Mobilization, Insurance & Bonding" exceeds five percent (5%) of the total amount bid for the contract, two and one-half percent ($2\frac{1}{2}\%$) of the total amount bid shall be paid on each of the first two partial pay estimates, and that portion exceeding five percent (5%) shall be paid on the last partial pay estimate.

B. Barricades, Signs, and Traffic Handling

1. Item shall consist of furnishing all labor, materials, supplies, equipment and appurtenances necessary to install and maintain the required barricades, signs, and other traffic handling devices throughout the duration of the project.
2. The work and materials as prescribed by this item shall be paid for as lump sum for Barricades, Signs, and Traffic Handling.
3. A portion of the total lump sum shall be paid monthly as approved by the Engineer.
4. Payment for this item shall be made on a monthly basis through the end of the original contract time at a rate equal to the total lump sum bid amount divided by the original contract time in months. Total payment for this item shall not exceed the lump sum bid amount.

C. Clearing and Grubbing

1. Item shall consist of furnishing all tools, equipment, materials, and labor to remove the existing trees, roots, brush, debris, sod, fences, fence fabric, concrete, asphalt, and appurtenances as shown on the Plans and/or as specified as well as loading, transporting, and properly dispose of items off-site at a permitted disposal site.

2. Measurement and payment of this item shall be per lump as approved by the Engineer.
 3. No separate payment shall be made for loading, hauling, or transporting (except as provided in other pay items), which shall be considered subsidiary to clearing, grubbing, and demolishing items at the project site(s).
 4. Payment for this item shall be made on a monthly basis through the end of the original contract time at a rate equal to the total lump sum bid amount divided by the original contract time in months. Total payment for this item shall not exceed the lump sum bid amount.
- D. Site Restoration (Seeding/Sodding)
1. Item shall consist of furnishing all tools, equipment, materials and labor necessary to grade the project area for proper drainage, replace topsoil, broadcast seeding, fertilizer, watering, and other miscellaneous site improvements required for a complete project in accordance with the Contract Documents.
 2. Temporary cool weather seeding shall be subsidiary to this bid item
 3. Payment for this item shall be per lump sum.
- E. Pipe Trench Excavation Safety
1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to develop and implement a trench safety plan for the installation of the water lines, sewer lines, bore pits, and receiving pits in accordance with the requirements of the Specifications.
 2. Item shall include all cost associated with the purchase or rental and installation of sheeting, piling, trench boxes or other safety measures required for the trench safety system.
 3. No additional payment shall be made for rented equipment, Contractor's equipment, or materials used or damaged during the installation, use, and/or removal of equipment and materials whether owned, rented, or leased by the Contractor or his subcontractors.
 4. Payments for trench safety shall be at the contract price per linear foot as shown in the proposal.
 5. No evaluation of the adequacy of the trench safety systems used by the Contractor shall be made by the Engineer. The means, methods and responsibility for trench safety rests solely with the Contractor.
 6. By approving the Contractor's request for payment of excavation safety, the Engineer makes no representation that the Contractor's work for this pay item has been performed in a manner consistent with the Contract Documents and/or local, State, or Federal laws.
- F. Connect to Existing Waterline – All Sizes
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, tapping sleeve and tapping valve, valve box, excavation, backfill, compaction, locating existing waterline, gravel surface repair, concrete surface repair, asphalt surface repair and other appurtenances necessary to connect a

- proposed 6" waterline to an existing 6" waterline as detailed on the Plans and in these Specifications.
2. Measurement and payment for this item shall be at the contract unit price bid per each.
- G. Cut and Plug Existing Waterline – All Sizes
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, and other appurtenances necessary to abandon an existing waterline as detailed on the Plans and in these Specifications.
 2. Measurement and payment for this item shall be at the contract unit price bid per each.
- H. Furnish and Install 6" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, tracer wire, jointing of pipe, thrust blocks, installation of pipe in casing, embedment, and other appurtenances necessary to construct 6-in C900 PVC waterline as detailed on the Plans and Specifications.
 2. Measurement and payment of this item shall be per horizontal linear foot based on ground surface field measurements and as approved by the Engineer.
 3. This item includes all fittings required to route proposed waterline to existing waterline at desired connection points.
 4. No separate payment will be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to the item of waterline.
 5. The unit price for 6-in C900 PVC waterline shall be applicable to all depths of cut. Any adjustments to the proposed waterline to avoid conflicts with obstructions shall be subsidiary to the unit price for 6-in C900 PVC waterline.
- I. Furnish and Install 6" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 6-in C900 RJ DR18 PVC waterline by directional drill as shown on the Plans and described in the Specifications.
 2. Material and installation cost for the 6-in waterline **ARE** included in this bid item.
 3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- J. Furnish and Install 6" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 6-in C900 DR18 PVC waterline by wet bore as shown on the Plans and described in the Specifications.
 2. Material and installation cost for the 6-in waterline **ARE** included in this bid item.
 3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- K. Furnish and Install 8" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, tracer wire, jointing of pipe, thrust blocks, installation of pipe in casing, embedment, and other appurtenances necessary to construct 8-in C900 PVC waterline as detailed on the Plans and Specifications.
 2. Measurement and payment of this item shall be per horizontal linear foot based on ground surface field measurements and as approved by the Engineer.
 3. This item includes all fittings required to route proposed waterline to existing waterline at desired connection points.
 4. No separate payment will be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to the item of waterline.
 5. The unit price for 8-in C900 PVC waterline shall be applicable to all depths of cut. Any adjustments to the proposed waterline to avoid conflicts with obstructions shall be subsidiary to the unit price for 6-in C900 PVC waterline.
- L. Furnish and Install 8" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified
3. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 8-in C900 RJ DR18 PVC waterline by directional drill as shown on the Plans and described in the Specifications.
 4. Material and installation cost for the 8-in waterline **ARE** included in this bid item.
 5. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 6. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- M. Furnish and Install 8" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 8-in C900 DR18 PVC waterline by wet bore as shown on the Plans and described in the Specifications.
 2. Material and installation cost for the 8-in waterline **ARE** included in this bid item.
 3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- N. Furnish and Install 12" AWWA C900 DR 18 PVC Pipe with Tracer Wire as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, tracer wire, jointing of pipe, thrust blocks, installation of pipe in casing, embedment, and other appurtenances necessary to construct 12-in C900 PVC waterline as detailed on the Plans and Specifications.
 2. Measurement and payment of this item shall be per horizontal linear foot based on ground surface field measurements and as approved by the Engineer.
 3. This item includes all fittings required to route proposed waterline to existing waterline at desired connection points.
 4. No separate payment will be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to the item of waterline.
 5. The unit price for 12-in C900 PVC waterline shall be applicable to all depths of cut. Any adjustments to the proposed waterline to avoid conflicts with obstructions shall be subsidiary to the unit price for 6-in C900 PVC waterline.
- O. Furnish and Install 12" AWWA C900/RJ DR 18 PVC Pipe by Directional Drill as shown and specified
5. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 6-in C900 RJ DR18 PVC waterline by directional drill as shown on the Plans and described in the Specifications.
 6. Material and installation cost for the 12-in waterline **ARE** included in this bid item.
 7. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 8. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- P. Furnish and Install 12" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 12-in C900 DR18 PVC waterline by wet bore as shown on the Plans and described in the Specifications.
2. Material and installation cost for the 12-in waterline **ARE** included in this bid item.
3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.

Q. Concrete Encasement for 6" Waterline by Open Cut as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to install 6" concrete encasement as shown on the detail sheets or as directed by the Engineer.
2. Material and installation cost for the 6-in waterline **IS** included in this bid item. Payment for the pipe shall be included in the 6-in C900 PVC Waterline Bid Item.
3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.

R. Furnish and Install New Fire Hydrant Assembly

1. Item shall consist of furnishing all tools, equipment, materials, and labor including fire hydrant, 6-in gate valve, 6-in piping, swivel anchor couplings, valve box, tee or boss on new main, concrete blocking, gravel fill, and other appurtenances necessary to install a complete and operable fire hydrant assembly as detailed in the Plans and Specifications.
2. Measurement and payment for this item shall be per each complete fire hydrant assembly installed and as approved by the Engineer.

S. Reconnect to Existing Fire Hydrant

1. Item shall consist of furnishing all tools, equipment, materials, and labor including 6-in gate valve, 6-in piping, swivel anchor couplings, valve box, tee or box on new main, concrete blocking, gravel fill, and other appurtenances necessary to reconnect to an existing and operable fire hydrant assembly as detailed in the Plans and Specifications.
2. Measurement and payment for this item shall be per each complete fire hydrant assembly reconnected and as approved by the Engineer.

T. Furnish and Install 8" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, valve signs, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install gate valves as detailed on the Plans and in the Specifications.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each 8-in gate valve installed and approved by the Engineer.
- U. Furnish and Install 6" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, valve signs, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install gate valves as detailed on the Plans and in the Specifications.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each 6-in gate valve installed and approved by the Engineer.
- V. Short Side Water Service Reconnection
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, gravel surface repair, concrete surface repair, asphalt surface repair and other appurtenances necessary to disconnect existing water services from the existing waterline and reconnected the service to the new waterline as detailed on the Plans and in these Specifications.
 2. Measurement and payment for this item shall be at the contract unit price bid per each.
- W. Long Side Water Service Reconnection
1. Item shall consist of furnishing all tools, equipment, materials, and labor including carrier pipe, road bore, fittings, excavation, backfill, compaction, gravel surface repair, concrete surface repair, asphalt surface repair and other appurtenances necessary to disconnect existing water services from the existing waterline and reconnected the service to the new waterline as detailed on the Plans and in these Specifications.
 2. For project areas within TxDOT ROW, Item shall include all costs associated with encasement of service lines per TxDOT standards and requirements.
 3. Measurement and payment for this item shall be at the contract unit price bid per each.
- X. Remove and Replace Existing Meter and Meter Box
1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to replace existing water service meter with an operable AMR metering equipment and compatible meter box as called out in the plans and specifications.

2. Measurement and payment for this item shall be per each meter and meter box installed and approved by the Engineer.
- Y. Furnish and Install 6" Air Release valve as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, valve signs, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install air release valves as detailed on the Plans and in the Specifications.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each air release valve installed and approved by the Engineer.
- Z. Saw Cut and Repair Concrete Pavement
1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to complete asphalt pavement repairs as shown on the Plans and as described in the Specifications.
 2. The unit bid price per square yard shall include saw cut of existing concrete pavement to form straight and uniform lines for a neat finish appearance, backfill as required, dowels into existing payment, rebar reinforcement for new concrete, concrete depth to match existing concrete depth, and related appurtenances for complete restoration of existing concrete pavement.
 3. The quantities provided in the Plans are based upon an assumed surface repair width as indicated and has been provided as basis for bidding. Additional surface repair widths required for the Contractor's excavation and trench safety procedures shall be subsidiary to the unit price for this item.
 4. Measurement and payment shall be made per square yard of asphalt pavement repair constructed and accepted by the Engineer.
 5. No payment shall be made for pavement damaged by the Contractor outside of the work area or damage due to lack of care and protection by the Contractor
- AA. Saw Cut and Repair Asphalt Pavement
1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to complete asphalt pavement repairs as shown on the Plans and as described in the Specifications.
 2. The unit bid price per square yard shall be full compensation for saw cutting of existing pavement, removal of existing pavement materials regardless of type or thickness, asphalt, gravel, prime coat, tack coat, excavation, hauling, placing, compacting, and appurtenances necessary to complete the work.
 3. The quantities provided in the Plans are based upon an assumed surface repair width as indicated and has been provided as basis for bidding. Additional surface repair widths required for the Contractor's excavation and trench safety procedures shall be subsidiary to the unit price for this item.

4. Measurement and payment shall be made per square yard of asphalt pavement repair constructed and accepted by the Engineer.
5. No payment shall be made for pavement damaged by the Contractor outside of the work area or damage due to lack of care and protection by the Contractor

BB. Filter Fabric Fence:

1. Item shall consist of furnishing all tools, equipment, materials and labor necessary to construct filter fabric fence for the purpose of erosion control and prevention as detailed on the Plans and in the Specifications.
2. Measurement and payment for this item shall be per linear foot of filter fabric fence constructed as approved by the Engineer. Contractor shall maintain, repair, and replace damaged filter fabric fence at no additional cost to the Owner.
3. The unit price shall include initial installation, maintenance, repair, and replacement during the entire construction activity. The Contractor shall keep all filter fabric fence in good condition at all times during construction. No additional payment shall be made for repair and replacement of placed filter fabric fence.
4. This item is distinct and separate from storm water pollution prevention. This item shall be installed in addition to storm water pollution prevention measures when directed by the Engineer.

CC. Waterline Testing and Disinfection

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to test and disinfect water lines in accordance with the requirements of the Specifications and the TCEQ.
2. Payments for water line testing and disinfection shall be at the contract price per lump sum.

DD. Foundation Material for Trench:

1. Item shall consist of furnishing all tools, equipment, materials, and labor to install pipe foundation material as shown on the Detail Sheets of the Plans or as directed by the Engineer.
2. Measurement and Payment for this item shall be based on a cubic yard basis as approved by the Engineer.
3. Payment shall not be made unless the foundation material is specifically directed to be installed by the Engineer.
4. This item is distinct and separate from other classes of embedment, which is NOT a pay item, but considered subsidiary to the price for the utility installation.
5. This item is distinct and separate from gravel or other foundation materials which must be used as temporary or permanent surfaces for roadways or driveways or materials used to provide a foundation for boring activities.

EE. Concrete Encasement for 8" Waterline by Open Cut as shown and specified

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to install 8" concrete encasement as shown on the detail sheets or as directed by the Engineer.
2. Material and installation cost for the 8-in waterline **NOT** included in this bid item. Payment for the pipe shall be included in the 8-in C900 PVC Waterline Bid Item.
3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.

FF. Highway Bore w/18-in O.D. x 0.375-in Steel Encasement

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to furnish and install the 18-in diameter steel encasement pipe by dry, auger bore including casing, end seals, casing spacers, and appurtenances as detailed in the Plans and Specifications.
2. Directional drilling shall not be considered equivalent to dry boring.
3. Material and installation cost for the waterline **NOT** included in this bid item. Payment for the pipe shall be included in the respective PVC Waterline Bid Item.
4. Measurement and payment for this item shall be based on per horizontal linear foot of steel casing complete and in place as shown in the Bid Proposal and as approved by the Engineer.

GG. Saw Cut and Repair Gravel Pavement

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary for repair of existing gravel drives following installation of waterline including removal of existing gravel, excavation, backfill, compaction, gravel, and appurtenances as detailed in the Plans and Specifications.
2. Measurement and payment for this item shall be based on per square yard of gravel pavement open cut and repaired as approved by the Engineer.
3. No payment shall be made for gravel drives damaged by the Contractor outside of the construction area or damaged due to lack of care and protection by the Contractor as determined by the Engineer.

HH. Saw Cut and Repair Concrete Sidewalk

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to complete asphalt pavement repairs as shown on the Plans and as described in the Specifications.
2. The unit bid price per square yard shall include saw cut of existing concrete pavement sidewalk to form straight and uniform lines for a neat finish appearance, backfill as required, dowels into existing pavement, rebar reinforcement for new concrete, concrete depth to match existing concrete depth, and related appurtenances for complete restoration of existing concrete pavement.

3. The quantities provided in the Plans are based upon an assumed surface repair width as indicated and has been provided as basis for bidding. Additional surface repair widths required for the Contractor's excavation and trench safety procedures shall be subsidiary to the unit price for this item.
 4. Measurement and payment shall be made per square yard of asphalt pavement repair constructed and accepted by the Engineer.
 5. No payment shall be made for pavement damaged by the Contractor outside of the work area or damage due to lack of care and protection by the Contractor
- II. Furnish and Install 2" Schedule 80 PVC Waterline Pipe with Tracer Wire as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, tracer wire, jointing of pipe, thrust blocks, installation of pipe in casing, embedment, tapping saddles, corporation stops, and other appurtenances necessary to construct 2-in schedule 80 PVC waterline as detailed on the Plans and Specifications.
 2. Measurement and payment of this item shall be per horizontal linear foot based on ground surface field measurements and as approved by the Engineer.
 3. This item includes all fittings required to route proposed waterline to existing waterline at desired connection points.
 4. No separate payment will be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to the item of waterline.
 5. The unit price for 2-in schedule 80 PVC waterline shall be applicable to all depths of cut. Any adjustments to the proposed water line or additional fittings required to avoid conflicts with obstructions shall be subsidiary to the unit price for 2-in schedule 80 PVC waterline.
- JJ. Furnish and Install 2" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, valve signs, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install gate valves as detailed on the Plans and in the Specifications.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each 2-in gate valve installed and approved by the Engineer.
- KK. Furnish and Install 4" AWWA C900 DR 18 PVC Waterline Pipe with Tracer Wire as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including pipe, fittings, excavation, backfill, compaction, tracer wire, jointing of pipe, thrust blocks, installation of pipe in casing, embedment, and other appurtenances

- necessary to construct 4-in C900 PVC waterline as detailed on the Plans and Specifications.
2. Measurement and payment of this item shall be per horizontal linear foot based on ground surface field measurements and as approved by the Engineer.
 3. This item includes all fittings required to route proposed waterline to existing waterline at desired connection points.
 4. No separate payment will be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to the item of waterline.
 5. The unit price for 4-in C900 PVC waterline shall be applicable to all depths of cut. Any adjustments to the proposed waterline to avoid conflicts with obstructions shall be subsidiary to the unit price for 4-in C900 PVC waterline.
- LL. Furnish and Install 4" AWWA C900 DR 18 PVC Pipe by Wet Bore as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including piping, excavation, backfill, and compaction of pits necessary to install 4-in C900 DR18 PVC waterline by wet bore as shown on the Plans and described in the Specifications.
 2. Material and installation cost for the 6-in waterline **ARE** included in this bid item.
 3. Measurement and payment for this item shall be based on per horizontal linear foot complete and in place as approved by the Engineer.
 4. No separate payment shall be made for right-of-way clearing and restoration (except as provided in other pay items), which shall be considered subsidiary to this item.
- MM. Furnish and Install 4" Gate Valve Assembly with 2" Operating Nut and Valve Box as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, valve signs, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install gate valves as detailed on the Plans and in the Specifications.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each 4-in gate valve installed and approved by the Engineer.
- NN. Furnish and Install 4-in Flush Valve Assembly as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install flush valves as shown on the detail sheets.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**

3. Measurement and payment of this item shall be per each 4-in flush valve installed and approved by the Engineer.
- OO. Furnish and Install 2-in Flush Valve Assembly as shown and specified
1. Item shall consist of furnishing all tools, equipment, materials, and labor including, fittings, valves, valve boxes, concrete pads, excavation, backfill, compaction, jointing of pipe, embedment, thrust blocks, and other appurtenances necessary to install flush valves as shown on the detail sheets.
 2. **All valve locations are to be photographed upon installation, and GPS location shall be recorded before final approval will be given by the City. GPS locations and associated photographs are to be submitted to the Engineer.**
 3. Measurement and payment of this item shall be per each 2-in flush valve installed and approved by the Engineer.

SECTION 01310
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Administer contract requirements to construct the project. Provide documentation per the requirements of this Section. Provide information as requested by the Engineer or Owner.
- B. Furnish equipment, manpower, products, and other items necessary to complete the Project with an acceptable standard of quality and within the contract time. Construct Project in accordance with current safety practices.
- C. Manage Site to allow access to Site and control construction operations.
- D. Provide labor, materials, equipment and incidentals necessary to construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed.
- E. Construct temporary impounding works, channels, diversions, furnishing and operation of pumps, installing piping and fittings, and other construction for control of conditions at the Site. Remove temporary controls at the end of the Project.
- F. Provide temporary controls for pollutions, management of water and management of excess earth as required.
- G. Cost for Project Management and Coordination as described in this section are to be included in the Contract Price.

1.02 QUALITY ASSURANCE

- A. Employ competent workmen, skilled in the occupation for which they are employed. Provide Work meeting quality requirements of the Contract Documents as determined by the Engineer and Owner.
- B. Remove defective Work from the Site immediately unless provisions have been made and approved by the Engineer to allow repair of the product at the Site. Clearly mark the Work as "defective" until it is removed or allowable repairs have been completed.

1.03 SUBMITTALS

- A. Provide submittals in accordance with Section 01330 – Shop Drawings and Submittals:
 - 1. Provide copies of Supplier's printed storage instructions prior to furnishing materials or products and installation instructions prior to beginning the installation. Maintain one copy of these documents at the Site until the Project is complete. Incorporate this information into submittals.
 - 2. Incorporate field notes, sketches, recordings, and computations made by the Contractor in Record Drawings.

1.04 COMMUNICATION DURING THE PROJECT

- A. The Engineer is to be the first point of contact for all parties on matters concerning this project.

- B. The Engineer will coordinate correspondence concerning:
 - 1. Submittals, including Applications for Payment
 - 2. Clarification and interpretation of the Contract Documents
 - 3. Contract modifications
 - 4. Observation of work and testing
 - 5. Claims
- C. The Engineer will normally communicate only with the Contractor. Any required communication with Subcontractors or Suppliers will only be with the direct involvement of the Contractor.
- D. Direct written communications to the Engineer at the address indicated at the Pre-construction Conference. Include the following with communications as a minimum:
 - 1. Name of the Owner
 - 2. Project name
 - 3. Contract title
 - 4. Project number
 - 5. Date
 - 6. A reference statement
- E. Submit communications on the forms referenced in this Section or in Section 01330 – Shop Drawings and Submittals.

1.05 PROJECT MEETINGS

- A. Pre-construction Conference
 - 1. Attend a pre-construction meeting.
 - 2. The location of the conference will be determined by the Engineer.
 - 3. The time of the meeting will be determined by the Engineer but will be after the Notice of Award is issued and not later than fifteen (15) days after the Notice to Proceed is issued.
 - 4. The Owner, Engineer, representatives of utility companies, the Contractor's project manager and superintendent, and representatives from major Subcontractors and Suppliers.
 - 5. Provide and be prepared to discuss:
 - a. Preliminary construction schedule per Section 01320 – Construction Progress Schedule.
 - b. Preliminary submittal schedule per Section 01330 – Shop Drawings and Submittals.
 - c. Schedule of values and anticipated schedule of payments.
 - d. List of Subcontractors and Suppliers.
 - e. Contractor's organizational chart as it relates to this project.

- f. Letter indicating the agents of authority for the Contractor and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests.
 - 6. Letter indicating the agents of authority for the Contractor and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests.
- B. Progress Meetings
 - 1. Attend meetings with the Engineer and Owner.
 - a. Meet on a monthly basis or as requested by the Engineer to discuss the project.
 - b. Meet at the project site or other location as designated by the Engineer.
 - c. Contractor's superintendent and other key personnel are to attend the meeting. Other individuals may be requested to attend to discuss specific matters.
 - d. Notify the Engineer of any specific items to be discussed a minimum of one week prior to the meeting.
 - 2. Provide information as requested by the Engineer or Owner concerning this project. Prepare to discuss:
 - a. Status of overall project schedule
 - b. Contractor's detailed schedule for the next month
 - c. Anticipated delivery dates for equipment
 - d. Coordination with the Owner
 - e. Status of submittals
 - f. Information or clarification of the Contract Documents
 - g. Claims and proposed modifications to the contract
 - h. Field observations, problems, or conflicts
 - i. Maintenance of quality standards
 - 3. Engineer will prepare minutes of meetings. Review the minutes of the meeting and notify the Engineer of any discrepancies within ten days of the date of the meeting memorandum. The minutes will not be corrected after the ten days have expired. Corrections will be reflected in the minutes of the following meeting or as an attachment to the minutes.
- C. Pre-submittal and Pre-installation Meetings
 - 1. Conduct pre-submittal and pre-installation meetings as required in the individual technical Specifications or as determined necessary by the Engineer (for example, instrumentation, roofing, concrete mix design, etc.).
 - 2. Set the time and location of the meetings when ready to proceed with the associated Work. Submit a Notification by Contractor in accordance with paragraph 1.08 for the meeting two weeks before the meeting. Engineer and Owner must approve of the proposed time and location.

3. Attend the meeting and require the participation of appropriate Subcontractors and Suppliers in the meeting.
4. Prepare minutes of the meeting and submit to the Engineer and Owner for review. Owner and Engineer will review the minutes of the meeting and notify the Contractor of any discrepancies within ten days of the date of the meeting memorandum. The minutes will not be corrected after the ten days have expired. Corrections will be reflected in a revised set of meeting minutes.

1.06 REQUESTS FOR INFORMATION

- A. Submit Request for Information (RFI) to the Engineer to obtain additional information or clarification of the Contract Documents.
 1. Submit a separate RFI for each item on the form provided by the Engineer.
 2. Attach adequate information to permit a written response without further clarification. Engineer will return requests that do not have adequate information to the Contractor for additional information. Contractor is responsible for all delays resulting from multiple submittals due to inadequate information.
 3. A response will be made when adequate information is provided. Response will be made on the RFI form or in attached information.
- B. Response to an RFI is given to provide additional information, interpretation or clarification of the requirements of the Contract Documents and does not modify the Contract Documents.
- C. Engineer will initiate a Contract Modification Request per Paragraph 1.09 if the RFI indicates that a contract modification is required.
- D. Use a Project Issues Log to document decisions made at meetings and actions to be taken in Accordance with Paragraph 1.07.

1.07 PROJECT ISSUES LOG

- A. Engineer will maintain a project issues log to document key decisions made at meeting and track action on these issues:
 1. Review the log prior to each regular meeting.
 2. Report actions taken subsequent to the previous progress meeting on items in the log assigned to the Contractor or through the Contractor to a Subcontractor or Supplier to the Engineer. Report on status of progress one week prior to each progress meeting established in Paragraph 1.05 to allow Engineer to update the log prior to the Progress meetings.
 3. Be prepared to discuss the status at each meeting.
- B. Decisions or action items in the log that require a change in the Contract Documents will have the preparation of a contract modification as an action item, if appropriate. The Contract Documents can only be changed by a Change Order or Field Order.

1.08 NOTIFICATION BY CONTRACTOR

- A. Notify the Engineer of:
 - 1. Need for testing
 - 2. Intent to work outside regular working hours
 - 3. Request to shut down facilities or utilities
 - 4. Proposed utility connections
 - 5. Required observation by Engineer or inspection agencies prior to covering work
 - 6. Training
- B. Provide notification a minimum of two (2) weeks in advance in order to allow Owner and Engineer time to respond appropriately to the notification.

1.09 REQUESTS FOR MODIFICATIONS

- A. Submit a request to the Engineer for any change in the Contract Documents.
 - 1. Assign a number to the Contract Modification Request when issued.
 - 2. Include with the Contract Modification Request:
 - a. A complete description of the proposed modification.
 - b. The reason the modification is requested.
 - c. A detailed breakdown of the cost of the change (necessary only if the modification requires a change in contract amount). The itemized breakdown is to include:
 - 1) List of materials and equipment to be installed
 - 2) Man hours for labor by classification
 - 3) Equipment used in construction
 - 4) Consumable supplies, fuels and materials
 - 5) Royalties and patent fees
 - 6) Bonds and insurance
 - 7) Overhead and profit
 - 8) Field office costs
 - 9) Home office cost
 - 10) Other items of cost
 - d. Provide the level of detail outline in the paragraph above for each Subcontractor or Supplier actually performing the Work if work is to be provided by a Subcontractor or Supplier. Indicate appropriate Contractor mark-ups for Work provided through Subcontractors and Suppliers. Provide the level of detail outline in the paragraph above for self-performed Work.
 - e. Provide a revised schedule indicating the effect on the critical path for the project and a statement of the number of days the project may be delayed by the modification.

3. Submit a Contract Modification Request to the Engineer to request a field change.
 4. A Contract Modification Request is required for all substitutions or deviations from the Contract Documents.
 5. Engineer will evaluate the request for a contract modification.
- B. Owner will initiate changes through the Engineer.
1. Engineer will prepare a description of proposed modifications to the Contract Documents.
 2. Engineer will assign a number to the Contract Modification Request when issued.
 3. Return the Contract Modification Request with a proposal to incorporate the requested change. Include a breakdown of costs into materials and labor in detail outline above to allow evaluation by the Engineer.
- C. Engineer will issue a Field Order or a Change Order per the General Conditions if a contract modification is appropriate.
1. Modifications to the contract can only be made by a Field Order or a Change Order.
 2. Changes in the project will be documented by a Field Order or by a Change Order.
 3. Field Orders may be issued by the Engineer for contract modifications that do not change the Contract Price or Contract Time.
 4. Any modifications that require a change in Contract Price or Contract Time can only be approved by Change Order.
 - a. Proposals issued by the Contractor in response to a Contract Modification Request will be evaluated by the Engineer.
 - b. If a Change Order is recommended, the Engineer will prepare the Change Order.
 - c. The Change Order will be sent to the Contractor for execution with a copy to the Owner recommending approval.
 - d. Change Orders can only be approved by the Owner.
 - 1) Work performed on the proposed contract modifications prior to the approval of the Change Order will be performed at the Contractor's risk.
 - 2) No payment will be made for work on Change Orders until approved by the Owner.
- D. The Contractor may be informed that the Contract Modification Request is not approved and construction is to proceed in accordance with the Contract Documents.

1.10 RECORD DOCUMENTS

- A. Maintain at the site one complete record copy of:
1. Drawings
 2. Specifications
 3. Addenda

4. Contract modifications
 5. Approved Shop Drawings and record data
 6. One set of construction photographs
 7. Test records
 8. Clarifications and other information provided in Request for Information responses
 9. Reference standards
- B. Store documents and samples in the Contractor's field office or other storage location approved by the Engineer.
1. Documents are to remain separate from documents used for construction. Do not use these documents for construction.
 2. Provide a secure storage space for the storage of samples.
 3. Maintain documents in clean, dry, legible conditions and in good order.
 4. Make documents and samples available at all times for inspection by the Engineer and Owner.
- C. Marking Drawings
1. Label each document as "Project Record" in large printed letters.
 2. Record information as construction is being performed.
 - a. Do not conceal any Work until the required information is recorded.
 - b. Mark drawings to record actual construction, including the following:
 - 1) Depths of various elements of the foundation in relation to finished first floor datum or the top of walls.
 - 2) Horizontal and vertical locations of underground utilities and appurtenances constructed and existing utilities encountered during construction.
 - 3) Location of internal utilities and appurtenances concealed in the construction. Refer measurements to permanent structure on the surface. Include the following equipment:
 - a) Piping
 - b) Ductwork
 - c) Equipment and control devices requiring periodic maintenance or repair
 - d) Valves, unions, traps and tanks
 - e) Services entrance
 - f) Feeders
 - g) Outlets
 - 4) Changes of dimension and detail
 - 5) Changes made by Field Order and Change Order

- 6) Details not on the original Drawings. Include field verified dimensions and clarifications, interpretations and additional information issued in response to RFI's.
- c. Mark Specifications and Addenda to identify products provided.
 - 1) Record product name, trade name, catalog number and each Supplier (with address and phone number) of each product and item of equipment actually installed.
 - 2) Record changes made by Field Order and Change Order.
- d. Mark additional Work or information in erasable pencil.
 - 1) Use red for new or revised indication.
 - 2) Use purple for Work deleted or not installed (lines to be removed).
 - 3) Highlight items constructed per the Contract Documents in yellow.
- e. Submit record documents to Engineer for review and acceptance 30 days prior to final completion of the project.
 - 1) Provide one (1) set of marked-up drawings.
 - 2) Provide one (1) set of specifications.
- D. Applications for Payment will not be recommended for payment if record documents are found to be incomplete or not in order. Final payment will not be recommended without complete record documents.

1.11 SAFETY REQUIREMENTS

- A. Assume sole responsibility for safety at the Site. Protect the safety and welfare of persons at the Site.
- B. Provide safe access to move through the Site. Provide and maintain barricades, guard rails, covered walkways, and other protective devices to warn and protect from hazards at the Site.
- C. Comply with latest provisions of the Occupational Health and Safety Administration and other regulatory agencies in performing Work.
- D. Cooperate with accident investigations related to the Site. Provide two copies of all reports, including insurance company reports, if requested by the Owner, prepared concerning accidents, injury, or death on the Site to the Engineer as Record Data per Section 01330 – Shop Drawings and Submittals.

1.12 COORDINATION

- A. Coordinate the Work of various trades having interdependent responsibilities for installing, connecting to, and placing equipment in service.
- B. Coordinate requests for substitutions to provide compatibility of space, operating elements, effect on the Work of other trades, and on the Work scheduled for early completion.
- C. Coordinate the use of Project space and the sequence of installation of equipment, elevators, walks, mechanical, electrical, plumbing, or other Work that is indicated diagrammatically on the Drawings.

1. Follow routings shown for tubes, pipes, ducts, conduits, and other items as closely as practical, with due allowance for available physical space.
 2. Utilize space efficiently to maximize accessibility for Owner's maintenance and repairs.
 3. Schematics are diagrammatic in nature. Adjust routing of piping, ductwork, utilities, and location of equipment as needed to resolve spatial conflicts between the various trades. Document the actual routing on the Record Drawings.
- D. Conceal ducts, pipes, wiring, and other non-finish items in finished areas, except as otherwise shown. Coordinate locations of concealed items with finish elements.
- E. Coordinate with architectural reflected ceiling plans the exact location and dimensioning of items which occur within hung ceilings. Request clarification from the Engineer prior to proceeding with fabrication or installation if a conflict exists.
- F. Schedule construction activities in sequence required to obtain best results where installation of one part of the Work is dependent on installation of other components, either before or after its own installation.
- G. Make adequate provisions to accommodate items scheduled for later installation, including:
1. Accepted alternates,
 2. Installation of products purchased with allowances,
 3. Work by others, and
 4. Owner-supplied, Contractor-installed items.
- H. Sequence, coordinate, and integrate the various elements of mechanical, electrical, and other systems, materials, and equipment. Comply with the following requirements:
1. Coordinate mechanical and electrical systems, equipment, and materials installation with other building components.
 2. Verify all dimensions by field measurements.
 3. Arrange for chases, slots, and openings in other building components during progress of construction.
 4. Coordinate the installation of required supporting devices and sleeves to be set in cast-in-place concrete and other structural components, as they are constructed.
 5. Install systems, materials, and equipment as permitted by codes to provide the maximum headroom possible where mounting heights are not detailed or dimensioned.
 6. Coordinate the connection of systems with exterior underground and overhead utilities and services. Comply with the requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
 7. Install systems, materials, and equipment to conform with approved submittal data, including coordination drawings, to the greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Adjust routing of piping, ductwork, utilities, and location of equipment as needed to resolve spatial conflicts between

the various trades. Document changes in the indicated routings on the Record Drawings.

8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components.
9. Install systems, materials, and equipment to facilitate servicing, maintenance, and repair or replacement of components. As much as practical, connect for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to accessible locations.
10. Install access panel or doors where units are concealed behind finished surfaces.
11. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified slope.

1.13 FIELD MEASUREMENTS

- A. Perform complete field measurements for products required to fit existing conditions prior to purchasing products or beginning construction.
- B. Verify property lines, control lines, grades, and levels indicated on the Drawings.
- C. Verify pipe class, equipment capacities, existing electrical systems and power sources for existing conditions.
- D. Check Shop Drawings and indicate the actual dimensions available where products are to be installed.
- E. Include field measurements in record drawings as required in Paragraph 1.10.

1.14 REFERENCE DATA AND CONTROL POINTS

- A. The Engineer will provide the following control points:
 1. Benchmarks, base line, or grid reference points for horizontal control.
 2. Benchmarks for vertical control.
 3. Designated control points may be on an existing structure or monument.
- B. Locate and protect control points prior to starting the Work and preserve permanent reference points during construction. Do not change or relocate points without prior approval of the Engineer. Notify Engineer when the reference point is lost, destroyed, or requires relocation. Replace Project control points on the basis of the original survey.
- C. Provide complete engineering layout of the work needed for construction.
 1. Provide competent personnel. Provide equipment including accurate surveying instruments, stakes, platforms, tools, and materials.
 2. Provide surveying with accuracy meeting the requirements established for Category 5 Construction Surveying as established in the Manual of Practice of Land Surveying in Texas published by the Texas Society of Professional Surveyors, latest revision.
 3. Record data and measurements per standards.

1.15 DELIVERY AND STORAGE

- A. Deliver products and materials to the Site in time to prevent delays in construction.

- B. Deliver packaged products to Site in original undamaged containers with identifying labels attached. Open cartons as necessary to check for damage and to verify invoices. Reseal cartons and store properly until used. Leave products in packages or other containers until installed.
- ~~C. Deliver products that are too large to fit through openings to the Site in advance of the time enclosing walls and roofs are erected. Set in place, raised above floor on cribs.~~
- D. Assume full responsibility for the protection and safekeeping of products stored at the Site.
- E. Store products at locations acceptable to the Engineer and to allow Owner access to maintain and operate existing facilities.
- F. Store products in accordance with the Supplier's storage instructions immediately upon delivery. Leave seals and labels intact. Arrange storage to allow access for maintenance of stored items and for inspection. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
- G. Obtain and pay for the use of any additional storage areas as needed for construction. Store products subject to damage by elements in substantial weather-tight enclosures or storage sheds. Provide and maintain storage sheds as required for the protection of products. Provide temperature, humidity control and ventilation within the ranges stated in the Supplier's instructions. Remove storage facilities at the completion of the Project.
- H. Protect the pipe interior. Keep all foreign materials such as dirt, debris, animals, or other objects out of the pipe during the Work. Cap or plug ends of installed pipe in an approved manner when pipe is not being installed. Clean or wash out pipe sections that become contaminated before continuing with installation. Take precautions to prevent the pipe from floating or moving out of the proper position during or after laying operations. Immediately correct any pipe that moves from its correct position.
- I. Provide adequate exterior storage for products that may be stored out-of-doors.
 - 1. Provide substantial platforms, blocking, or skids to support materials and products above ground; slope to provide drainage. Protect products from soiling or staining.
 - 2. Cover products subject to dislocation or deterioration from exposure to the elements, with impervious sheet materials. Provide ventilation to prevent condensation below covering.
 - 3. Store loose, granular materials on clean, solid surfaces, or on rigid sheet materials, to prevent mixing with foreign matter.
 - 4. Provide surface drainage to prevent erosion and ponding of water.
 - 5. Prevent mixing of refuse or chemically injurious materials or liquids with stored materials.
 - 6. Pipes and conduits stored outdoors are to have open ends sealed to prevent the entrance of dirt, moisture, and other injurious materials. Protect PVC pipe from ultraviolet light exposure.
 - 7. Store light weight products to prevent wind damage.

- J. Protect and maintain mechanical and electrical equipment in storage.
 - 1. Provide Supplier's service instructions on the exterior of the package.
 - 2. Service equipment on a regular basis as recommended by the Supplier. Maintain a log of maintenance services. Submit the log as Record Data at the completion of the Project.
 - 3. Provide power to and energize space heaters for all equipment for which these devices are provided.
 - 4. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.
- K. Maintain storage facilities. Inspect stored products on a weekly basis and after periods of severe weather to verify that:
 - 1. Storage facilities continue to meet specified requirements.
 - 2. Supplier's required environmental conditions are continually maintained.
 - 3. Surfaces of products exposed to the elements are not adversely affected.
- L. Replace any stored item damaged by inadequate protection or environmental controls.
- M. Payment may be withheld for any products not properly stored.

1.16 BLASTING

- A. Blasting for excavations is not allowed.

1.17 ARCHAEOLOGICAL REQUIREMENTS

- A. Cease operations immediately and contact the Engineer for instructions if an historical or archaeological find is made during construction.
- B. Conduct all construction activities to avoid adverse impact on the Sites where significant historical or archaeological Sites have been identified at the Site.
 - 1. Obtain details for Working in these areas.
 - 2. Maintain confidentiality regarding the Site.
 - 3. Adhere to the requirements of the Texas Historical Commission.
 - 4. Notify the Owner and appropriate State Agencies as required.
- C. Do not disturb Archaeological Sites.
 - 1. Obtain the services of a qualified archaeological specialist to instruct construction personnel on how to identify and protect archaeological finds on an emergency basis.
 - 2. Coordinate activities to permit Archaeological Work to take place within the area.
 - a. Attempt to archaeologically clear areas needed for construction as soon as possible.
 - b. Provide a determination of priority for such areas.

- D. Assume responsibility for any unauthorized destruction that might result to such Sites by construction personnel, and pay all penalties assessed by the State or Federal agencies for non-compliance with these requirements.
- E. Contract time will be modified to compensate for delays caused by such archaeological finds. No additional compensation shall be paid for delays.

1.18 CUTTING AND PATCHING

- A. Perform cutting, fitting, and patching required to complete the work or to:
 - 1. Uncover work to provide for installation of new work or the correction of defective work.
 - 2. Provide routine penetrations of non-structural surfaces for installation of mechanical, electrical, and plumbing work.
 - 3. Uncover work that has been covered prior to observation by the Engineer.
- B. Submit written notification to the Engineer in advance of performing any cutting which affects:
 - 1. Work of any other Contractor or the Owner.
 - 2. Structural integrity of any structure or system of the project.
 - 3. Integrity or effectiveness of weather exposed or moisture resistant structure or systems.
 - 4. Efficiency, operational life, maintenance, or safety of any structure or system.
 - 5. Appearance of any structure or surfaces exposed occasionally or constantly to view.
- C. The notification shall include:
 - 1. Identification of the project.
 - 2. Location and description of affected work.
 - 3. Reason for cutting, alteration, or excavation.
 - 4. Effect on the work of any separate contractor or Owner.
 - 5. Effect on the structural or weatherproof integrity of the project.
 - 6. Description of proposed work, including:
 - a. Scope of cutting, patching, or alteration.
 - b. Trades that will perform the work.
 - c. Products proposed for use.
 - d. Extent of refinishing to be performed.
 - e. Cost proposal, when applicable.
 - 7. Alternatives to cutting and patching.
 - 8. Written authorization from any separate contractor whose work would be affected.
 - 9. Date and time work will be uncovered or altered.

- D. Examine the existing conditions, including structures subject to damage or to movement during cutting or patching.
 - 1. Inspect conditions affecting installation of products or performance of the work after uncovering the work.
 - 2. Provide a written report of unacceptable or questionable conditions to the Engineer. The Contractor shall not proceed with work until Engineer has provided further instructions. Beginning work will constitute acceptance of existing conditions by the Contractor.
- E. Protect the structure and other parts of the work and provide adequate support to maintain the structural integrity of the affected portions of the work. Provide devices and methods to protect adjacent work and other portions of the project from damage. Provide protection from the weather for portions of the project that may be exposed by cutting and patching work.
- F. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- G. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- H. ~~Cut, remove, and legally dispose of selected mechanical equipment, components, and materials as indicated, including but not limited to, the removal of mechanical piping, heating units, plumbing fixtures and trim, and other mechanical items made obsolete by the modified work.~~
- I. Restore work which has been cut or removed. Install new products to provide completed work per the Contract Documents.
- J. Fit work air-tight to pipes, sleeves, ducts, conduit, and other penetrations through the surfaces. Where fire rated separations are penetrated, fill the space around the pipe or insert with materials with physical characteristics equivalent to fire resistance requirements of penetrated surface.
- K. Patch finished surfaces and building components using new products specified for the original installation.
- L. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to the nearest intersection.
 - 2. For an assembly, refinish the entire unit.

1.19 PRELIMINARY OCCUPANCY

- A. Owner may deliver, install and connect equipment, furnishings, or other apparatus in buildings or other structures. These actions do not indicate acceptance of any part of the building or structure and does not affect the start of warranties or correction periods.
- B. Protect the Owner's property after installation is complete.
- C. Owner or Engineer may use any product for testing to determine that the product meets the requirements of the Contract Documents. This use does not constitute acceptance by either the Owner or Engineer. These actions do not indicate acceptance of any part of the product and does not affect the start of warranties or correction periods.

1.20 INITIAL MAINTENANCE AND OPERATION

- A. Maintain equipment until the project is accepted by the Owner. Ensure that mechanical equipment is properly maintained as recommended by the Supplier.
- B. Do not operate air handling equipment unless filters are in place and are clean. Change filters weekly during construction.
- C. Provide maintenance and start-up services prior to acceptance of equipment.
- D. Remove and clean screens and strainers in piping systems.
- E. Clean insects from intake louver screens.
- F. Provide documentation of maintenance and operations when Owner takes over operation and control of the Project.

1.21 ENDANGERED SPECIES RESOURCES

- A. No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas Parks and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species.
- B. If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with the ESA and applicable State statutes. These actions shall include reporting the encounter to the TWDB, the U. S. Fish and Wildlife Service, and the Texas Parks and Wildlife Department, obtaining any necessary approvals or permits to enable the work to continue, or implement other mitigative actions. The Contractor shall not resume construction in the area of the encounter until authorized to do so by the Owner.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Provide materials in accordance with the requirements of the individual Sections.

PART 3 EXECUTION

3.01 COMPLETION OF WORK

- A. Perform the Work per the Supplier's published instructions. Do not omit any preparatory step or installation procedure unless specifically exempted or modified by Field Order.

END OF SECTION

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SECTION 01320
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 REQUIREMENTS

- A. Prepare and submit a progress schedule for the Work and update the schedule on a monthly basis for the duration of the Project.
- B. Provide schedule in adequate detail to allow Owner to monitor the Work progress, to anticipate the time and amount of Applications for Payment, and to relate submittal processing to sequential activities of the work.
- C. Incorporate and specifically designate the dates of anticipated submission of submittals and the dates when submittals must be returned to the Contractor into the schedule.
- D. Assume complete responsibility for maintaining the progress of the Work per the schedule submitted.
- E. Take all Project requirements into consideration when preparing schedule.

1.02 SUBMITTALS

- A. Submit progress schedules in accordance with Section 01330 – Shop Drawings and Submittals. Submit schedules within the following times:
 - 1. Preliminary schedule within 10 days after the Notice of Award. The schedule is to be available at the pre-construction conference.
 - 2. Detailed schedule at least 10 days prior to the first payment request.
- B. Submit progress schedules with Applications for Payment. Schedules may be used to evaluate the Applications for Payment. Failure to submit the schedule may cause delay in the review and approval of Applications for Payment.

1.03 SCHEDULE REQUIREMENTS

- A. Schedule is to be in adequate detail to:
 - 1. Assure adequate planning, scheduling, and reporting during the execution of the Work.
 - 2. Assure the coordination of the Work of the Contractor and the various Subcontractors and Suppliers.
 - 3. Assist in monitoring the progress of the work.
 - 4. Assist in evaluating proposed changes to Contract Time and project schedule.
 - 5. Assist the Owner in review of Contractor's Application for Payment.
- B. Provide the schedule in the form of a time scaled horizontal bar chart which indicates graphically the Work scheduled at any time during the Project. The graph is to indicate:
 - 1. Complete sequence of construction by activity.
 - 2. Identification of the activity by structure, location, and type of Work.
 - 3. Chronological order of the start of each item of work.

4. The activity start and stop dates.
 5. The activity duration.
 6. Successor and predecessor relationships for each activity. Group related activities or use lines to indicate relationships.
 7. A clearly indicated critical path. Indicate only one critical path on the schedule. The subsystem with the longest time of completion is the critical path where several subsystems each have a critical path. Float time is to be assigned to other subsystems.
 8. Project percentage of completion, based on dollar value of the Work included in each activity to the last day of the pay period for each Application for Payment.
- C. Submit a separate submittal schedule indicating the dates when the submittals are to be sent to the Engineer.
1. List specific dates submittal is to be sent to the Engineer.
 2. List specific dates submittal must be processed in order to meet the proposed schedule.
 3. Allow a reasonable time to review submittals, taking into consideration the size and complexity of the submittal, the submission of other submittals, and other factors that may affect review time.
 4. Allow time for re-submission of the submittals for each item. Contractor is responsible for delays associated with additional time required to review incomplete or erroneous submittals and for the time lost when submittals are submitted for products that do not meet specification requirements.
- D. Update the schedule at the end of each monthly partial payment period to indicate the progress made on the project to that date.

1.04 SCHEDULE REVISIONS

- A. Submit a written report if the schedule indicates that the Project is more than thirty (30) days behind schedule. The report is to include:
1. Number of days Project is behind schedule.
 2. Narrative description of the steps to be taken to bring the Project back on schedule.
 3. Anticipated time required to bring the Project back on schedule.
 4. Submit a revised schedule indicating the action that the Contractor proposes to take to bring the Project back on schedule.
- B. Revise the schedule to indicate any adjustments in Contract Time approved by Change Order.
1. Revised schedule is to be included with Contract Modification Request for which an extension of time is requested.
 2. Failure to submit a revised schedule indicates that the modification shall have no impact on the ability of the Contractor to complete the project on time and that the cost associated with the change of additional plant or work force have been included in the cost proposed for the modification.

- C. Updating the project schedule to reflect actual progress is not considered a revision to the project schedule.
- D. Applications for Payment will not be recommended for payment without a revised schedule and if required, the report indicating the Contractor's plan for bringing the project back on schedule.

1.05 FLOAT TIME

- A. Define float time as the amount of time between the earliest start date and the latest start date of a chain of activities on the construction schedule.
- B. Float time is not for the exclusive use or benefit of either the Contractor or Owner.
- C. Contract time cannot be changed by the submission of this schedule. Contract Time can only be modified by approved Change Order.
- D. Schedule completion date must be the same as the contract completion date. Time between the end of construction and the contract final completion date is to be indicated as float time.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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**SECTION 01325
WEATHER DELAYS**

PART 1 GENERAL

1.01 EXTENSION OF CONTRACT TIME

- A. If the basis exists for an extension of time in accordance with the Agreement, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

- A. The Engineer has reviewed weather data available from TxDOT and determined a Standard Baseline of average climatic range for the project location.
- B. Standard Baseline shall be regarded as the normal and anticipatable number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of adverse weather.
- C. Standard Baseline is as follows:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 2 | 1 | 2 | 2 | 3 | 3 | 5 | 4 | 1 | 1 | 4 |

1.03 ADVERSE WEATHER AND WEATHER DELAY DAYS

- A. Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:
1. Precipitation (rain, snow, or ice) in excess of one-quarter inch (0.25") liquid measure.
 2. Temperatures which do not rise above that specified for the day's construction activity.
- B. Adverse Weather may include, if appropriate, "dry-out" or "mud" days:
1. For rain days above the standard baseline;
 2. Only if there is a hindrance to site access or sitework, such as excavation, backfill, and footings; and,
 3. At a rate no greater than one (1) makeup day for each day or consecutive days of rain beyond the standard baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the Engineer.
- C. A Weather Delay may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled workday, including a weekend day or holiday if the Contractor has scheduled construction activity that day.

1.04 DOCUMENTATION AND SUBMITTALS

A. Weather Delay Report

1. Contractor shall prepare a Weather Delay Report indicating the calendar month the days on which construction activity affecting the critical path of the Work was prevented by weather conditions.
2. The Weather Delay Report shall include the following information:
 - a. Cause for weather delay – Indicate measurement of precipitation, temperature, or other influencing factor.
 - b. Description of construction activity that was scheduled, on the critical path, and delayed.
3. At the end of the month, add up the number of days delayed, subtract the baseline number provided in Paragraph 1.02.C., and show the resulting claimable days in excess of the baseline.
4. Submit a copy of the completed report with the next application for payment. Reports submitted with applications for payment do not constitute a claim or preliminary claim for extension of time.

B. When making a claim for a time extension based on weather delay(s):

1. Submit a copy of all reports completed since the last month for which a time extension was previously claimed, or the commencement of Work if no previous claim, through the last month for which delay is being claimed. Claims for time extension based upon weather delays are unjustified if a submitted report does not corroborate the claim or if no report was submitted when required with an application for payment.
2. Submit daily jobsite work logs showing which and to what extent construction activities have been affected by weather on a monthly basis.
3. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by the Engineer at the beginning of the project.
4. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the Agreement, and applicable general requirements.
5. If an extension of the Contract Time is appropriate, it shall be implemented in accordance with the provisions of the Agreement, and the applicable general requirements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01330
SHOP DRAWINGS AND SUBMITTALS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Submit documentation as required by the Contract Documents and as reasonably requested by the Owner and Engineer to:
 - 1. Record the products incorporated into the Project for the Owner.
 - 2. Provide information for operation and maintenance of the Project.
 - 3. Provide information for the administration of the Contract.
 - 4. Allow the Engineer to advise the Owner if products proposed for the project by the Contractor conform, in general, to the design concepts of the Contract Documents.
- B. Contractor's responsibility for full compliance with the Contract Documents is not relieved by the Engineer's review of submittals. Contract modifications can only be approved by Change Order or Field Order.

1.02 CONTRACTOR'S RESPONSIBILITIES

- A. Review and certify all submittals prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction requirements.
 - 3. Location of all existing structures, utilities and equipment related to the submittals.
 - 4. Submittals are complete for their intended purpose.
 - 5. Conflicts between the submittals related to the various Subcontractors and Suppliers have been resolved.
 - 6. Quantities and dimensions shown on the submittals.
- C. Submit information per the procedures described in this section and the detailed specifications.
- D. Furnish the following submittals:
 - 1. Schedules, data and other documentation as described in detail in this section or referenced in the General Conditions and Contract Documents.
 - 2. Shop Drawings required for consideration of a contract modification per Paragraph 1.08.
 - 3. Submittals as required in the detailed specifications.
 - 4. Submittals not required will be returned without Engineer's review.
- E. Submit a schedule indicating the date submittals will be sent to the Engineer and proposed dates that the product will be incorporated into the project. Make submittals promptly in accordance with the schedule to cause no delay in the Project.

1. Send submittals to the Engineer allowing a reasonable time for delivery, review and marking submittals. Include time for review of a resubmission if necessary. Allow adequate time for the submittal review process, ordering, fabrication, and delivery of the product to not delay progress on the Project.
 2. Schedule submittal to provide all information for interrelated work at one time. No review will be performed on submittals requiring coordination with other submittals. Engineer will return submittals for resubmission as a complete package.
- F. Submit information for all of the components and related equipment required for a complete and operational system in the same submittal.
1. Include electrical, mechanical, and other information required to indicate how the various components of the system function.
 2. Provide certifications, warranties, and written guarantees with the submittal package for review when they are required.
 3. Fabrication or installation of any products prior to the approval of Shop Drawings is done at the Contractor's risk. Products not meeting the requirements of Contract Documents are defective and may be rejected at the Owner's option.
- G. Payment will not be made for products for which submittals are required until the submittals have been received. Payment will not be made for products for which Shop Drawings or Samples are required until these are approved by the Engineer.

1.03 QUALITY ASSURANCE

- A. Submit legible, accurate, complete documents presented in a clear, easily understood manner. Submittals not meeting these criteria will be returned without review.
- B. Demonstrate that the proposed products are in full and complete compliance with the design criteria and requirements of the Contract Documents including Drawings and Specifications as modified by Addenda, Field Orders, and Change Orders.
- C. Furnish and install products that fully comply with the information included in the submittal.

1.04 SUBMITTAL PROCEDURES

- A. Submit copies of each submittal to the Engineer in the quantities required under Paragraph 1.14.
 1. All submittals shall only contain information required pertaining to the item specified. Submittals containing extraneous information not pertaining to the specific item specified will be rejected by Engineer and will require resubmittal.
 2. Create and submit color documents where color is important to the evaluation of the submittal and/or where comments will be lost if only black and white documents are provided. Submit sample and color charts per Paragraph H.
- B. Transmit all submittals, with a properly completed Submittal Transmittal Form as provided by the Engineer. Failure to use transmittal form, or incomplete transmittal forms shall constitute return of submittal to Contractor without review.
 1. Use a separate transmittal form for each specific product, class of material, and equipment system.

2. Submit items specified in different sections of the Specifications separately unless they are part of an integrated system.
 3. Submit all required shop drawings, product data, and samples for a product at one time. Organize and index information and drawings, regardless of size. Shop drawings larger than 11"x17" may be submitted with remaining product data either rolled or folded. In all cases each product submittal package shall contain an index listing the items contained in the submittal
- C. Contractor shall complete transmittal form with as much information as possible to facilitate Engineer's timely review of the submittal data.
1. Assign each submittal a Contractor's Submittal Number consisting of a prefix, a sequence number, and a letter suffix. Prefixes shall be as follows:

| Prefix | Description | Originator |
|--------|---------------------------------|------------|
| AP | Application for Payment | Contractor |
| CO | Change Order | Engineer |
| CMR | Contract Modification Request | Contractor |
| CTR | Certified Test Report | Contractor |
| EIR | Equipment Installation Report | Contractor |
| FO | Field Order | Engineer |
| NBC | Notification by Contractor | Contractor |
| O&M | Operation & Maintenance Manuals | Contractor |
| PD | Product Data | Contractor |
| RD | Record Data | Contractor |
| RFI | Request for Information | Contractor |
| SAM | Sample | Contractor |
| SD | Shop Drawing | Contractor |
| SCH | Progress Schedule | Contractor |

2. The Contractor's Submittal Number shown on the transmittal form shall be a three-digit number (001-999) assigned to each separate submittal under the associated specification section.
3. The submittal number shall be suffixed with a letter designating the review cycle of the submittal (i.e. "A"=initial submittal, "B"=first re-submittal, "C"=second re-submittal, etc.). For example: SD 025 A represents shop drawing number twenty-five and the letter "A" designates this is the first time this submittal has been sent for review.
4. Correct assignment of numbers is essential since different submittal types are processed in different ways.

- D. Submit documents with uniform markings.
 - 1. Mark submittals to:
 - a. Highlight Contractor's corrections in green.
 - b. Highlight items pertinent to the products being furnished in yellow and delete items that are not when the Supplier's standard drawings or information sheets are provided.
 - c. Cloud items and highlight in yellow where selections by the Engineer or Owner are required.
 - d. Mark dimensions with the prefix FD to indicate field verified dimensions on the Shop Drawings.
 - 2. Define abbreviations and symbols used in Shop Drawings.
 - a. Use terms and symbols in Shop Drawings consistent with the Contract Drawings.
 - b. Provide a list of abbreviations and their meaning as used in the Shop Drawings.
 - c. Provide a legend for symbols used on Shop Drawings.
- E. Mark submittals to reference the Drawing number and/or section of the Specifications, detail designation, schedule or location that corresponds with the data submitted. Other identification may also be required, such as layout drawings or schedules to allow the reviewer to determine where a particular product is to be used.
- F. Deliver samples required by the Specifications to the project site. Provide a minimum of two samples.
- G. Construct mock-ups from the actual products to be used in construction per detailed Specifications.
- H. Submit color charts and Samples for every product requiring color, texture or finish selection.
 - 1. Submit all color charts and Samples at one time.
 - 2. Do not submit color charts and Samples until all record data have been submitted or Shop Drawings for the products have been approved.
 - 3. Submit color charts and Samples not less than thirty (30) days prior to when these products are to be ordered or released for fabrication to comply with the schedule for construction of the Project.
- I. Submit Contract Modification Request to request modifications to the Contract Documents.

1.05 REVIEW PROCEDURES

- A. Shop drawings are reviewed in the order received, unless Contractor request that a different priority be assigned.
- B. Mark a submittal as "Priority" to place the review for this submittal ahead of submittals previously delivered. Priority submittals will be reviewed before other submittals for this Project which have been received but not reviewed. Use discretion in the use of "Priority" submittals as this may delay the review of submittals previously submitted. Revise the Schedule of Contractor's Submittals for substantial deviations from the previous schedule.
- C. Review procedures vary with the type of submittal as described in Paragraph 1.06.

1.06 SUBMITTAL REQUIREMENTS

- A. Shop Drawings are required for those products that cannot adequately be described in the Contract Documents to allow fabrication, erection or installation of the product without additional detailed information from the Supplier.
1. Shop Drawings are requested so that the Engineer can:
 - a. Assist the Owner in selecting colors, textures or other aesthetic features.
 - b. Compare the proposed features of the product with the specified features so as to advise the Owner that the product does, in general, conform to the Contract Documents.
 - c. Compare the performance features of the proposed product with those specified so as to advise the Owner that it appears that the product will meet the designed performance criteria.
 - d. Review required certifications, guarantees, warranties, and service agreements for compliance with the Contract Documents.
 2. Certify on the submittal transmittal form that the Contractor has reviewed the Shop Drawings and made all necessary corrections such that the products, when installed, will be in full compliance with the Contract Documents. Shop Drawings submitted without this certification will be returned without review.
 3. Submit Shop Drawings for:
 - a. Products indicated in the submittal schedule following this section.
 - b. When a substitution or equal product is proposed in accordance with Paragraph 1.08 of this Section.
 4. Include a complete description of the material or equipment to be furnished. Information is to include:
 - a. Type, dimensions, size, arrangement, model number, and operational parameters of the components.
 - b. Weights, gauges, materials of construction, external connections, anchors, and supports required.
 - c. Performance characteristics, capacities, engineering data, motor curves, and other information necessary to allow a complete evaluation of mechanical components.
 - d. All applicable standards such as ASTM or Federal specification numbers.
 - e. Fabrication and installation drawings, setting diagrams, manufacturing instructions, templates, patterns, and coordination drawings.
 - f. Wiring and piping diagrams and related controls.
 - g. Mix designs for concrete, asphalt, or other materials proportioned for the Project.
 - h. Complete and accurate field measurements for products which must fit existing conditions. Indicate on the submittal that the measurements represent actual dimensions obtained at the site.

5. Provide all required statements of certification, guarantees, extended service agreements, and other related documents with the Shop Drawing. The effective date of these documents shall be the date of acceptance of the work by the Owner.
6. Comments will be made on items called to the attention of the Engineer for review and comment. Any marks made by the Engineer do not constitute a blanket review of the submittal or relieve the Contractor from responsibility for errors or deviations from the Contract requirements.
 - a. Submittals that are reviewed will be returned with one or more of the following designations:
 - 1) Approved: Submittal is found to be acceptable as submitted.
 - 2) Approved as Noted: Submittal is acceptable with corrections or notations made by Engineer and may be used as corrected.
 - 3) Revise and Resubmit: Submittal has deviations from the Contract Documents, significant errors, or is inadequate and must be revised and resubmitted for subsequent review.
 - 4) Rejected: Products are not acceptable.
 - 5) Filed as Received: Submittal has been received by Engineer, but no review or other action has been taken by the Engineer. Submittals with this designation are typically informational only and do not require formal action.
 - 6) Additional Information Required: Submittal is being returned as incomplete and required additional information before a complete review can be completed.
 - 7) See Comments: Submittal is being returned with comments. Unless other designations are indicated, no formal action has been taken regarding approval of the submittal.
 - 8) Returned Without Review: Submittal does not conform to these specifications or is not required by the Contract Documents. Non-conforming submittals shall be corrected and returned to the Engineer for review.
 - b. Drawings with a significant or substantial number of markings by the Contractor may be marked "Approved as Noted" and "Revise and Resubmit." These drawings are to be revised to provide a clean record of the submittal.
 - c. Dimensions or other data that do not appear to conform to the Contract Documents will be marked as "At Variance With" (AVW) the Contract Documents or other information provided. The Contractor is to make revisions as appropriate to comply with Contract Documents.
7. The use of reproductions of the Contract Plans by any contractor, subcontractor, erector, fabricator, or material supplier in lieu of preparation of shop drawings will be permitted. However, it will signify his acceptance of all information shown therein as correct, and obligates himself to any job expense, real or implied, arising due to any errors that may occur thereon. In addition, all references to the Engineer and its sub-consultants, including all engineer's seals, are to be removed if these Contract Drawings are to be used as shop drawings.

- B. Certifications, Warranties and Service Agreements include documents as specified in the detailed specifications or as follows:
1. Certified Test Reports (CTR): A report prepared by an approved testing agency giving results of tests performed on products to indicate their compliance with the specifications. (Refer to Section 01450 – Testing Laboratory Services.)
 2. Certification of Local Field Service (CLS): A certified letter stating that field service is available from a factory or supplier approved service organization located within a 300 mile radius of the project site. List names, addresses, and telephone numbers of approved service organizations on or attach it to the certificate.
 3. Extended Warranty (EW): A guarantee of performance for the product or system beyond the normal one (1) year warranty described in the General Conditions. Issue the warranty certificate in the name of the Owner.
 4. Extended Service Agreement (ESA): A contract to provide maintenance beyond that required to fulfill requirements for warranty repairs, or to perform routine maintenance for a definite period beyond the warranty period. Issue the service agreement in the name of the Owner.
 5. Certification of Adequacy of Design (CAD): A certified letter from the manufacturer of the equipment stating that they have designed the equipment to be structurally stable and to withstand all imposed loads without deformation, failure, or adverse effects to the performance and operational requirements of the unit. The letter shall state that mechanical and electrical equipment is adequately sized to be fully operational for the conditions specified or normally encountered by the product's intended use.
 6. Certification of Applicator/Subcontractor (CSQ): A certified letter stating that the Applicator or Subcontractor proposed to perform a specified function is duly designated as factory authorized and trained for the application of the specified product.
- C. Submit record data to provide information to allow the Owner to adequately identify the products incorporated into the project and allow replacement or repair at some future date.
1. Provide record data for all products per the submittal schedule. Record data is not required for items for which Shop Drawings and/or operations and maintenance manuals are required.
 2. Provide information only on the specified products. Submit a Contract Modification Request for approval of deviations or substitutions and obtain approval by Field Order or Change Order prior to submitting record data.
 3. Provide the same information required for Shop Drawings.
 4. Record data will be received by the Engineer, logged, and provided to Owner for the Project record.
 - a. Record data may be reviewed to see that the information provided is adequate for the purpose intended. Inadequate drawings may be returned as unacceptable.
 - b. Record data is not reviewed for compliance with the Contract Documents. Comments may be returned if deviations from the Contract Documents are

noted during the cursory review performed to see that the information is adequate.

- D. Provide Samples for comparison with products delivered to the Site for use on the Project.
 - 1. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product, with integrally related parts and attachment devices.
 - 2. Indicate the full range of color, texture, and patterns.
 - 3. Dispose of Samples when related Work has been completed and approved, and disposal is requested by the Engineer. At Owner's option Samples will become the property of the Owner.
- E. Construct mock-ups for comparison with the Work being performed.
 - 1. Construct mock-ups of the size or area indicated in the detailed Specifications.
 - 2. Construct mock-ups complete with texture and finish to represent the finished product.
 - 3. Protect mock-ups until Work has been completed and accepted by the Owner.
 - 4. Dispose of mock-ups when related Work has been completed and disposal is approved by the Engineer.
- F. Submit Operation and Maintenance manuals (O&M) for all equipment, mechanical devices, or components described in the Contract Documents per Section 01780 – Operation and Maintenance Data. Include copies of approved Shop Drawings in the manual.
- G. Submit Application for Payment (AP) in accordance with Section 01290 – Payment Procedures.
- H. Submit Progress Schedules (SCH) in accordance with Section 01320 – Construction Progress Schedule.
- I. Submit Certified Test Reports (CTR) from independent testing laboratories in accordance with Section 01450 – Testing Laboratory Services.
 - 1. Submit test reports for material fabricated for this project with Shop Drawings for that product.
 - 2. Submit test reports produced at the point of production for standard production products with the record data for that product.
- J. Submit a list of Suppliers and Subcontractors as record data.
- K. Submit Equipment Installation Reports (EIR) in accordance with Section 01750 – Starting and Adjusting.

1.07 SUBMITTALS REQUIRED FOR THIS PROJECT

- A. Furnish the following Submittals:
 - 1. Products as indicated in the detailed plans and specifications.
 - 2. When a substitution or equal product is proposed in accordance with Paragraph 1.08 of this Section.

1.08 REQUESTS FOR DEVIATION

- A. Submit requests for deviation from the Contract Documents for any product that does not fully comply with the Contract Documents.
- B. Submit request by Contract Modification Request (CMR). Identify the deviations and the reason the change is requested.
- C. Include the amount of cost savings to the Owner for deviations that result in a reduction in cost.
- D. A Change Order or Field Order will be issued by the Engineer for deviations approved by the Owner. Deviations from the Contract Documents may only be approved by Change Order or Field Order.

1.09 SUBMITTALS FOR EQUAL NON-SPECIFIED PRODUCTS

- A. The products of the listed suppliers are to be furnished where detailed specifications list several manufacturers but do not specifically list "or equal" or "or approved equal" products. Use of any products other than those specifically listed is a substitution and must be approved per Paragraph 1.09.
- B. Contractor may submit other manufacturers' products that are in full compliance with the specification where detailed specifications list one or more manufacturers followed by the phrase "or equal" or "or approved equal."
 - 1. Submit Shop Drawings of adequate detail to document that the proposed product is equal or superior to the specified product.
 - 2. Prove that the product is equal. It is not the Engineer's responsibility to prove the product is not equal.
 - a. Indicate on a point by point basis for each specified feature that the product is equal to the Contract Document requirements.
 - b. Make a direct comparison with the specified manufacturer's published data sheets and available information. Provide this printed material with the submittal.
 - c. The decision of the Engineer regarding the acceptability of the proposed product is final.
 - 3. Provide a typewritten certification that, in furnishing the proposed product as an equal, the Contractor:
 - a. Has thoroughly examined the proposed product and has determined that it is equal or superior in all respects to the product specified.
 - b. Has determined that the product will perform in the same manner and result in the same process as the specified product.
 - c. Will provide the same warranties and/or bonds as for the product specified.
 - d. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the product into the construction and will waive all claims for additional Work which may be necessary to incorporate the product into the Project which may subsequently become apparent.
 - e. Will maintain the same time schedule as for the specified product.

4. A modification request is not required for any product that is in full compliance with the Contract Documents.

1.10 SUBMITTALS FOR SUBSTITUTIONS

- A. Substitutions are defined as any product that the Contractor proposes to provide for the Project in lieu of the specified product.
- B. Submit the following for consideration of approval of a Supplier or product which is not specified:
 1. Contract Modification Request for deviation from the Contract Documents per Paragraph 1.08.
 2. Prove that the product is acceptable as a substitute. It is not the Engineer's responsibility to prove the product is not acceptable as a substitute.
 - a. Indicate on a point by point basis for each specified feature that the product is acceptable to meet the intent of the Contract Documents requirements.
 - b. Make a direct comparison with the specified Suppliers published data sheets and available information. Provide this printed material with the submittal.
 - c. The decision of the Engineer regarding the acceptability of the proposed substitute product is final.
 3. Provide a written certification that, in making the substitution request, the Contractor:
 - a. Has determined that the substituted product will perform in substantially the same manner and result in the same ability to meet the specified performance as the specified product.
 - b. Will provide the same warranties and/or bonds for the substituted product as specified or as would be provided by the Manufacturer of the specified product.
 - c. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the substituted product into the project and will waive all claims for additional Work which may be necessary to incorporate the substituted product into the Project which may subsequently become apparent.
 - d. Will maintain the same time schedule as for the specified product.
- C. Pay engineering cost for review of substitutions.
 1. Cost for additional review time will be billed to the Owner by the Engineer for the actual hours required for the review and marking of Shop Drawings by Engineer and in accordance with the Engineer's current rate schedule.
 2. Cost for the additional review shall be paid to the Owner by the Contractor on a monthly basis.

1.11 WARRANTIES AND GUARANTEES

- A. Submit warranties and guarantees required by the Contract Documents with the Shop Drawings or record data.
- B. Provide additional copies for equipment and include this additional copy in the Operation and Maintenance Manuals. Refer to Section 01780 – Operation and Maintenance Data.
- C. Provide a separate manual for warranties and guarantees.
 - 1. Provide a log of all products for which warranties or guarantees are provided, and for all equipment. Index the log by Specification section number.
 - 2. Indicate the start date, warranty or guarantee period and the date upon which the warranty or guarantee expires for products or equipment for which a warranty or guarantee is required.
 - 3. Indicate the date for the start of the correction period specified in the General Conditions for each piece of equipment and the date on which the specified correction period expires.
 - 4. Provide a copy of the warranty or guarantee under a tab indexed to the log.

1.12 RESUBMISSION REQUIREMENTS

- A. Make all corrections or changes in the submittals required by the Engineer and resubmit until approved.
- B. For Shop Drawings:
 - 1. Revise initial drawings or data and resubmit as specified for the original submittal.
 - 2. Highlight in yellow those revisions which have been made in response to the first review by the Engineer.
 - 3. Highlight in blue any new revisions which have been made or additional details of information that has been added since the previous review by the Engineer.
- C. For Samples:
 - 1. Submit new Samples as required for the initial Sample.
 - 2. Remove Samples which have been rejected.
- D. For mock-ups:
 - 1. Construct a new mock-up as initially required.
 - 2. Dispose of mock-ups which have been rejected.
- E. Pay for excessive review of Shop Drawings.
 - 1. Excessive review of Shop Drawings is defined as any review required after the original review has been made and the first resubmittal has been checked to see that corrections have been made.
 - 2. Cost for additional review time will be billed to the Owner by the Engineer for the actual hours required for the review and marking of shop drawings by Engineer and in accordance with the Engineer's current rate schedule.

3. Pay cost for the additional review to the Owner on a monthly basis as billed by the Owner.
4. Need for more than one resubmission or any other delay of obtaining Engineer's review of submittals, will not entitle the Contractor to an extension of Contract Time. All costs associated with such delays shall be at the Contractor's expense.

1.13 ENGINEER'S DUTIES

- A. Review the submittals and return with reasonable promptness.
- B. Indicate approval, rejection, and the need for resubmittal.
- C. Distribute documents.

1.14 NUMBER OF COPIES REQUIRED

- A. For all data which requires review, the Contractor shall submit the required number of copies in the original submittal.
 1. The minimum number of copies required for review and distribution shall be as follows:

| | |
|--|----------|
| Engineer's File (1 copy for RPR)..... | 2 |
| Owner's File..... | 2 |
| Contractor's File..... | 1 |
| <u>Suppliers Copy (returned to Contractor)</u> | <u>1</u> |
| Total (minimum) | 6 |
- B. For non-review items, such as parts lists, and operation and maintenance manuals, the required number of copies for distribution shall be as follows:
 1. The minimum number of copies required for distribution shall be as follows:

| | |
|---------------------------|----------|
| Engineer's File..... | 1 |
| <u>Owner's File</u> | <u>2</u> |
| Total (minimum) | 3 |
- C. In lieu of hardcopy submittals, electronic submittals may be submitted to the Engineer in PDF format. Electronic submittals shall meet all the requirements of hardcopy submittals and one reviewed electronic submittal will be returned to the Contractor for his use.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01430
QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality Assurance - Control of Installation
- B. Tolerances
- C. References and Standards
- D. Inspecting and Testing Laboratory Services
- E. Manufacturers' Field Services

1.02 RELATED SERVICES

- A. Section 01450 - Testing and Laboratory Services
- B. Section 01330 - Submittals: Submission of manufacturer's instructions and certificates.
- C. Section 01610 - Material and Equipment: Requirements for material and product quality.

1.03 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.04 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.05 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard which are current based upon the dates indicated in the Contract Documents.
- C. Maintain copies of all applicable reference standards on-site during submittal review, planning, and construction of the specific work, until Substantial Completion.
- D. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- E. Neither the contractual relationship, duties and responsibilities of the parties in Contract, nor those of the Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

1.06 TESTING SERVICES

- A. The Contractor shall be responsible for all costs associated with performing test on the utilities installed including but not limited to, pressure testing of water and sewer lines, disinfection of waterlines, and pressure testing of manholes.
- B. Owner may appoint, employ and pay for specified services of an independent firm to perform testing.
- C. The independent firm will perform tests and other services specified in individual specification sections and as required by the Engineer.
- D. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the Engineer or the Owner.
- E. Reports will be submitted by the independent firm to the Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- F. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- G. Testing does not relieve Contractor from performing Work to contract requirements.
- H. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum/Price.

1.07 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of

- surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer thirty (30) days in advance of required observations. Observer subject to approval of Engineer.
 - C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

- A. The Engineer or Engineer's Representative shall be present for all testing performed on the utilities installed. Test results will not be accepted if the Engineer or Engineer's Representative is not present at the time of the testing. Additional testing required for test results that were not accepted shall be performed at no additional cost to the Owner.
- B. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- C. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- D. Examine and verify specific conditions described in individual Specifications Sections.
- E. Verify that utility services are available, of the correct characteristics and in the correct locations.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond..

END OF SECTION

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SECTION 01450
TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 DESCRIPTION

- A. This section specifies materials testing activities and inspection services required during project construction to be provided by a Testing Laboratory retained by the Owner and paid for by Contractor

1.02 RELATED SECTIONS

- A. Section 01330 – Shop Drawings and Submittals
- B. Section 01700 – Execution and Closeout Requirements

1.03 REFERENCES

- A. ASTM C802 - Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods for Construction.
- B. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM E329 - Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.
- D. ASTM E543 - Practice for Determining the Qualification of Nondestructive Testing Agencies.
- E. ASTM E548 - Practice for Preparation of Criteria for Use in the Evaluation of Testing Laboratories and Inspection Bodies.
- F. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

1.04 SELECTION AND PAYMENT

- A. Owner may employ services of an independent testing agency or laboratory to perform specified testing. Contractor will pay for testing required.
- B. Employment of testing agency or laboratory in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. The Contractor shall furnish at his own expense, suitable evidence that all the material he proposes to incorporate into the work are in accordance with the Specifications. Manufacturer's or supplier's test results will be acceptable for such items as pipe and fittings, when it is definite that the materials being furnished are those to which the test results apply. Should the Contractor fail to provide the above information, the Engineer shall have the right to require tests to be made by the Contractors laboratory to obtain the information and the cost shall be borne by the Contractor.
- D. Mix designs for asphaltic concrete and for Portland cement concrete shall be furnished by the Contractor at his own expense. Testing and mix design shall be performed by an independent certified testing laboratory approved by the Engineer.

- E. In any event, the Engineer may have further tests made by commercial laboratory or may make test himself, to insure that the Specifications are complied with by the Contractor. Cost of these tests will be borne by the Owner unless such tests indicate the material tested fail to meet the specifications. In this case the cost will be borne by the Contractor.
- F. Any testing laboratory utilized on the project shall meet "Recommended Requirements for Independent Laboratory Qualifications", latest edition, published by the American Council of Independent Laboratories, and shall be currently state certified.

1.05 QUALITY ASSURANCE

- A. Laboratory: Authorized to operate in State in which Project is located.
- B. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
- C. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.06 AGENCY/LABORATORY RESPONSIBILITIES

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

1.07 AGENCY/LABORATORY REPORTS

- A. After each test, promptly submit two copies of report to Engineer and to Contractor.
- B. Include:
 - 1. Date Issued
 - 2. Project Title and Number
 - 3. Name of Inspector
 - 4. Date and Time of Sampling or Inspection
 - 5. Identification of Product and Specifications Section
 - 6. Location in the Project
 - 7. Type of Inspection or Test
 - 8. Date of Test
 - 9. Results of Tests
 - 10. Conformance with Contract Documents
- C. When requested by Engineer, provide interpretation of test results.

1.08 LIMITS ON TESTING AUTHORITY

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

1.09 CONTRACTOR RESPONSIBILITIES

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

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EARTHWORK

- A. General: The Testing Laboratory shall provide qualified personnel, materials, equipment, and transportation as required to perform the services identified/required herein, within the agreed to schedule and/or time frame. The work to be performed shall be as identified herein and shall include but not be limited to the following:
 - 1. Observe fill and subgrades during proof-rolling to evaluate suitability of surface material to receive fill or base course. Provide recommendations to the Resident Engineer regarding suitability or unsuitability of areas where proof-rolling was observed. Where unsuitable results are observed, witness excavation of unsuitable material and recommend to Resident Engineer extent of removal and replacement of unsuitable materials and observe proof-rolling of replaced areas until satisfactory results are obtained.
 - 2. Provide part time of fill placement and compaction and field density testing in building areas and provide part time observation of fill placement and compaction and field density testing in pavement areas to verify that earthwork compaction obtained is in accordance with contract documents.
 - 3. Provide supervised geotechnical technician to inspect excavation, subsurface preparation, and backfill for structural fill.

B. Testing Compaction

1. Determine maximum density and optimum moisture content for each type of fill, backfill and subgrade material used, in compliance with ASTM D698 and/or ASTM D1557.
2. Make field density tests in accordance with the primary testing method following ASTM D2922 wherever possible. Field density tests utilizing ASTM D1556 or ASTM D2167 shall be utilized on a case by case basis only if there are problems with the validity of the results from the primary method due to specific site field conditions. Should the testing laboratory propose these alternative methods, they should provide satisfactory explanation to the Resident Engineer before the tests are conducted.
 - a. Trenches: In open fields – two locations per 1,000 linear feet; along roads or in right-of-way – two locations per 500 linear feet; under pavement cuts or within two feet of pavement edge – one location per 400 linear feet.
 - b. Footing Subgrade: At least one test for each layer of soil on which footings will be placed. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested subgrade when acceptable to Resident Engineer. In each compacted fill layer below wall footings, perform one field density test for every 30 m (100 feet) of wall. Verify subgrade is level, all loose or disturbed soils have been removed, and correlate actual soil conditions observed with those indicated by test borings.
 - c. For Select Fill: On 30 foot intervals on all sides of the structure for every compacted lift, but not less than one per lift on each side of the structure for structures less than 60 feet long on a side.
 - d. For General Fill: One per 1,000 square feet on every compacted lift.
- C. Testing for Footing Bearing Capacity: Evaluate if suitable bearing capacity material is encountered in footing subgrade.
- D. Testing Materials: Test suitability of on-site and off-site borrow as directed by Engineer.

3.02 SUBGRADE (STABILIZED OR NON-STABILIZED)

- A. Field moisture-density tests shall be taken at the rate of one test for each 1000 square yards of subgrade area or a minimum of three tests, whichever is greater. Thickness determination of the stabilized subgrade shall be made at random locations.
- B. After the stabilized subgrade has been compacted and density tests performed; the subgrade shall be allowed to cure for a period of 72 hours. After 72 hours the entire subgrade shall be proof-rolled with a heavily loaded vehicle. The vehicle shall have a loaded GVW of 50,000 pounds with a single axle weight of at least 18,000 pounds and a tire pressure of 90 psi. Subgrade that is pumping or deforming shall be reworked, replaced or otherwise modified to form a smooth, stable, non-yielding base for subsequent paving courses, at no additional cost to the Owner. The Engineer shall be notified at least 48 hours before final proof-rolling.
- C. The results of field density tests, thickness and proof-rolling shall be submitted for approval by the Engineer. Provided all tests are acceptable, the subgrade will be approved and the next paving course can be placed.

3.03 ASPHALT CONCRETE PAVING

A. Density

1. Hot mix asphaltic concrete will be accepted for density and depth on a street by street basis. Each street will consist of one day's production and a minimum of four (8) tests shall be made for each street unless otherwise determined by the Engineer the amount of HMAC to be placed warrants fewer tests.
2. Each paved street will be accepted, with respect to density, when the average field density is equal to or greater than 94.0 percent of the average maximum theoretical density (94% to 95% is optimum) as determined in accordance with ASTM D2041, and when no individual determination is less than 90.0 % of the average maximum theoretical density. Cores or sawed samples taken from the pavement will be used to determine the field density. The density of the cored or sawed samples shall be determined in accordance with ASTM D2726.
3. When the average field density is less than 94.0 % or when one core is less than 90.0%, the Contractor's pay schedule for this item shall be adjusted in accordance with the following table. Deficient samples shall be averaged and used in determining the adjusted payment for HMAC. This collected average shall be applied to the entire street.

| Average Percent Density ⁽¹⁾ | Payment Adjustment |
|--|-------------------------|
| 94.0 and above | 100% |
| 91.5 – 93.9 | 90% |
| 90.0 – 91.4 | 75% |
| Below 90.0 | Rejected ⁽²⁾ |

Notes:

(1) Average of 8 Samples

(2) If the Owner agrees to accept densities below 90%, the payment factor shall be 50%

4. Specimens used for field density determination shall be carefully crumbled, using heat if necessary, and maximum theoretical density determined in accordance with ASTM D2041. If heating is necessary, the specimen shall be heated to the lowest temperature required for proper preparation of the sample.
5. The use of nuclear field density determinations shall not be used as the basis for acceptance with respect to density

B. Thickness

1. In-place compacted thickness shall not be less than thickness specified on the drawings. If tests results indicate two (2) or more samples are less than the plan specified depth, the Contractor's pay schedule for this item shall be adjusted in accordance with the following table. Deficient samples shall be averaged and used in determining the adjusted payment for HMAC. This collected average shall be applied to the entire street.

| Core Thickness (inches) | Payment Adjustment |
|-------------------------|--------------------|
| 2 or Greater | 100% |
| 1.81 – 1.95 | 95% |
| 1.66 – 1.80 | 80% |
| 1.51 – 1.65 | 75% |
| 1.5 or less | Rejected |

2. Any one (1) sample that is 1.5" or less in thickness shall be cause for rejection. At the discretion of Owner, the entire street shall receive a tack coat and a minimum 1" overlay; or shall be removed and replaced to the proper thickness until specified thickness of the course is met or exceeded at no additional expense to the Owner.
 3. Coring holes shall be immediately filled with full depth asphalt.
- C. Copies of all haul tickets shall be provided to the Engineer. Should these tests indicate that the material does not meet specifications; the material shall be removed and replaced by the Contractor, at no additional cost to the Owner.

3.04 CONCRETE

- A. The Contractor shall engage an independent testing laboratory to conduct concrete tests on structural concrete and concrete pavement. Unless otherwise informed, the Contractor will be responsible for sampling concrete for test cylinders, recording, and delivering them to the laboratory, providing all materials required, and for making all slump tests in the field directed by the Engineer. All costs in connection with work performed by the laboratory will be paid by the Contractor. The Contractor shall be responsible for the costs of work performed by the laboratory required for redesign of concrete proportions and retesting of in place concrete when cylinders indicate low strength concrete has occurred.
- B. At least one test shall be made on fresh concrete for each seventy-five (75) cu. yd. of each strength of concrete (or fraction thereof) placed on any one day and in any event, not less than one test for each class of concrete each day it is used. Testing shall be done in accordance with the following ASTM Specifications, latest edition:
1. C172 – Standard Method of Sampling Fresh Concrete
 2. C31 – Standard Method of Making and Curing Concrete Compression & Flexure Test Specimens in the Field
 3. C39 – Standard Method of Test of Compressive Strength of Molded Concrete Cylinders
 4. C143 – Standard Method of Slump Test for Consistency of Portland Cement Concrete
- C. Before any concrete is poured, the Contractor shall construct a storage box in accordance with ASTM Specification C31. Each set of tests shall consist of one slump test and four compression test cylinders. All cylinders shall be kept in the storage box for the first 24 hours.
- D. The four cylinders shall be laboratory cured and tested for adequacy of the design for strength of the concrete in accordance with ASTM Specification C31. Two cylinders shall be tested at 7 days and two at 28 days.
- E. Failure of Concrete to Meet Strength Requirements:
1. The concrete shall be considered acceptable if, for any one class of concrete, the average of all tests or any five consecutive tests is equal to or greater than the specified strength, provided that no more than one test of the five falls between 90% and 100% of the specified strength. The only cylinders to be used for determination of concrete acceptability will be those laboratory cured and tested at 28 days. When it appears the tests of laboratory-cured cylinders will fail to meet these requirements, the Engineer may require changes in the proportions of

concrete for the remainder of the work in order to meet the strength requirements. In addition, the Engineer may also require additional curing not to exceed a total of 21 days on portions of the concrete already poured.

2. The Engineer may also require tests in accordance with Methods of Securing, Preparing and Testing Specimen from Hardened Concrete for Compressive and Flexural Strengths (ASTM Specifications C42) when the concrete cylinder tests fail to meet strength requirements. In the event there still is question as to the quality of the concrete in the structure, the Engineer may require load tests for that portion where the questionable concrete has been placed. Such load tests will be made as outlined in Chapter 20 of American Concrete Institute Building Code. (ACI 318-71), and shall be at the expense of the Contractor.

F. Removal of Under Strength Concrete:

1. If the above tests indicate that a particular batch of previously placed concrete is under strength, the Engineer may direct that the under strength batch be removed and replaced. The removal of the under strength concrete shall also include the removal of concrete that has obtained the required strength if the Engineer deems this necessary to obtain structural or visible continuity when the concrete is replaced.
2. The removal, and replacement of any under strength concrete, shall be made at no additional cost to the Owner. This shall include any new formwork required or any reinforcing steel that may be required. The Owner shall not be charged any additional costs for any extra work that is required because of the failure of any concrete to meet the minimum test requirements.

- G. Mix Designs for portland cement concrete shall be furnished by the Contractor at his own expense. Testing and mix design shall be performed by an independent certified testing laboratory approved by the Contractor.

END OF SECTION

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SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

- A. Temporary facilities and the necessary controls for the project including utilities, sanitary facilities, field office, storage sheds and building, safety requirements, first aid equipment, fire protection, security measures, access roads and parking, environmental controls, pest and rodent control.
- B. The facilities and controls specified in this section are considered minimum for the Project. The Contractor may provide additional facilities and controls for the proper execution of the Work and to meet Contractor's responsibilities for protection of persons and property.

1.02 SYSTEM DESCRIPTION

- A. Maintain and operate temporary facilities and systems to assure continuous service.
- B. Modify and extend systems as Work progress requires.
- C. Completely remove temporary materials and equipment when their use is no longer required.
- D. Restore existing facilities used for temporary services to specified or to original condition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PREPARATION

- A. Temporary Utilities
 - 1. Make arrangements with utility service companies for temporary services.
 - 2. Abide by rules and regulations of the utility service companies or authorities having jurisdiction.
 - 3. Be responsible for utility service costs until the Work is substantially complete. Included are fuel, power, light, heat, and other utility services necessary for execution, completion, testing, and initial operation of the Work.
- B. Water
 - 1. The Contractor shall arrange for the necessary temporary water service, including but not limited to all required piping, valves, the securing of any permits and the acquisition of a temporary water meter.
 - 2. The Contractor shall make the necessary arrangements to supply water required for testing the work prior to acceptance, and maintain an adequate supply of potable water for domestic consumption by the Contractor personnel and Owner or its representatives.
 - 3. The cost of water usage will be borne by the Owner.

C. Electricity and Lighting

1. Provide electric powered service as required for the Work, including testing of Work. Provide power for lighting, operation of the Contractor's equipment, or for any other use by Contractor.
2. Electric power service includes temporary power service or generator to maintain facility operations during any scheduled shutdown if specifically stated elsewhere.
3. Minimum lighting level shall be 5-foot candles for open areas and 10-foot candles for stairs and shops.
4. The Contractor shall maintain all temporary power service for the duration of the Contract at his expense including but not limited to the Owner's Field Office.

~~D. Temporary Heat and Ventilation~~

- ~~1. Provide temporary heat as necessary for protection or completion of the Work.~~
- ~~2. Provide temporary heat and ventilation to assure safe working conditions; maintain enclosed areas at a minimum of 50°F.~~

E. Sanitary Facilities

1. Provide and maintain sanitary facilities for persons on the job site; comply with the regulations of State and local departments of health.
2. Enforce the use of sanitary facilities by construction personnel at the job site. Such facilities shall be enclosed. Pit-type toilets will not be permitted. No discharge will be allowed from these facilities. Collect and store sewage and waste so as not to cause a nuisance or health problem; have sewer and waste hauled off-site and properly disposed of, in accordance with local regulations.
3. Locate toilets near the Work site and secluded from view insofar as possible. Keep toilets clean and supplied throughout the course of the Work. Toilets shall not be placed within 50-feet of a public water supply well.

~~F. Field Office~~

~~1. Furnish and Locate~~

- ~~a. Furnish, install, and maintain a field office approximately 12' x 40' for the exclusive use of the Owner's Representative. Provide sufficient room for project meetings and office for Engineer. Locate the office on the Site or in a place approved by the Owner, Engineer or other authorized site representative.~~
- ~~b. Provide office space ready for occupancy ten (10) days after date fixed in Notice to Proceed.~~
- ~~c. Construct two all-weather, hard-surfaced parking spaces suitable for weather and duration of Project for use by the Engineer. Provide an all-weather surfaced walk between the parking spaces and the office.~~

~~2. Minimum Construction~~

- ~~a. Structurally sound foundation and superstructure.~~
- ~~b. Completely weather tight with insulated roof walls.~~
- ~~c. Exterior finish and interior finish acceptable to Engineer.~~

- d. ~~Stairs or walkway with handrail and entrance platform (4' x 4') with a mud scraper at door.~~
- e. ~~Resilient floor covering.~~
- f. ~~Screened windows with an area equal to approximately 10 percent of floor area sufficient for light, view, and ventilation. Provide windows with operable sash.~~
- g. ~~Secure, lockable exterior doors with dead bolt cylinder locks.~~

3. ~~Minimum Services~~

- a. ~~Exterior light at entrance.~~
- b. ~~Interior lighting of 50-foot candles at desk top height.~~
- c. ~~Automatic heating to maintain 65°F in winter.~~
- d. ~~Automatic cooling to maintain 75°F in summer.~~
- e. ~~Electric power service.~~
- f. ~~Four electric wall outlets.~~
- g. ~~Separate sanitary facilities. No connection to public sanitary service is available at the site.~~

4. ~~Minimum Furnishings~~

- a. ~~Two (2) 5-drawer desks~~
- b. ~~Two (2) swivel desk chairs.~~
- c. ~~One (1) drafting table with built-in drawer, drafting stool, and light.~~
- d. ~~Two (2) 4-drawer legal file cabinets.~~
- e. ~~Book shelving and bookcase with a minimum of 15 feet of shelf space.~~
- f. ~~Two (2) waste baskets.~~
- g. ~~One (1) tack board, 30" x 36".~~
- h. ~~Fire extinguishers.~~
- i. ~~Identifying exterior sign acceptable to Engineer.~~
- j. ~~First-aid kit.~~
- k. ~~Six (6) protective helmets (hard hats) and safety glasses for use by Owner, Engineer and visitors.~~
- l. ~~Conference table and chairs to accommodate ten (10) persons.~~
- m. ~~Other furnishings at Contractors' options.~~

5. ~~Maintenance~~

- a. ~~Schedule continuous maintenance of office, walkways, and services. Office to be cleaned not less than once per week.~~
- b. ~~Provide soap, paper towels, cleansers, janitorial service and appurtenances.~~
- c. ~~Immediately repair any damage, leaks, or defective service.~~

d. ~~Provide adequate space for one set of Contract Documents in the office for ready reference.~~

G. Storage Facilities

1. Provide adequately ventilated, watertight storage facilities with floor above ground level for materials and equipment susceptible to weather damage.
2. Storage of materials not susceptible to weather damage may be on blocks off the ground.
3. Store materials in a neat and orderly manner. Place materials and equipment to permit easy access for identification, inspection, and inventory.
4. Fill and grade site for temporary structures to provide drainage away from temporary and existing buildings.

H. Safety Requirements

1. When required, submit and follow a safety program.
2. Conduct operations in strict accord with applicable federal, state and local safety codes and statutes and with good construction practice. The Contractor is fully responsible and obligated to establish and maintain procedures for safety of all work, personnel, and equipment involved in the Project.
3. Observe and comply with Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by Secretary of Labor under Section 107 of Contract Work Hours and Standards Act, published in 29 CFR Part 1926 and adopted by Secretary of Labor as occupational safety and health standards under the Williams-Steiger Occupational Safety and Health Act of 1970, and observe and comply with any other legislation enacted for safety and health of Contractor's employees. Such safety and health standards apply to subcontractors and their employees as well as to the Contractor and its employees.
4. Observance of, and compliance with, the regulations shall be solely and without qualification of the responsibility of the Contractor without reliance or superintendence of, or direction by, the Owner, or the Engineer. Immediately advise the Owner of investigation or inspection by federal safety and health inspectors of the Contractor of subcontractor's work or place of work on the job site under this Contract, and after such investigation or inspection, advise the Owner of the results. Submit one (1) copy of accident reports to Owner within ten (10) days of the occurrence.
5. Protect areas occupied by workmen using the best available devices for detection of lethal and combustible gases. Test such devices frequently to assure their functional capability. Constantly observe infiltration of liquids into the Work area for visual or odor evidences of contamination. Immediately take appropriate steps to seal off entry of contaminated liquids to the Work area.
6. Safety measures, including but not limited to safety personnel, first-aid equipment, ventilating equipment, and safety equipment, in the specifications and shown on the Drawings, are obligations of the Contractor.
7. Maintain required coordination with local police and fire departments during the entire period covered by the Contract.

- I. First Aid Equipment
 - 1. Provide a first-aid kit throughout the construction period. List telephone numbers for physicians, hospitals, and ambulance services in each first-aid kit.
 - 2. Have at least one person thoroughly trained in first aid procedures present on the site whenever Work is in progress.
- J. Fire Protection
 - 1. Fire Protection Standards
 - a. Conform to specified fire protection and prevention requirements as well as to those which may be established by federal, state, or local governmental agencies.
 - b. Comply with all applicable provisions of NFPA Standard No. 241, Safeguarding Building Construction and Demolition Operations.
 - c. Provide portable fire extinguishers, rated not less than 2A or 5B in accordance with NFPA Standard No. 10, Portable Fire Extinguishers, for each temporary building, and for every 3,000 square feet of floor area of facilities under construction.
 - d. Locate portable fire extinguishers within 50 feet maximum from any point in the Project area.
 - 2. Fire Prevention and Safety Measures
 - a. Prohibit smoking in hazardous areas. Post suitable warning signs in areas which are continuously or intermittently hazardous.
 - b. Use metal safety containers for storage and handling of flammable and combustible liquids.
 - c. Do not store flammable or combustible liquids in or near stairways or exits.
 - d. Maintain clear exits from all points within a structure.
- K. Security Measures
 - 1. Protect all Work materials, equipment, and property from loss, theft, damage, and vandalism. Contractor's duty to protect property includes Owner's property and Inspector's property used in connection with the performance of the Contract.
 - 2. If existing fencing or barriers are breached or removed for purposes of constructions, provide and maintain temporary security fencing equal to existing.
- L. Environmental Controls
 - 1. The Contractor shall, without additional expense to the Owner, be responsible for complying with any applicable Federal, State and Municipal laws, codes and regulation, in connection with the prosecution of the Work. He shall take proper safety and health precautions to protect the Work, the workers, the public and the property of others. He shall also be responsible for all materials delivered and work performed.

M. Pollution Controls

1. Provide methods, means, and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious substance from construction operations.
2. Provide equipment and personnel to perform emergency measure required to contain any spillage, and to remove contaminated soils or liquids. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
3. Take special measures to prevent harmful substances from entering public waters. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants
 - a. Prevent toxic concentrations of chemicals.
 - b. Prevent harmful dispersal of pollutants into the atmosphere.
5. Use equipment during construction that conforms to current federal, state, and local laws and regulations.

N. Pest and Rodent Control

1. Provide rodent and pest control as necessary to prevent infestation of construction or storage areas.
2. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

O. Dust Control

1. Control objectionable dust caused by operation of vehicles and equipment. Apply water or use other methods, subject to approval of the Owner, which will control the amount of dust generated.

END OF SECTION

SECTION 01552

STORMWATER POLLUTION PREVENTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. The work to be performed under this section shall consist of furnishing all labor, equipment, and materials as required or necessary for stormwater pollution prevention as shown in the plans and specified herein.

1.2 REFERENCES

- A. Texas Department of Transportation.
 - 1. Item 164 - Seeding for Erosion Control
 - 2. Item 506 - Temporary Erosion, Sedimentation, and Environmental Controls

1.3 STORMWATER POLLUTION PREVENTION

- A. Contractor is required to develop and implement a storm water pollution prevention plan (SWPPP).
- B. The Contractor shall be solely responsible for minimizing erosion of the jobsite.
- C. In areas of cut and fill, and along ditch lines, the Contractor shall perform temporary grading as necessary to prevent the accumulation of water.
- D. The Contractor will be required to install erosion and sediment control measures to prevent the loss of soil from the site and siltation of the pipes and channels downstream from the project due to construction.
- E. The Contractor shall also comply with any and all applicable federal, state, and local regulations relating to water quality and stormwater runoff including, but not limited to, the TCEQ/TPDES storm water regulations.
- F. Any permits required for the construction site under the above referenced regulations shall be obtained by the Contractor. All responsibilities related thereto shall be placed upon the Contractor. All costs for erosion and sedimentation control (including fees) shall be included in the bid amount.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01610
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Transportation and Handling
- B. Storage and Protection
- C. Product Options
- D. Substitutions

1.02 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.03 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Provide off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.04 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.05 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within fifteen (15) days after date established in Notice to Proceed.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner and Engineer for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three (3) copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on the Contractor.
 - 3. The Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01700
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Comply with requirements of the General Conditions and specified administrative procedures in closing out the Construction Contract.

1.02 SUBMITTALS

- A. Submit affidavits and releases on forms provided by the Engineer.

1.03 SUBSTANTIAL COMPLETION

- A. Submit written notification that the work or designated portion of the work is substantially complete to the Engineer when the work is considered to be substantially complete per the General Conditions. Include a list of the items remaining to be completed or corrected before the project will be considered to be complete.
- B. Engineer shall visit the project site to observe the work within a reasonable time after notification is received to determine the status of completion.
- C. Engineer shall issue notification to the Contractor that the work is either substantially complete or that additional work must be performed before the project may be considered substantially complete.
 - 1. Engineer shall notify the Contractor in writing of items that must be completed before the project can be considered substantially complete.
 - a. Correct the noted deficiencies in the work.
 - b. Issue a second written notice with a revised list of deficiencies when work has been completed.
 - c. Engineer shall revisit the site and the procedure shall begin again.
 - 2. Engineer shall issue a Certificate of Substantial Completion to the Owner when the project is considered to be substantially complete. Certificate shall include a tentative list of items to be corrected before final payment.
 - a. Owner will review and revise the list of items and notify the Engineer of any objections or other items that are to be included in the list.
 - b. Engineer shall prepare and send to the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be corrected or completed.
 - c. Review the list and notify the Engineer in writing of any objections within 10 days of receipt of the Certificate of Substantial Completion.

1.04 FINAL INSPECTION

- A. Submit written certification to the Engineer when the project is complete and:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been completed in compliance with the Contract Documents.

3. Equipment and systems have been tested per Contract Documents and are fully operational.
 4. Final Operations and Maintenance Manuals have been provided to the Owner and all operator training has been completed.
 5. Specified spare parts and special tools have been provided.
 6. Work is complete and ready for final inspection.
- B. Engineer shall make an inspection with the Owner and appropriate regulatory agencies to determine the status of completeness within a reasonable time after the receipt of the Certificate.
- C. Engineer shall issue notice that the project is complete or notify the Contractor that work is not complete or is defective.
1. Submit the request for final payment with Closeout submittals described in Paragraph 1.07 if notified that the project is complete and the work is acceptable.
 2. Upon receipt of notification from the Engineer that work is incomplete or defective, take immediate steps to remedy the stated deficiencies. Send a second certification to the Engineer when work has been completed or corrected.
 3. Engineer shall re-visit the site and the procedure will begin again.

1.05 REINSPECTION FEES

- A. Pay fees to the Owner to compensate the Engineer for re-inspection of the work required by the failure of the work to comply with the claims of status of completion made by the Contractor.
- B. Owner may withhold the amount of these fees from the Contractor's final payment.
- C. Cost for additional inspections will be billed to the Owner by the Engineer for the actual hours required for the re-inspection and preparation of related reports in accordance with the Engineer's current rate schedule.

1.06 CLOSEOUT SUBMITTALS TO THE ENGINEER

- A. Record Drawings per Section 01310 – Project Management and Coordination.
- B. Keys and keying schedule (if applicable).
- C. Warranties and bonds.
- D. Evidence of payment or release of liens on the forms provided by the Engineer and as required by the General Conditions.
- E. Consent from Surety to Final Payment.
- F. Equipment installation reports on equipment.
- G. Shop drawings, record data, Operations and Maintenance Manuals, and other submittals as required by the Contract Documents.
- H. Specified spare parts and special tools.
- ~~I. Certificates of Occupancy, operating certificates, or other similar releases required to allow the Owner unrestricted use of the work and access to services and utilities.~~

- J. Evidence of final, continuing insurance, and bond coverage as required by the Contract Documents.

1.07 FINAL APPLICATION FOR PAYMENT REQUEST

- A. Submit a preliminary final Application for Payment. This application is to include adjustments to the Contract Amount for:
 - 1. Approved Change Orders
 - 2. Allowances not previously adjusted by Change Order
 - 3. Unit prices
 - 4. Deductions for defective work that has been accepted by the Owner
 - 5. Penalties and bonuses
 - 6. Deductions for liquidated damages
 - 7. Deductions for re-inspection payments per Paragraph 1.05
 - 8. Other adjustments
- B. Engineer shall prepare a final Change Order, reflecting the approved adjustments to the contract amount which have not been covered by previously approved Change Orders.
- C. Submit the final application for payment per the General Conditions, including the final Change Order and Affidavit of Bills Paid.

~~1.08 TRANSFER OF UTILITIES~~

- ~~A. Transfer utilities to the Owner when the Certificate of Substantial Completion has been issued, final cleaning has been completed per Section 01741 – Final Cleaning, and the work has been occupied by the Owner.~~
- ~~B. Submit final meter readings for utilities and similar data as of the date the Owner occupied the work.~~

1.09 WARRANTIES, BONDS AND SERVICE AGREEMENTS

- A. Provide warranties, bonds, and service agreements required by Section 01330 – Shop Drawings and Submittals or by the individual sections of the specifications.
- B. The date for the start of warranties, bonds, and service agreements is established per the General Conditions.
- C. Compile warranties, bonds, and service agreements and review these documents for compliance with the Contract Documents.
 - 1. Each document is to be signed by the respective Supplier or Subcontractor.
 - 2. Each document is to include:
 - a. The product or work item description
 - b. The firm, with the name of the principal, address, and telephone number
 - c. Scope of warranty, bond or services agreement
 - d. Date, duration, and expiration date for each warranty bond and service agreement

- e. Procedures to be followed in the event of a failure
 - f. Specific instances that might invalidate the warranty or bond
- D. Submit two copies of each document to the Engineer for review and transmittal to the Owner.
 - 1. Submit duplicate sets.
 - 2. Documents are to be submitted on 8-1/2" x 11" paper, punched for a standard three-ring binder.
 - 3. Submit each set in a commercial quality three-ring binder with a durable and cleanable plastic cover. The title "Warranties, Bonds, and Services Agreements", the project name and the name of the Contractor are to be typed and affixed to the cover.
- E. Submit warranties, bonds and services agreements:
 - 1. At the time of final completion and before final payment.
 - 2. Within 10 days after inspection and acceptance for equipment or components placed in service during the progress of construction.

1.10 CLAIMS AND DISPUTES

- A. Claims and disputes must be resolved prior to recommendations of final Application for Payment. Acceptance of final payment by the Contractor will indicate that any outstanding claims or disputed issues have been resolved to the full satisfaction of the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01740
CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. This item shall govern for furnishing of all labor, equipment, materials and incidentals to restore any disturbed or damaged surfaces and/or items to a condition equal to or better than that which existed before work began. The Contractor shall leave the construction site clean.

1.02 MEASUREMENT AND PAYMENT

- A. No separate or extra payment will be made for restoration and clean up. It shall be included in the prices bid for the various items of work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CONSTRUCTION METHODS

- A. As soon as the work is completed in any area, the Contractor shall, to the satisfaction of the Owner, clean the construction site and any adjoining areas used by Contractor and shall make any restorations necessary to leave the site in a condition equal to or better than prior to construction. This work shall be done without any additional expense to the Owner.
- B. The Contractor shall restore and/or replace any paving, curbing, sidewalks, culverts, gutters, shrubbery, or other plants, fences, sod or other disturbed surfaces or structures. The size, thickness, strength, texture, or condition of restored items shall be equal to that which existed before work began, all to the satisfaction of the Owner.
- C. Private roads used by the Contractor shall be restored to former condition to the satisfaction of the Engineer.
- D. Any rock, including loose rock having a dimension three inches or more, encountered by the grading, trenching or boring operations, not backfilled according to the specifications, shall be removed from the construction site and disposed of at locations and in a manner that is satisfactory to the Engineer.
- E. Unless directed otherwise by the Owner, all materials used for providing temporary roadways for construction equipment shall be removed and disposed of.
- F. All debris, pavement and excess earth from excavations shall be removed and disposed of by the Contractor in a manner satisfactory to the Owner.
- G. If the Contractor attempts to perform cleanup operations during adverse weather or wet ground conditions, the Contractor shall assume full risk of acceptance and the Contractor may be required to again perform such cleanup at the Contractor's expense in order to meet the required standard of normal dry weather cleanup.
- H. At no time during the progress of the work shall the completed cleanup operation be a greater distance behind the completed work than is deemed advisable by the Owner. It is

the intent of this specification that site cleanup be a continuous effort and the Contractor is expected to take whatever measures are required to keep the site clean.

- I. Before the final acceptance of the project, the entire project site shall be cleared of all surplus and waste materials from the work and otherwise restored to a condition equal to or better than that which existed before the work began.

END OF SECTION

**SECTION 01741
FINAL CLEANING**

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section specifies administrative and procedural requirements for final cleaning at substantial completion.
- B. Perform a thorough cleaning of the site, buildings, or other structures prior to Owner occupancy of the buildings, and prior to Final Completion. Leave the project clean and ready for occupancy.

1.02 SUBMITTALS

- A. ~~Provide data for maintenance per Section 01780—Operation and Maintenance Data.~~

1.03 QUALITY CONTROL

- A. Use experienced workmen or professional cleaners for final cleaning.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Furnish the labor and products needed for cleaning and finishing as recommended by the Manufacturer of the surface material being cleaned.
- B. Use cleaning products only on the surfaces recommended by the Supplier.
- C. Use only those cleaning products which will not create hazards to health or property and which will not damage surfaces.

PART 3 EXECUTION

3.01 FINAL CLEANING

- A. Thoroughly clean the entire site and make ready for occupancy.
 - 1. Remove construction debris, boxes, and trash from the site.
 - 2. Remove construction storage sheds and field offices.
 - 3. Restore grade to match surrounding condition and remove excess dirt.
 - 4. Sweep all drives and parking lots clean of dirt and debris. Use water truck or hose down paved site to like new appearance.
- B. ~~Clean floors and inspect for damage.~~
 - 1. ~~Remove oil, grease, paint drippings, and other contaminants from floors, then mop repeatedly until thoroughly clean. Replace damaged flooring.~~
 - 2. ~~Clean resilient flooring with an approved cleaner and provide one (1) coat liquid floor polish as recommended by the flooring Supplier. Polish to a buffed appearance with powered floor buffer.~~
 - 3. ~~Vacuum all carpets with powered floor sweeper to remove dirt and dust. Remove glue or other substances from nap of carpet.~~

- C. ~~Clean and polish inside and outside glass surfaces. Wash with window cleaner and water, apply a coat of high quality glass polish and wipe clean. Do not scratch or otherwise mar glass surfaces.~~
- D. ~~Clean wall surfaces to remove dirt or scuff marks. Remove excess adhesive along top edges of wall base. Remove adhesive from surfaces of vinyl wall coverings.~~
- E. ~~Align tile to fit properly in grid and replace cracked or damaged tile. Remove smear marks and other dirt from tile and clean surface of grid system.~~
- F. ~~Spot paint nicks and other damage. If spot painting does not blend into the existing color and texture of the surrounding surfaces, repaint wall from inside corner to inside corner. Touch up damaged surfaces on factory finished equipment using special paint furnished by the Manufacturer.~~
- G. ~~Clean plumbing fixtures, valves, and trim. Clean toilet seats and covers. Remove labels and adhesive from fixtures. Remove floor drains and clean baskets or buckets. Polish strainers and exposed chrome or brass.~~
- H. ~~Remove dirt, oil, grease, dust and other contaminants from floors, equipment and apparatus in mechanical and electrical rooms with vacuum.~~
- I. ~~Clean and polish ceramic tile floors and wall surfaces to remove mildew or other stains. Tuck point defective joints.~~
- J. Inspect exterior painted surfaces. Spot paint any damaged surfaces.
- K. ~~Clean permanent filters and replace disposable filters on heating, ventilating, and air conditioning systems. Clean ducts, blowers, and coils if units were operated without filters during construction.~~
- L. ~~Clean roof areas of debris; flush roof drainage systems with water until clear.~~
- M. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.
- N. ~~Clean and polish all electrical equipment and exposed conduits. Remove paint overspray. Provide a blemish free appearance on all exposed equipment and conduits.~~

END OF SECTION

DIVISION 02000

SITE CONSTRUCTION

SECTION 02000
REFERENCES TO TXDOT STANDARD SPECIFICATIONS

PART 1 GENERAL

1.01 GENERAL INFORMATION

- A. All pavement and culvert construction for this project shall be performed in accordance with the 2004 edition of the Texas Department of Transportation (TxDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES".

The items contained in this Section set forth clarifications to, or enlargement upon, the TxDOT Specifications and are made a part thereof by their reference in this Section. In the event of a conflict between these amendments and the TxDOT Specifications, these amendments control

In the event of a conflict between the TxDOT Specifications and the Contract Documents Division 0 through Division 16, the Contract Documents Division 0 through Division 16 control.

1.02 STANDARD SPECIFICATIONS

- A. The Texas Department of Transportation (TxDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES" applicable to this project are identified as follows:

| Item No. | Description |
|----------|------------------------------|
| 164 | Seeding for Erosion Control |
| 166 | Fertilizer |
| 168 | Vegetative Watering |
| 247 | Flexible Base |
| 351 | Flexible Pavement Repair |
| 340 | Concrete Pavement Repair |
| 402 | Trench Excavation Protection |
| 500 | Mobilization |

1.03 MODIFICATIONS TO STANDARD SPECIFICATIONS

- A. The following modifications shall govern and take precedence over the Standard Specifications.
- B. All items
1. Measurement and payment shall only be made for those items listed in the Bid Proposal. The unit of measurement shall be as shown in the Bid Proposal.
 2. Items not listed in the Bid Proposal shall be considered subsidiary to the item(s) of work for which it pertains.
- C. Item 164

1. Section 164.2, "Materials", shall be replaced with the following:

MATERIALS: All seed used must carry a Texas Testing Seed Label showing purity and germination, name and type of that the seed meets all requirements of the Texas Seed law. Seed furnished shall be of the previous season's crop and the date of the analysis shown on each tag shall be within nine (9) months of the time of delivery to 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 Engineer.

The specified seed shall equal or exceed the following percentages for purity and germination:

| Common Name | Scientific Name | Purity | Germination |
|-----------------------|--------------------------------------|--------|-------------|
| Bermuda Grass | <i>Cynodon dactylon</i> | 95% | 90% |
| Rye Grass | <i>Lolium multiflorum</i> | 95% | 85% |
| Buffalo Grass | <i>Buchloe dactyloides</i> | 40% | 40% |
| Blue Grama Grass | <i>Bouteloua gracilis</i> | 30% | 75% |
| Side-Oats Grama Grass | <i>Bouteloua curtipendula</i> | 20% | 50% |
| Little Bluestem Grass | <i>Andropogon scoparius</i> | 20% | 50% |
| Big Bluestem Grass | <i>Andropogon furcatus</i> | 20% | 50% |
| K-R Bluestem Grass | <i>Andropogon species</i> | 20% | 50% |
| Buffel Grass | <i>Pennisetum ciliare</i> | 90% | 75% |
| Sudan Grass | <i>Sorghum vulgare</i> Var. Sudanese | 80% | 80% |
| Dropseed Grass | <i>Sporobolus Texanus</i> | 90% | 60% |
| Western Wheat Grass | <i>Agropyron Smithii</i> | 65% | 65% |
| Yellow Clover | <i>Melilotus officinalis</i> | 90% | 90% |
| Oats | <i>Avena sativa</i> | 85% | 85% |

PLANTING SEASON: All planting shall be done between the dates specified for each type except as specifically authorized in writing.

The seeds planted per acre shall be of the type specified with the mixture, rate, and planning dates as follows:

| | | |
|--------|--------------------------|--------------------------------------|
| Type 1 | Bermuda Grass – hulled | 8 lbs. April through September |
| Type 2 | Buffel Grass | 10 lbs. March through May |
| Type 3 | Rye Grass | 35 lbs. September through January 15 |
| Type 4 | Bermuda Grass – unhulled | 12 lbs. February through May |
| Type 5 | Bermuda Grass – unhulled | 8 lbs. |
| | Sudan Grass | 10 lbs. February through May |
| Type 6 | Blue Grama | 15 lbs. |
| | Side-Oats Grama | 4 lbs. |
| | Western Wheat | 5 lbs. |
| | Yellow Cover | 4 lbs. |
| | Dropseed Grass | 4 lbs. |
| | Sudan Grass | 8 lbs. March through May |

2. This is a plans quantity measurement item.

D. Item 166

1. Section 166.2, "Materials", shall be replaced with the following:

MATERIALS: All fertilizer used shall be delivered in bags or containers clearly labeled showing the analysis. The fertilizer is subject to testing by the State Chemist in accordance with the Texas Fertilizer Law. A pelleted or granulated fertilizer shall be used with an analysis of 12-12-12 or 16-8-8 or having the analysis shown on the plans. The figures in the analysis represent the percent of nitrogen (N), phosphoric acid (H₃PO₄), and potash nutrients respectively as determined by the methods of the Association of Official Agricultural Chemists.

In the event it is necessary to substitute a fertilizer of a different analysis, it shall be a pelleted or granulated fertilizer with a lower concentration. The total amount of nutrients furnished and applied per acre shall equal or exceed that specified for each nutrient.

2. Section 166.3, "Construction Methods", shall be replaced with the following:

CONSTRUCTION METHODS: When an item for fertilizer is included in the plans and proposal, pelleted or granulated fertilizer shall be applied uniformly over the area specified to be fertilized and in the manner directed for the particular item or work. The fertilizer shall be dry and in good physical condition. Fertilizer that is powdered or caked will be rejected. Distribution of fertilizer for the particular item of work shall meet the approval of the Engineer.

3. This is a plans quantity measurement item.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 02105

BARRICADES, SIGNS, AND TRAFFIC HANDLING

PART 1 GENERAL

1.1 SECTION INCLUDES

This item shall consist of providing, installing moving, replacing, maintaining, cleaning, and removing upon completion of work all barricades, signs, barriers, cones, lights, signals, and such type devices and of handling traffic as indicated in the plans or as directed by the Engineer.

1.2 REFERENCES

- A. Texas Manual on Uniform Traffic Control Devices (TMUTCD).
- B. Tx502, Barricades, Signs, and Traffic Handling

1.3 QUALITY ASSURANCE

- A. All barricades, signs, and other types of devices listed above shall conform to details shown in the plans or those indicated in the TMUTCD.
- B. Prior to beginning work, the Contractor shall designate a competent person who will be responsible and available on the project site or in the immediate area to insure compliance with traffic control requirements.

1.4 SUBMITTALS

- A. The Contractor shall submit a traffic control plan to the Engineer for approval prior to beginning construction. The traffic control plan shall be signed and sealed by an Engineer registered in the State of Texas. The traffic control plan shall include the method (s) to be used to remove excess dirt from vehicles prior to entering streets.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

- A. Barricades, signs, and traffic handling devices shall be installed and maintained in accordance with the approved traffic control plan and TxDOT Standard Specification Tx502. These devices shall be maintained throughout the duration of the project unless otherwise approved by the Engineer.
- B. Contractor shall be responsible for coordinating any traffic flow modifications with City officials.

END OF SECTION

SECTION 02205

SOIL MATERIALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Subsoil materials.
- B. Topsoil materials.

1.2 RELATED SECTIONS

- A. Section 01330 Submittals.
- B. Section 01430 Quality Control: Testing soil fill materials.
- C. Section 02207 Aggregate Materials.
- D. Section 02225 Excavating, Backfilling, and Compacting for Utilities.

1.3 REFERENCES

- A. ASTM D698 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures.
- B. ASTM D2487 – Classification of Soils for Engineering Purposes.
- C. ASTM D2922 – Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 – Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Samples: Submit, in air-tight containers, 10 lb. sample of each type of fill to testing laboratory. All off-site materials must be approved by the Engineer prior to installation.
- C. Materials Source: Submit name of imported materials source.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with plans and specifications, TxDOT standards, and Owner requirements.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Soil Type S1 – Subgrade material:
 - 1. Material remaining in place after excavation.
 - 2. Suitable for slab/foundation subgrade, undisturbed nor over excavated.
 - 3. Where subgrade soils are soft, loose, or otherwise unsatisfactory, the soil shall be removed and replaced with select fill or soil cement as determined by the Engineer.
- B. Soil Type S2 – Common Fill:
 - 1. Excavated and re-used material or from borrow approved by the Engineer.
 - 2. Graded free of lumps larger than 3 inches, rocks larger than 2 inches, excessive silts and debris.
 - 3. Do not use soil containing brush, roots, or similar organic matter.
 - 4. Conforming to ASTM D2487 Class II or Class III soils with a liquid limit less than 40, and a plasticity index less than 20, but greater than 4.
- C. Soil Type S3 – Select Fill:
 - 1. Imported borrow material from borrow area approved by the Engineer. Material shall be tested for compliance by the Contractor and test results submitted to the Engineer for approval.
 - 2. Clayey sand soils free from organic matter with no lumps larger than 1 inch, no rocks larger than ½ inch, nor excessive silts.
 - 3. Do not use soils containing brush, roots, sod or other organic materials.
 - 4. Select fill shall conform to ASTM D2487 Class II or Class III and shall have a liquid limit less than 30 with a plasticity index less than 15 but greater than 4.
- D. Soil Type S4 – Top Soil:
 - 1. Soil suitable for growth of surface cover. Material stripped and stockpiled from site or borrowed from off site.
 - 2. Free from roots, brush, rocks, and other extraneous matter exceeding 1 inch in any direction. Free from weeds
 - 3. Minimum 60% sand, Maximum 30% silts, Maximum 10% clay, no less than 6% and no more than 20% organic matter.
 - 4. Submit test data showing compliance with this specification. Include percent weight of constituent material, material particle size, and pH.

2.2 SOURCE QUALITY CONTROL

- A. Section 01430 – Quality Control: Testing and analysis of soil material.
- B. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D698.
- C. Testing and Analysis of Topsoil Material: Perform in accordance with ASTM D698.
- D. If tests indicate materials do not meet specified requirements, change material and retest.

- E. Provide materials of each type from same source throughout the Work. A change in source requires sampling, testing, and approval by the Engineer.

PART 3 EXECUTION

3.1 SOIL REMOVAL

- A. Excavate soils from areas designated.
- B. Remove lumped soil, boulders, and rock.
- C. Stockpile excavated material in area designated on site and remove excess material not being used, from site.

3.2 STOCKPILING

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

3.3 STOCKPILE CLEANUP

- A. Excess material in stockpile shall be removed and disposed of at the end of the project.
- B. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.
- C. If a borrow area is indicated, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 32207

AGGREGATE MATERIALS

PART 1 GENERAL

1.1 SECTION INCLUDES

Aggregate materials.

1.2 RELATED SECTIONS

- A. Section 01330 Submittals
- B. Section 01430 Quality Control.
- C. Section 02205 Soil Materials.
- D. Section 02225 Excavation, Backfilling, and Compacting for Utilities.

1.3 REFERENCES

- A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures.
- C. ASTM D2487 - Classification of Soils for Engineering Purposes.
- D. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- F. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- G. ASTM C33 - Standard Specification for Concrete Aggregates
- H. TxDOT 247 – Flexible Base

1.4 SUBMITTALS FOR REVIEW

- A. Submit under provisions of Section 01330
- B. Product data sheet on all aggregates and riprap to be used in the project
- C. Submit, in air-tight containers, 10 lb. sample of each type of material to testing laboratory. Materials must be approved by the Engineer prior to installation.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with TxDOT specifications and the requirements of the drawings.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

- A. Aggregate Type A1 - Drain Rock

1. Drain rock shall be clean, washed, sound, durable, well-graded crushed rock, crushed gravel, or natural stone gravel.
2. Drain rock shall conform to ASTM C33 Size No. 3 coarse aggregate as shown in the following table.

| Sieve Size | Percent Passing (By Weight) |
|------------|--------------------------------|
| 2 ½ in. | 100 |
| 2 in. | 90-100 |
| 1 ½ in. | 35-70 |
| 1 in. | 0-15 |
| ½ in. | 0-5 |

- B. Aggregate Type A2 – Type 1 Pipe Embedment

1. Type 1 pipe embedment shall be clean, washed, sound, durable, well-graded crushed rock, crushed gravel, or natural stone gravel.
2. Type 1 pipe embedment shall conform to ASTM C33 Size No. 57 coarse aggregate as shown in the following table.

| Sieve Size | Percent Passing (By Weight) |
|------------|--------------------------------|
| 1 ½ in. | 100 |
| 1 in. | 95-100 |
| ½ in. | 25-60 |
| No. 4 | 0-10 |
| No. 8 | 0-5 |

- C. Aggregate Type A3 – Type 2 Pipe Embedment

Type 2 pipe embedment shall consist of a well-graded, angular, crushed rock with a maximum particle size of ¾ inch. No more than 10% of the material shall pass the No. 200 sieve.

- D. Aggregate Type A4 - Pea Gravel

1. Pea gravel shall be natural gravel that is washed and free of clay, shale, and organic matter. It shall be graded in accordance with ASTM C136 to the following limits:
2. Minimum Size: 1/4 inch
3. Maximum Size: 5/8 inch

- E. Aggregate Type A5 – Type “R” Modified Rock Riprap:
1. Natural stone, washed free of clay and shale, and shall meet all of the requirements of TxDOT Item 432, for Type R Stone Riprap with the following modifications:
 - a. Stones shall weight between 50 to 150 pounds with no less than 50 percent of the stones shall weigh more than 100 pounds.
 - b. Rock’s longest dimension shall not exceed 3 times that of the shortest dimension.
 - c. Delete paragraphs 432.4 Measurement and 432.5 Payment, and refer to Section 01200 – Unit Bid Prices of these specifications.
- F. Aggregate Type A7 – Flexible Base
1. Flexible base material shall be crushed stone produced from oversize quarried aggregate, sized by crushing, and produced from a naturally occurring single source. Crushed gravel or uncrushed gravel shall not be acceptable. No blending of sources or additive materials will be allowed in flexible base.
 2. Flexible base material shall conform to TxDOT Item No. 247 Type A Grade 2.

2.2 FINE AGGREGATE MATERIALS

Aggregate Type A6 – Sand

- A. Sand shall be natural river or bank sand that is free of silt, clay, loam, friable or soluble materials, and organic matter.
- B. Sand shall conform to the gradation shown in the following table.

| Sieve Size | Percent Passing (By Weight) |
|------------|--------------------------------|
| No. 4 | 100 |
| No. 16 | 80-100 |
| No. 50 | 20-60 |
| No. 100 | 10-40 |
| No. 200 | 0-10 |

2.3 SOURCE QUALITY CONTROL

- A. Section 01430 - Quality Control.
- B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698, and ASTM C33.
- C. Fine Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698, and ASTM C33.
- D. Provide materials of each type from same source throughout the Work. A change in source requires sampling, testing, and approval by the Engineer.

PART 3 EXECUTION

3.1 STOCKPILING

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

3.2 STOCKPILE CLEANUP

- A. Excess material in stockpile shall be removed and disposed of at the end of the project.
- B. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.
- C. If a borrow area is indicated, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

3.3 INSTALLATION

- A. Install all aggregate materials to the lines, grades, depth, and dimensions as shown on the plans.
- B. Aggregate shall be compacted as required by the plans and tested in accordance with ASTM D698.
- C. Aggregate materials installed beyond the dimensions shown on the drawings shall not result in additional pay to the Contractor.

END OF SECTION

**SECTION 02230
CLEARING AND GRUBBING**

PART 1 GENERAL

1.01 DESCRIPTION

- A. This section of the specifications includes the furnishing of all labor, equipment, tools and materials, and the performance of all operations required to prepare the project site, designated easements, or work area for grading, excavation and embankment.

1.02 DEFINITIONS

- A. Clearing shall consist of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposal of fallen timber, previously uprooted trees and stumps, and surface debris.
- B. Grubbing shall consist of excavation and disposal of stumps and roots, boulders and rock fragments of specified size to not less than a specified depth below existing ground surface.
- C. Debris shall consist of curb and gutter, driveways, paved parking areas, miscellaneous stone, brick, concrete sidewalks, drainage structures, manholes, inlets, abandoned railroad tracks, scrap metal, and all rubbish and debris whether above or below ground.
- D. Obstructions shall be considered to include remains of houses not completely removed by others, foundations, floor slabs, concrete, brick, lumber, plaster, cisterns, water wells, septic tanks, basements, abandoned utility pipes or conduits, fences, retaining walls, outhouses, shacks and all other debris.

1.03 MEASUREMENT AND PAYMENT

- A. No separate measurement will be made for the work covered under this section of the Specifications unless specifically referred to in the bid proposal as a bid item.
- B. No separate payment will be made for work covered under this Section of the Specifications and all cost in connection therewith shall be included in the contract price for the item to which the work pertains unless otherwise stated or referred to in the bid proposal and listed as a unit bid item

1.04 SUBMITTALS

- A. Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWP3), if applicable.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 GENERAL

- A. The entire site for this project, and such additional easement areas as made available for construction of this project, shall be cleared of all structures, obstructions, and vegetation, as defined in Paragraph 1.02 of this specification, except for trees or shrubs specifically designated for preservation by the Engineer. Those trees or shrubs shall be carefully trimmed as directed by the Engineer and shall be protected from abuse, marring, or damage during construction operations. Exposed ends of pruned limbs shall be treated with an

- approved asphaltic material. Continual parking and/or servicing of equipment under the branches of trees designated for preservation will not be permitted.
- B. Culverts, storm sewers, manholes, and inlets shall be removed in proper sequence for maintenance of traffic and drainage.
 - C. Unless otherwise indicated on the plans, all foundations and underground obstructions shall be removed to the following depths:
 - 1. In areas to receive embankment, two feet (2') below natural ground.
 - 2. In areas to be excavated, two feet (2') below the lowest elevation of the excavation
 - 3. All other areas, one foot (1') below natural ground.
 - D. All basement walls and floors, cisterns, and septic tanks within the limits of the project site shall be removed and the resulting holes backfilled with approved material as directed by the Engineer.
 - E. Holes remaining after removal of all obstructions, objectionable material, trees, stumps, etc. shall be backfilled with approved material and tamped as directed by the Engineer. The Contractor shall complete the operation of preparing the project site by blading, bulldozing, or by other approved methods, so that the prepared project site shall be free of holes, ditches, and other abrupt changes in elevation and irregularity of contour.
 - F. The remaining ends of all abandoned storm sewers, culverts, sanitary sewers, conduits, and water or gas pipes shall be plugged with an adequate quantity of concrete to form a tight closure.
 - G. Abandoned water wells discovered during clearing and grubbing operations shall be brought to the attention of the Engineer for direction regarding proper methods of plugging/backfill.

3.02 CLEARING AND GRUBBING

- A. All clearing and grubbing operations shall be conducted in such a manner as to prevent damage to adjacent property, fences, and existing structures. In particular instances, trees or plants may be noted on the plans "To Remain". Trees and plants designated to remain shall be carefully trimmed as directed by the Engineer and shall be protected from abuse, marring, or damage during construction operations. Exposed ends of pruned limbs shall be treated with an approved asphaltic material. Continual parking and/or servicing of equipment under the branches of trees designated for preservation will not be permitted.
- B. Roadway, Structure, Borrow Pit, and Channel Excavation: All stumps roots, trees, etc. within the limits of the excavations shall be removed to a depth of at least one foot (1') below the lowest elevation of the excavation. The Contractor shall also clear the full project site of brush, logs, rubbish, and other objectionable material, except for grass and small weeds. Except as necessary to accommodate the Contractor's operations, trees outside the limits of the excavation shall not be removed without permission from the Engineer. In areas required for borrow pits, the trees, stumps, roots, and other objectionable materials shall be removed to the complete extent necessary to prevent such material from becoming mixed with the material to be used in construction.
- C. Embankment Areas: In areas required for embankment construction less than three feet (3') deep, all trees, stumps, roots, etc. shall be removed to a depth of at least one foot (1') below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled with approved material and tamped as directed by the Engineer. In areas where the embankment will be more than three feet (3') deep, trees, stumps, roots, etc. may be

cut off as close to natural ground as practicable. The Contractor shall also clear the full project site as specified above for areas outside the limits of excavation.

3.03 DISPOSAL OF WASTE

- A. Disposal of cleared material shall be the Contractor's responsibility. Waste **shall not** be disposed of by burning within the corporate limits of the City or within its extraterritorial jurisdiction unless written permission is provided by the Owner; and burning operations shall be conducted in a manner to avoid hazard to the work, structures, and adjacent property. During any burning operations, the Contractor shall comply with all laws and regulations relating to the disposal of waste by fire and shall provide constant attendance at fires until fires have been extinguished or have completely burned out.

3.04 REMOVAL OF WASTE

- A. The Contractor shall remove completely from the site all unburned and partly burned timber, waste debris, and rubbish resulting from clearing operations. The material shall not be wasted on adjacent property without the express consent of the property owner concerned. The project site shall be cleaned and left in a neat and orderly condition.

END OF SECTION

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SECTION 02316

EXCAVATION, TRENCHING AND BACKFILLING

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all operations in connection with the excavation, trenching and backfilling for utilities. Items in this section shall be completed in accordance with the applicable specifications and drawings and be subject to terms and conditions of the Contract.
- B. Excavation shall include the removal of any trees, stumps, brush, debris, or other obstacles that may obstruct the line of work, and the excavation, installation of trench safety systems as required and removal of all earth, rock or other materials to the extent necessary to install the pipe and appurtenances in conformance with the lines and grades shown on the Drawings, or as specified.
- C. Backfill shall include the refilling and consolidation of the fill in the trenches and excavations up to the surrounding ground surface or road grade at crossing.
- D. Where construction enters the limits of City, State or County right-of-way, the requirements of these agencies shall be met.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01450 – Testing Laboratory Services
- B. Section 03300 – Cast-In-Place Concrete
- C. Section 02230 – Clearing and Grubbing

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

- A. AWWA C600 – Installation of Ductile-Iron Mains and Their Appurtenances
- B. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
- C. 29 CFR 1926 – OSHA Safety and Health Standards

1.04 MEASUREMENT AND PAYMENT

- A. No separate measurement will be made for the work covered under this section of the Specifications unless specifically referred to in the bid proposal as a bid item.
- B. No separate payment will be made for work covered under this Section of the Specifications and all cost in connection therewith shall be included in the contract price for the item to which the work pertains unless otherwise stated or referred to in the bid proposal and listed as a unit bid item.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Crushed stone embedment shall consist of crushed stone or gravel with the following grading requirements, and shall be in compliance with ASTM C33 for Course Concrete Aggregate.

| SIEVE SIZE | AMOUNT PASSING |
|---------------------|--------------------------|
| <u>SQ. OPENINGS</u> | <u>PERCENT BY WEIGHT</u> |
| 1" | 95 - 100 |
| ¾" | 55 - 85 |
| ½" | 25 - 50 |
| No. 4 | 0 - 5 |

- B. Granular Material

- Granular material for embedment and backfill shall be defined as free flowing river run, sandy gravel or blended sand and crushed rock, free from large stones, clay, and organic material. The embedment material shall be such that when wet, the fine material will not form mud or muck. The embedment material shall be composed of tough durable particles, reasonably free from thin, flat and elongated pieces, and of suitable quality to insure permanence in the trench. The P.I. of the fines shall not exceed 3. Lightweight aggregate is not acceptable for granular embedment.
- Granular embedment for semi-rigid pipe, including PVC, shall meet the gradation requirements listed below. Trench cuttings that meet the requirements of this section may be utilized for embedment.

| SIEVE SIZE | AMOUNT PASSING |
|---------------------|--------------------------|
| <u>SQ. OPENINGS</u> | <u>PERCENT BY WEIGHT</u> |
| 1 ½" | 100% |
| No. 4 | <50% |
| No. 200 | 5% - 12% |

- C. Select material shall consist of gravel, fine rock cuttings, sand, sandy loam or loam free from excessive clay. Rock cuttings shall have no dimension greater than two inches. Select material shall possess a Plasticity Index between 4 and 20, with a liquid limit of 35 or less and not more than 20% passing a number 200 sieve, or as specified in the Geotechnical Report. Trench cuttings may be utilized as select material provided the conditions of this paragraph are met.
- D. Concrete embedment and encasement shall have a minimum compressive strength of 2,000 pounds per square inch at 28 days. Dry mix will not be permitted. The concrete cushion portion of the embedment or encasement shall be mixed moist or damp to give a slump of not more than one inch. Concrete for the sides and top, if specified, shall be mixed to obtain a slump of not less than one inch, nor more than three inches, and shall be placed after the concrete used for cushion portion of the embedment or encasement sets up.
- E. Flowable backfill shall consist of a mixture of native soils or manufactured materials, cement and/or fly ash, and water which produces a material with unconfined compressive strength of between 250-psi and 450-psi after 28-days. Any materials used shall be primarily granular, with a plasticity index <12 and with 100% passing a ¾-in. sieve. The flowable

mixture shall be mixed in a pug mill, concrete mixer, or transit mixer and shall have a minimum slump of 5-in. The flowable mixture must be allowed to set prior to the placement of any overlying material.

- F. When shown on the plans, backfill the trench to the elevations shown with cement-stabilized backfill. Cement-stabilized backfill shall consist of water, clean sand and a minimum of 7% cement based on dry weight of the aggregate, in accordance with Tex-120-E. Place cement-stabilized backfill equally along both sides of the pipe to prevent strain or displacement. Cement-stabilized backfill shall be placed in lifts not to exceed 9" thick and be tamped. Hand tampers will be required in the initial backfill zone.

2.02 TESTING REQUIREMENTS

- A. Density. All references to "Maximum dry density" shall mean the maximum dry density defined by the "Maximum Density-Optimum Moisture Test," ASTM D698, unless otherwise specified. Determination of the density of backfill in-place shall be in accordance with the requirements of ASTM D2922, "Density of Soil and Soil-Aggregate in Place by Nuclear Methods Shallow Depth" .
- B. Sources and Evaluation Testing. Materials to be used for embedment and granular material to be used for select backfill shall be obtained in accordance with a sampling plan and ASTM D75, "Sampling Aggregates". Testing of materials to certify conformance with the specification of requirements shall be performed by an independent testing laboratory paid by the Contractor. Contractor's testing agency shall perform tests upon change of source and at sufficient intervals to certify conformance of all select material furnished for use of this project.

PART 3 EXECUTION

3.01 DEWATERING EXCAVATIONS

- A. There shall be sufficient pumping equipment, in good working order, available at all times to remove any water that accumulates in excavations. Where the pipeline crosses natural drainage channels, the Work shall be conducted in such a manner that unnecessary damage or delays in the execution of the Work will be prevented. Provision shall be made for the satisfactory disposal of surface water pumped to prevent damage to public or private property.
- B. In all cases, accumulated water in the trench shall be removed before laying pipe, placing concrete on backfilling.

3.02 SHEETING AND SHORING

- A. In all trenches exceeding 5 feet in depth and trenches less than 5 feet in depth in otherwise unstable materials, the sides of all trenches and excavations shall be adequately sheeted and braced, to maintain the excavation from slides or cave-ins and to provide safety for workmen. The minimum trenching and bracing requirements shall be in accordance with the Contractor's Trench Safety System. Refer to Trench Safety Section for requirements.
- B. In all cases, excavation shall conform to the requirements of the Occupational Safety and Health Act of 1970, and all subsequent amendments as well as Texas Legislature H. B. Nos. 662, 665, and 1569.

- C. Sheeting and shoring shall not be left in place unless its removal is determined impractical by the Owner.

3.03 GUARANTEE

- A. Guarantee the backfilling of excavation and trenches against settlement for a period of one (1) year after the final completion of the contract under which the work is performed.
- B. Make all repairs or replacements made necessary by settlement, including refilling, compacting, and reseeding or resodding the upper portion of the ditch and repairing broken or settled pavements, curb and gutter, driveways and sidewalks within five (5) days after notice from the Engineer.

3.04 PREPARATION

- A. Prepare the construction site for construction operations by removing and disposing of all obstructions and objectionable materials in accordance with Section 02230 Clearing and Grubbing
- B. Prior to excavation, investigation shall be made to the extent necessary to determine the location of existing underground utilities, structures and conflicts. Care should be exercised by the Contractor during excavation to avoid damage to existing utilities and structures.
- C. Topsoil and grade shall be stripped a minimum of six inches over the trench excavation site and stockpiled separately for replacement over the finished grading areas.

3.05 EXCAVATION

- A. All excavation shall meet the most current OSHA regulations.
- B. Topsoil and grade shall be stripped a minimum of six inches over the trench excavation site and stockpiled separately for replacement over the finished grading areas
- C. Excavated material shall be placed adjacent to the work area and used for backfilling as required. Topsoil shall be placed separately in a careful manner and replaced in its original position.
- D. Trenches shall be excavated to the lines and grades shown on the Drawings with the centerlines of the trenches on the centerlines of the pipe.
- E. The sides of all trenches shall be vertical to a point one foot above the top of the pipe. Unless otherwise indicated on the Drawings, the trench width shall be equal to the sum of the outside diameter of the pipe plus 2 feet, within a tolerance of +3 inches. Trench width will be measured at an elevation in the trench which is 12-inches above the top of the pipe when laid to grade.
- F. Wherever the prescribed maximum trench width is exceeded, the Contractor shall use the next higher class (load factor) of embedment or encasement for the trench width as actually cut, at no additional cost to the Owner.
- G. The trenches shall be excavated to the required depth allowing for the placement of pipe bedding to the thickness shown on the Drawings.
- H. Should the bottom of the trench become an unstable foundation for the pipe through the failure of the Contractor to adequately perform, the Contractor shall remove the unstable material and fill the trench to the proper subgrade with crushed rock. No extra

compensation will be allowed for this material or work. Should the trench be inadvertently excavated to a greater depth than necessary, crushed rock fill to the proper subgrade shall be provided at no additional cost to the Owner.

- I. Should the undisturbed material encountered at the grade depth constitute, in the opinion of the Engineer, an unstable foundation for the pipe, the Contractor shall be required to remove such unstable material and fill the trench to the proper subgrade with crushed rock.
- J. All excavation shall be unclassified, regardless of material encountered.

3.06 CONCRETE ENCASEMENT AND EMBEDMENT

- A. After pipe joints are completed, the voids at the joints in the embedment shall be brought to proper grade. Where concrete is placed over or along the pipe, it shall be placed in such manner as not to injure the joints or displace the pipe.
- B. While placing concrete embedment and until the concrete sets up, each pipe shall be properly braced and held to grade so as to prevent any possible shifting or floating of the pipe.
- C. No cleavage line between the base concrete and the side or top concrete will be allowed. Backfilling shall be done in a careful manner and at such time after concrete embedment or encasement has been placed as not to damage the concrete in any way.
- D. Backfill placed over concrete embedment, encasement, cradle, or block shall not be placed until the concrete has set up to such an extent that backfill operations will not damage the concrete.

3.07 EMBEDMENT IN THE PIPE ZONE

- A. All pipe shall be installed with the embedment materials indicated on the Drawings and specified herein.
- B. Surplus material shall be disposed of in a manner not to damage the owner or other persons. Contractor shall not place fill or waste material on any property without prior written agreement with the property owner.
- C. Final backfilling shall be as specified in Paragraph 3.09.

3.08 BACKFILL MATERIAL IN THE ORDINARY TRENCH BACKFILL ZONE

- A. Backfill material to the prescribed depth above the top of the pipeline shall be embedment or encasement materials as shown on the Drawings and as specified in Paragraph 2.01.
- B. Unless otherwise specified or required elsewhere, the remaining backfill shall be material from the trench excavation, except the top 6-inches shall be the topsoil, to be placed separately, or pavement repair.
- C. No material of a perishable, spongy or otherwise unsuitable nature, or rock in excess of 6-inches measured at its largest dimension, shall be used in backfilling. "Nesting" of rocks shall not be permitted.

3.09 FINAL BACKFILL PLACEMENT IN THE ORDINARY TRENCH BACKFILL ZONE

- A. From 12-inches above the top of the pipe, or as shown on the Drawings, the trench or excavation shall be backfilled with select material from the excavation placed in a manner

approved by the Owner. No rocks greater than 6-inches measured at its largest dimension or debris of any sort are to be put into the backfill, and appreciable weight of any sort, other than backfill, shall not be allowed on the pipe until it has been covered to such a depth that damage to the pipe or joints will not occur. The top six (6) inches shall be free from rock.

B. Excavated material which is unsuitable for backfilling, and excess material, shall be disposed of in a manner not to damage the owner or other persons. Contractor shall not place fill or waste material on any property without prior written agreement with the property owner.

C. Method of Consolidation:

1. Compaction of the ordinary trench backfill shall be accomplished by either mechanical means or by natural compaction, sufficient to prevent sunken trenches and to achieve densities equal to that of the surrounding soil. Natural compaction is attained by the loose placing of material (by pushing or blading) into the trench, rolling the surface layer with the placement equipment, and mounding the surface. Contractor shall maintain any sunken trenches until final acceptance of the work. The contractor shall be responsible for any damage, which may occur to the pipe.
2. The backfill for trenches at bore pits, roadway embankments, and areas under or within 5 feet of structures, pavement, and other areas subject to vehicular traffic, shall be well graded and free from binders, rocks, lumps, organic or clay material, except where concrete backfill is shown on the Drawings. The backfill shall be mechanically consolidated to provide a density of compaction of at least 95 percent of the maximum dry density.
3. Water jetting and flooding as a means of consolidating the ordinary trench backfill zone will not be allowed.

END OF SECTION

SECTION 02375

FILTER FABRIC FENCE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Filter fabric fence

1.2 DESCRIPTION

- A. This Item describes the installation of filter fabric fences utilized during construction and prior to the final development of the site.

1.3 REFERENCES

- A. ASTM D-4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- B. ASTM D-3786 - Standard Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method.

1.4 SUBMITTALS FOR REVIEW

- A. Submit under provisions of Section 01330.
- B. Manufacturer's catalogue sheets and other pertinent information on geotextile fabric.

PART 2 PRODUCTS

2.1 FILTER FABRIC

- A. Provide woven or nonwoven geotextile filter fabric made of either polypropylene, polyethylene, ethylene, or polyamide material.
- B. Geotextile fabric shall have a grab strength of 100 psi in any principle direction (ASTM D-4632), Mullen burst strength exceeding 200 psi (ASTM D-3786), and the equivalent opening size of between 20 and 50.
- C. Filter fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F to 120°F.

PART 3 EXECUTION

3.1 FILTER FABRIC

- A. Provide erosion and sedimentation control systems as required and as directed by the Engineer. Such systems shall be of the type indicated and shall be constructed in accordance with the requirements shown on the construction plan/profile sheets and set out in this Item.

- B. Inspect and repair or replace components of all erosion and sedimentation control systems as specified for each system.
1. Unless otherwise directed, maintain the erosion and sedimentation control systems until the project is accepted by the Owner.
 2. Remove erosion and sedimentation control systems promptly, in an appropriate manner, when directed by the Owner.
- C. Remove and dispose of sediment deposits off-site.
1. Off-site disposal will be the responsibility of the Contractor.
 2. Sediment shall not be allowed to flush into streams or drainage ways.
 3. If sediment has been contaminated, it shall be disposed of in accordance with existing federal, state and local regulations.
- D. Damage caused by construction traffic to erosion and sedimentation control systems shall be repaired immediately at the expense of the Contractor.
- E. Conduct all construction operations under this Contract in conformance with the erosion control practices described.

3.2 CONSTRUCTION METHODS

- A. Provide filter fabric fence systems as required and as directed by the Engineer. Filter fabric fence systems shall be installed in such a manner that surface runoff will percolate through the system in sheet flow fashion and allow sediment to be retained and accumulated.
- B. Attach the filter fabric and wire to 2 inch by 2 inch wooden stakes or 1.00-1.33 lb./linear foot steel posts spaced no more than six feet apart and embedded at least one foot deep.
1. All stakes shall be installed perpendicular to the slope of the land.
 2. Steel posts shall have projections for fastening wire and/or fabric.
- C. Trench in the toe of the filter fabric fence with a spade or mechanical trencher so that the downward face of the trench is flat and perpendicular to the direction of flow (as shown on the drawing included at the end of this Section).
1. Lay filter fabric and wire along the edges and bottom of the trench.
 2. Backfill and compact the trench.
- D. The filter fabric and wire should be provided in continuous rolls and cut to the length of the Silt Fence to minimize the use of joints.
1. When joints are necessary, the fabric and wire should only be spliced together at a support post and have at least six inches of overlap.
 2. The joint shall be securely sealed.
- E. Inspection of sediment filter barrier systems shall occur after each rainfall or daily during periods of prolonged rainfall. Inspection shall occur at least once a week during rainless periods.
1. Repair or replace damaged section immediately to restore the requirements of this Item.
 2. Sediment deposits shall be removed when they reach one-third of the height of the fence.

END OF SECTION

SECTION 02503
CONCRETE THRUST BLOCKS AND COLLARS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications covers the manufacture of materials and installation of concrete blocking or anchorage for thrust resistance. Concrete blocking shall be placed at bends, tees, crosses, fire hydrants, plugs, etc. in the supply line. Blocking shall also be installed for blow-offs as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 03300 Cast-In-Place Concrete

1.03 MEASUREMENT AND PAYMENT

- A. No separate payment shall be made for concrete thrust blocks but shall be considered subsidiary to the price for pipeline installation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Concrete strength shall be at least 3,000 psi at twenty-eight (28) days, unless otherwise shown on the plans. Concrete for blocking shall be of a quality and placed in accordance with Section 03300 – Cast-In-Place Concrete.
- B. 3,000 psi sack-crete may be used but must be hydrated prior to placement.

PART 3 EXECUTION

3.01 CONSTRUCTION METHODS

- A. Concrete thrust blocks and anchors shall be provided along pipelines subject to internal water pressures in accordance with Thrust Restraint for Ductile Iron Pipe, (DIPRA, 3rd Edition, 1992), the construction details, plan drawings, or as directed by the Engineer. The concrete mix shall be in accordance with ACI 318, 3,000 psi, for thrust collars and thrust blocks. Admixtures are not to be used without the approval of the Engineer.
- B. Concrete for thrust blocks shall be placed against undisturbed soil. The excavation shall be hand shaped and free of loose material and water before concrete is placed. Forms shall be used to confine the concrete in areas other than that part that is in contact with undisturbed soil in the direction of the thrust. Steel reinforcement shall be placed as specified on the Plans. No concrete shall be placed around any part of a joint or placed so that it interferes with the removal of any joint accessories such as bolts, followers, threads, collars, couplings, etc. Fire hydrant drains shall not be restricted. The pipe or appurtenances shall be cleaned before placing concrete when the concrete is to be in direct contact with the pipe or appurtenances.
- C. The top of the concrete thrust block or collar shall be struck off with a wood straight edge or

float. Concrete shall not be placed when the temperature is below 40° F, or below 35° if the temperature is rising unless approved by the Engineer.

- D. All placement of concrete must be in the presence of the Engineer or his representative. The Contractor is cautioned that he may be required to remove any concrete placed in the absence of the Engineer or his representative without compensation.
- E. Backfill over concrete thrust blocks or collars shall not be placed before the concrete has attained initial set.
- F. The area of contact of the thrust blocks and collars shall be sufficient to resist the thrust. This area will vary, depending on the safe bearing value of the soil. No thrust blocks shall be less than eighteen (18) inches thick between the pipeline or appurtenances and undisturbed soil in the direction of the thrust. Suggested safe bearing values are as follows:

Soil Bearing Capacities

| Soil | Bearing Load (lb./sq. ft.) |
|------------|----------------------------|
| Muck | 0 |
| Soft Clay | 1000 |
| Silt | 1500 |
| Sandy Silt | 3000 |
| Sand | 4000 |
| Sandy Clay | 6000 |
| Hard Clay | 9000 |

The above values are approximate and will vary considerably and are intended to be used only as a guide. The Contractor is responsible for determining the soil bearing value or taking other action to assure that the bearing area is adequate to restrain the pipe or appurtenances.

- G. Where the soil is unstable or in the case of recent fill areas, the following procedures shall apply either singly or in a combination:
 - 1. Thrust blocks shall be of adequate size to restrain pipe or appurtenances by mass alone without depending on horizontal bearing of the soil.
 - 2. The excavation shall extend deep enough to contact firm soil and the block brought up to the pipe or appurtenances and constructed so that the block acts as a beam and will provide restraint required. Such blocks shall be reinforced with steel reinforcing bars.
 - 3. Anchor blocks shall be constructed in a firm soil and tie rods extended to the pipe or appurtenances.
- H. Thrust blocks for vertical bends shall be adequate to resist the thrust by mass alone when the thrust is upward.
- I. Thrust blocks and collars shall be adequate to restrain the pipeline and appurtenances at the specified test pressure. The following table lists the resultant thrust at certain fittings at pressure of 100 psi. In order to determine the thrust at the test pressure, these values are to be multiplied by a factor equal to the test pressure divided by 100.

Resultant Thrust at Fittings at 100 psi Water Pressure

| Nom. Pipe Dia. (in.) | Total Pounds | | | | |
|-------------------------|--------------|-------------|-------------|--------------|--------------|
| | Dead End | 90° Bend | 45° Bend | 22½° Bend | 11¼° Bend |
| 3 | 1,232 | 1,742 | 943 | 481 | 241 |
| 4 | 1,810 | 2,559 | 1,385 | 706 | 355 |
| 6 | 3,739 | 5,288 | 2,862 | 1,459 | 733 |
| 8 | 6,433 | 9,097 | 4,923 | 2,510 | 1,261 |
| 10 | 9,677 | 13,685 | 7,406 | 3,776 | 1,897 |
| 12 | 13,685 | 19,353 | 10,474 | 5,340 | 2,683 |
| 14 | 18,385 | 26,001 | 14,072 | 7,174 | 3,604 |
| 16 | 23,779 | 33,628 | 18,199 | 9,278 | 4,661 |
| 18 | 29,865 | 42,235 | 22,858 | 11,653 | 5,855 |
| 20 | 36,644 | 51,822 | 28,046 | 14,298 | 7,183 |
| 24 | 52,279 | 73,934 | 40,013 | 20,398 | 10,249 |
| 30 | 80,425 | 113,738 | 61,554 | 31,380 | 15,766 |
| 36 | 115,209 | 162,931 | 88,177 | 44,952 | 22,585 |
| 42 | 155,528 | 219,950 | 119,036 | 60,684 | 30,489 |
| 48 | 202,683 | 286,637 | 155,127 | 79,083 | 39,733 |

- J. Concrete thrust blocks or collars that fail to restrain the pipe or appurtenances shall be replaced by the Contractor at his expense.

END OF SECTION

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SECTION 02504
TRENCHLESS UTILITY INSTALLATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all work in accordance with the trenchless installation of utility pipe. All items shall be completed in strict accordance with this section of the Specifications and the applicable drawings and subject to the terms and conditions of the Contract.
- B. When the work per this item falls within a TxDOT or Railroad right of way, the stricter of the applicable standards apply. This requirement includes all insurance, notification, permitting, signage, etc. required by the right of way owner.

1.02 MEASUREMENT AND PAYMENT

- A. The work performed and materials furnished as prescribed by this item will be paid for based on the unit price bid for the type of installation specified, either encased bore or uncased bore. This price shall be full compensation to the Contractor for furnishing all materials, for all preparation and hauling of same, and for all labor, tools, equipment, supervision and incidentals to complete the work, including but not limited to, excavation, backfilling, and disposal of surplus materials. Payment of this item shall **include** the furnishing of the carrier pipe.

1.03 SUBMITTALS

- A. Submit a boring plan for all proposed borings shown on the Plans.
- B. Submit manufacturer's data on materials as described in Paragraph 2.01 of this Specification.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel pipe, ductile iron pipe and PVC pipe may be used as encasement material as shown on the Plans. The nominal inside diameter of the encasement pipe shall be as shown on the Plans
 - 1. Steel Pipe: Encasement pipe shall conform to all requirements set forth Section 02505 Steel Encasement Pipe and be of the diameter and wall thickness as specified on the Plans. Any variation of diameter and wall thickness, as may be required for various types of carrier pipe, shall be approved by the Engineer prior to installation.
 - 2. Ductile Iron Pipe: Encasement pipe shall conform to AWWA C150 and C151. Pipe shall be thickness class 250 or greater, unless otherwise shown on the plans.

3. PVC Pipe: Encasement pipe shall conform to ASTM D2241 or AWWA C905. Pipe shall be DR 26 or SDR 26, unless otherwise shown on the plans.
4. Casing Spacers: Casing spacers shall be Raci type or approved equal as shown on the Plans. Installation of casing spacers shall be in accordance with the manufacturer's recommendations.
5. End Seals: End seals shall be minimum 1/8" thick synthetic rubber with stainless steel bands. Other methods of sealing the end of the encasement pipe shall be constructed only upon pre-approval by the Engineer.
6. Carrier Pipe: Carrier pipes shall conform to all requirements set forth and be of the diameter and material as specified on the Plans and as indicated in the bid proposal.

PART 3 EXECUTION

3.01 GENERAL CONSTRUCTION

- A. Unless more stringent requirements regarding location of bore pits are noted on the plans, or required by TxDOT, Railroad or County permit, bore pits shall conform to the following general requirements.
- B. The conduit, or encasement, to be installed shall extend to the distances as shown on the Plans.
- C. If necessary to prevent cave-ins, sheet, shore or brace pits in accordance with OSHA regulations. All pits shall be closed at the end of each work day if possible. Any pit left open over night shall be properly barricaded and secured in accordance with OSHA and TxDOT regulations.
- D. Location of all pits shall be approved by the Engineer.
- E. The Contractor shall furnish, for the approval of the Engineer, a plan showing his proposed method of handling, arrangement and positioning of boring equipment, type of equipment to be used, pipe guides, etc., complete in assembled position. The approval of this plan by the Engineer will not relieve the Contractor from his responsibility to obtain the results herein or as shown on the Plans.
- F. An approximate 2" pilot hole shall be bored the entire length of the bore and shall be checked for line and grade on the opposite end of the bore from the bore pit. This pilot hole shall serve as the centerline of the larger diameter hole to be bored.
- G. Any pipe damaged in boring operations shall be removed and replaced by the Contractor at his expense. The pits or trenches excavated to facilitate boring operations shall be backfilled completely after the boring of the pipe has been completed and approved.

3.02 CONSTRUCTION FOR DRY BORING

- A. The boring shall proceed from a pit provided for the boring equipment and workmen. Only workmen experienced in boring operations shall perform the work in accordance with the Engineer approved bore plan. When boring of pipe is begun, the operation shall be carried on without interruption, insofar as practicable, to prevent the pipe from becoming firmly set in the embankment.

- B. The use of water or other fluids in connection with the boring operation will NOT be permitted except for a minor amount of bentonite solution required for the cutting head.
- C. The conduit shall be installed in the bore hole simultaneously while the bore is being made. Proper care should be taken to secure the joints of the conduit as subsequent sections are installed. A steel rail or timber cradle shall be provided to support and guide the encasement pipe during installation.
- D. If, after completion of the bore, there is more than 1" clearance between the outside of the conduit and the bore wall, grouting of this void will be required. If during installation a cave-in occurs within the bore, grouting of the voids will be required between the conduit and the bore wall for the full length of the bore.
- E. Bores located within public rights-of-way shall conform to the requirements of the agency having jurisdiction over the right-of-way (TxDOT, Railroad, County, City, etc) as to details of construction methods and time of construction. All work necessary to meet the requirements of said agencies shall be considered subsidiary to the installation of the pipeline in the right-of-way. The Contractor shall abide by the more stringent of these specifications, or the specifications of the regulatory agencies.

3.03 CONSTRUCTION FOR WET BORING

- A. The boring shall proceed from a pit provided for the boring equipment and workmen. Only workmen experienced in boring operations shall perform the work in accordance with the Engineer approved bore plan. A pilot hole must be successfully completed to the satisfaction of the Engineer prior to back reaming the bore.
- B. The use of water or other fluids in connection with the boring operation will be permitted only to lubricate cuttings. Jetting will not be permitted.
- C. While boring is being performed, the conduit shall be installed immediately by pulling it in place from opposite the boring machine. Proper care should be taken to secure the joints of the conduit as subsequent sections are installed.
- D. If, after completion of the bore, there is more than 1" clearance between the outside of the conduit and the bore wall, grouting of this void will be required. If during installation a cave-in occurs within the bore, grouting of the voids will be required between the conduit and the bore wall for the full length of the bore.
- E. Grouting materials and equipment shall be on site bore beginning conduit installation to ensure that grouting, if necessary, begins immediately after conduit is in place.
- F. Bores located within public rights-of-way shall conform to the requirements of the agency having jurisdiction over the right-of-way (TxDOT, Railroad, County, City, etc) as to details of construction methods and time of construction. All work necessary to meet the requirements of said agencies shall be considered subsidiary to the installation of the pipeline in the right-of-way. The Contractor shall abide by the more stringent of these specifications, or the specifications of the regulatory agencies.

3.04 CARRIER PIPE

- A. Carrier pipes shall conform to all requirements set forth and be of the diameter and material as specified on the Plans and as indicated in the bid proposal.

- B. After the encasement pipe has been installed and approved by the Engineer, the carrier pipe may be pushed or pulled through the completed encasement pipe. Casing spacers shall be placed on the carrier pipe, as shown on the Plans, to ensure approximate centering within the encasement pipe and to prevent damage during installation. Casing spacers shall be Rarii type or approved equal as shown on the Plans. Installation of casing spacers shall be in accordance with the manufacturer's recommendations. The ends of the encasement pipe will be sealed with rubber seals and stainless steel bands.

END OF SECTION

SECTION 02505
STEEL ENCASEMENT PIPE

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all work in accordance with the installation of a steel encasement pipe as specified herein and as shown on the Plans. All items shall be completed in strict accordance with this section of the Specifications and the applicable drawings and subject to the terms and conditions of the Contract

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02316 Excavation, Trenching and Backfilling
- B. Section 02504 Trenchless Utility Installation

1.03 MEASUREMENT AND PAYMENT

- A. The work performed and materials furnished as prescribed by this item will be paid for based on the unit price bid for the type of installation specified. This price shall be full compensation to the Contractor for furnishing all materials, for all preparation and hauling of same, and for all labor, tools, equipment, supervision and incidentals to complete the work, including but not limited to, excavation, backfilling, and disposal of surplus materials. Payment of this item shall **include** the furnishing of the proposed carrier pipe.
- B. Open cut trench installations shall be measured and paid by the linear foot based upon plan quantities.
- C. For trenchless installations, steel encasement pipe, casing spacers and end seals shall be considered subsidiary to the trenchless installation and shall be paid in accordance with Section 02504 Trenchless Utility Installation.

1.04 SUBMITTALS

- A. Submit manufacturer's data on materials as described in Paragraph 2.01 of this Specification.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Encasement pipe shall conform to all requirements set forth in ASTM A139 for welded steel pipe, Grade A and be of the diameter and wall thickness as specified on the Plans. Any variation of diameter and wall thickness, as may be required for various types of carrier

- pipe, shall be approved by the Engineer prior to installation.
- B. Casing spacers shall be Raci type or approved equal as shown on the Plans.
 - C. End seals shall be minimum 1/8" thick synthetic rubber with stainless steel bands. Other methods of sealing the end of the encasement pipe shall be constructed only upon pre-approval by the Engineer.
 - D. Carrier pipes shall conform to all requirements set forth and be of the diameter and material as specified on the Plans and as indicated in the bid proposal.

PART 3 EXECUTION

3.01 STEEL ENCASEMENT PIPE

- A. Steel encasement pipe shall be installed as shown on the plans including casing end seals.
 - 1. Open cut trench installations shall be in accordance with Section 02316 Excavation, Trenching and Backfilling.
 - 2. Trenchless installations shall be in accordance with Section 02504 Trenchless Utility Installation.

3.02 CARRIER PIPE

- A. After the encasement pipe has been installed and approved by the Engineer, the carrier pipe may be pushed or pulled through the completed encasement pipe.
- B. Casing spacers shall be placed on the carrier pipe, as shown on the Plans, to ensure approximate centering within the encasement pipe and to prevent damage during installation. Installation of casing spacers shall be in accordance with the manufacturer's recommendations.

END OF SECTION

SECTION 02506
UNDERGROUND UTILITY LOCATOR SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all work in accordance with the installation of electrically continuous trace wire, with access points, for locating pipe with an electronic pipe locator. All items shall be completed in strict accordance with this section of the Specifications and the applicable drawings and subject to the terms and conditions of the Contract.

1.02 MEASUREMENT AND PAYMENT

- A. There is no separated payment for the supply and installation of the underground utility locator system. Tracer wire and system appurtenances shall be considered subsidiary to the item for which they pertain.

1.03 SUBMITTALS

- A. Submit manufacturer's data on materials furnished as listed in Paragraph 2.01.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Tracer Wire: Tracer wire shall be 12 gauge minimum solid copper clad steel with minimum 30 mil HDPE thermoplastic insulation recommended for direct burial. Tracer wire shall have a minimum break load of 380 pounds. THNN Nylon Thermoplastic insulated solid or stranded copper wire is **NOT** permitted.
- Tracer wire for open ditch installations shall be Copperhead HS-CCS HDPE 30 MIL or approved equal.
- Tracer wire for boring installations shall be Copperhead SoloShot EHS-CCS HDPE 45 MIL or approved equal.
- B. Wire Connectors: Wire connectors shall be Copperhead Snakebite, or approved equal, suitable for underground service and shall be watertight to provide electrical continuity. Electrical wire nut connectors or taped twisted wire splices are **NOT** permitted.
- ~~C. Test Stations: Test stations shall be Copperhead Snakepit, or approved equal, and shall include an encapsulated magnet, corrosion resistant insulated brass wire lug, wax pad to cover wire connections and color coded tamper proof locking lid with top access connection point. Connection to tracer wire for pipe locator shall be accomplished without removal of the test station lid. Test stations located within a paved roadway shall be the "Roadway Box" suitable for traffic loadings. Test stations located outside of paved areas shall be the "Lite Duty Box" and shall be installed in a concrete pad.~~
- D. Fiberglass Utility Markers: Fiberglass utility markers shall be Carsonite CRM, or approved equal.

PART 3 EXECUTION

3.01 CONSTRUCTION METHODS

- A. Tracer wire shall be installed on all water and sewer mains. The wire shall be installed in such a manner as to be able to properly trace all mains without loss or deterioration of signal or without the transmitted signal migrating off the tracer wire.
- B. Tracer wire shall be installed in the same trench and inside bored holes and casing with pipe during installation. It shall be secured to the pipe as required to ensure that the wire remains adjacent to the pipe. The tracer wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity and it shall be accessible at all tracer wire access points.
- C. Tracer wire access points shall in general be no more than 500 feet apart and at every proposed valve box or manhole. Concentrations of multiple proposed valves near pipe intersections may require more than one access point assembly.
- D. At the point of connection between ductile iron water mains and non iron water mains, the tracer wire shall be properly connected to the ductile iron water main with a cad weld of approved equivalent. Tracer wire welds shall be completely sealed through the use of an approved mastic type sealer specifically manufactured for underground use. Mastic shall be applied in a thick coat a minimum of 2 inches thick and shall be protected from contamination by the backfill material with the use of a plastic membrane.
- E. Tracer wire shall be laid flat and securely affixed to the pipe at 10 foot intervals at the springline of the pipe. The wire shall be protected from damage during the execution of the works. No breaks or cuts in the tracer wire or tracer wire insulation shall be permitted. At water service saddles, the tracer wire shall not be allowed to be placed between the saddle and the water main.
- F. Except for approved splice-in connections, tracer wire shall be continuous and without splices from each tracer wire access point.
- G. At all utility main end caps, a minimum of 6 feet of tracer wire shall be installed beyond the end of the pipe, coiled and secured for future connections. The end of the tracer wire shall be spliced to the wire of a Copperhead, or approved equal, High Potential Magnesium anode with Strain Relief Connector and is to be buried at the same elevation as the utility main.
- H. Spliced connections between the main line tracer wire and branch connection tracer wire shall only be allowed at tees, crosses or at iron or copper services where a portion of the branch connection or service is replaced with a non iron or non copper material. The branch connection tracer wire shall be a single tracer wire properly connected to the main line tracer wire without cutting the main line tracer wire by means of a Copperhead DryConn Direct Bury Lug or approved equal. Where the existing branch connection is neither iron nor copper, then the new branch connection tracer wire shall be properly spliced to the existing tracer wire on the branch connection using approved connectors as noted above.
- I. At all repair locations where there is an existing tracer wire, the tracer wire shall be properly reconnected and spliced as outlined above.

- J. Locator system appurtenances shall be colored appropriately in accordance with the APWA color code standard for identification of buried utilities.

| Color | Type of Utility |
|--------|--|
| Red | Electric Power Lines, Cables, Conduits and Lighting Cables |
| Yellow | Gas, Oil, Steam, Petroleum or Gaseous Materials |
| Orange | Communications, Alarm or Signal Lines, Cables or Conduit |
| Blue | Potable Water |
| Green | Gravity Sewers, Force Mains and Drain Lines |
| Purple | Reclaimed Water, Raw Water, Irrigation and Slurry Lines |

END OF SECTION

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SECTION 02510
DISINFECTION OF WATER MAINS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all work in connection with the disinfection of water mains. All items shall be completed in strict accordance with this specification and the applicable drawings and subject to the terms and conditions of the Contract.

1.02 REFERENCE SPECIFICATIONS AND STANDARDS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. American Water Works Association (AWWA)
 - 1. AWWA C651 – Disinfecting Water Mains

1.03 MEASUREMENT AND PAYMENT

- A. No separate payment shall be made for disinfection of water mains. All costs associated with this item shall be included in the unit bid prices for pipe installation.

1.04 SUBMITTALS

- A. Submit proposed disinfection method as noted in Paragraph 3.01.D.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall disinfect the lines in accordance with AWWA C651 unless otherwise noted herein.
- B. The Contractor may elect to “Slug” segments of the line during installation with granulated chlorine such as HTH or an approved equal. This method or any alternate shall be performed in accordance with and at the chlorine concentration specified in AWWA C651.
- C. Disinfection of water mains shall include disinfection of all fire hydrant leads.
- D. The Contractor shall submit his proposed disinfection methods to the Engineer for approval.
- E. If in the opinion of the Engineer, any segments of the lines are not properly disinfected, the Contractor shall properly disinfect the lines to the satisfaction of the Engineer without additional cost.
- F. All new mains shall be thoroughly disinfected, then flushed and sampled before being placed in service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination

persists. A minimum of one sample for each 1,000 feet of complete water line will be required or at the next available sampling point beyond 1,000 feet as designated by the Engineer.

- G. The environment to which the chlorinated water is to be discharged shall be inspected. If there is any question that the chlorinated discharge will cause damage to the environment, then a reducing agent shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. Where necessary, federal, state, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

END OF SECTION

SECTION 02511
HYDROSTATIC TESTING OF WATER MAINS

PART 1 GENERAL

1.01 GENERAL INFORMATION

- A. This item shall consist of the hydrostatic testing of all waterlines, fire hydrants and appurtenances.

1.02 REFERENCE SPECIFICATIONS AND STANDARDS

- A. AWWA C600 – Installation of Ductile-Iron Mains and Their Appurtenances
- B. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.

1.03 MEASUREMENT AND PAYMENT

- A. No separate payment shall be made for hydrostatic testing. All costs associated with this item shall be included in the unit bid prices for pipe installation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. The Contractor shall furnish pump, pipe connections and all necessary apparatus (including gauges and meters) to hydrostatically test the water lines in accordance with this specification.
- B. Water for testing will be furnished by the Owner. All connections of new pipeline must be isolated from existing potable water lines until a negative coliform test report from a TCEQ approved testing laboratory has been received by the Engineer,

PART 3 EXECUTION

3.01 GENERAL

- A. All lines constructed in accordance with this Specification shall be tested by the Contractor prior to final acceptance by the Engineer.

3.02 HYDROSTATIC TESTING

- A. The Contractor shall perform a hydrostatic test in accordance with AWWA C600, for ductile iron pipe, and C605, for PVC pipe, on all completed lines constructed as part of this Contract. Upon completion and approval of the disinfecting of the lines, the Contractor shall open the necessary valves to allow system pressure to be exerted on the newly constructed lines. Care shall be exercised to remove all entrapped air from the lines by draining the entire segment being tested. This can be accomplished by opening the relief valves, fire hydrants or bleed valves located at the highest elevations along the lines. Once the Contractor has removed all air from the lines and closed the valves, he shall then measure the working line pressure with a gauge applied to a fitting at or near the highest and lowest elevations along the line. He shall then close all valves required to isolate the segment being

tested. With the test segment isolated, the Contractor shall, by means of an external pump and potable water supply, increase the test segment pressure. When hydrants are in the test section, the test shall be made against the main valve in the hydrant.

- B. For ductile iron pipe conforming to AWWA C150 and C151 the test pressure shall not be less than 1.25 times the working pressure at the highest elevation along the test section and not less than 1.5 times the working pressure at the lowest elevation of the test section. Test pressure shall not exceed thrust restraint design pressures or 1.5 times the pressure rating of the pipe or joint, whichever is less.
- C. For PVC pipe conforming to AWWA C900, C905 and C909 the test pressure shall not be less than 1.25 times the working pressure at the highest elevation along the test section unless the pressure exceeds the design pressure limit for any pipe, thrust restraint, valve, fitting or other appurtenance of the test section. Test pressure shall not exceed the design pressure limit for any pipe, thrust restraint, valve, fitting or other appurtenance of the test section.

3.03 TESTING ALLOWANCE

- A. The testing allowance shall be defined as the quantity of water that must be supplied to the pipe section being tested to maintain a pressure within ± 5 psi of the specified hydrostatic test pressure. No installation will be accepted if the quantity of makeup water is greater than that determined by the following formula:

$$Q = (LDVP)/148,000$$

Where:

Q = quantity of makeup water, in gallons per hour

L = length of pipe section being tested, in feet

D = nominal diameter of the pipe, in inches

P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

This formula is based on a testing allowance of 10.5 gallons per day per mile of pipe per inch of nominal diameter at a pressure of 150 psi. The duration of the test shall be a minimum of 2 hours.

- B. Any line segment being tested that fails to meet the allowable pressure loss or leakage requirements established herein and by the AWWA C600 and C605 Specification shall be rejected. The Contractor shall repair any rejected segment, re-disinfect the segment and retest the segment at no additional costs. **The Engineer or approved Engineer's representative shall be present during any and all tests.**

END OF SECTION

SECTION 02513
POLYVINYL CHLORIDE PIPE AND FITTINGS FOR WATER

PART 1 GENERAL

1.01 DESCRIPTION

- A. The contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all operations in connection with the installation of PVC water lines and fittings. All items shall be completed in strict accordance with this section of the Specifications and the applicable drawings and subject to the terms and conditions of the Contract.

1.02 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Section 02316 – Excavation, Trenching and Backfilling
- B. Section 02511 – Hydrostatic Testing of Waterlines
- C. Section 02503 – Concrete Thrust Blocks and Collars
- D. Section 02506 – Underground Utility Locator System
- E. Section 02510 – Disinfection of Waterlines

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. American Society of Testing and Materials (ASTM)
 - 1. ASTM D1784 – Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
 - 2. ASTM D2122 – Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
 - 3. ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
 - 4. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 - 5. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping
 - 6. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - 7. ASTM F1483 – Standard Specification for Oriented Poly (Vinyl Chloride), (PVCO) Pressure Pipe
- C. American Water Works Association (AWWA)
 - 1. AWWA C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings
 - 2. AWWA C105 – Polyethylene Encasement for Ductile Iron Pipe Systems

3. AWWA C110 – Ductile-Iron and Gray-Iron Fittings
4. AWWA C111 – Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings
5. AWWA C153 – Ductile-Iron Compact Fittings, 3in. through 24 in. and 54 in. through 64 in. for Water Service
6. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
7. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 Inches through 12 Inches, for Water Transmission and Distribution
8. AWWA C905 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 Inches through 48 Inches, for Water Transmission and Distribution
9. AWWA C909 – Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 Inches through 24 Inches, for Water Distribution.

1.04 SUBMITTALS

- A. Submit manufacturer's data on materials furnished as listed in Part 2.

1.05 MEASUREMENT AND PAYMENT

- A. Fittings:
 1. Payment for ductile iron fittings shall be considered complete in place with joint restraints, concrete thrust blocking and pipeline marker in accordance with the plans and shall be full compensation for same.
 2. Fittings required to make vertical bends in the laying of the pipe shall be installed at the Contractor's sole expense and shall be considered subsidiary to the installation of pipe unless explicitly shown on the Plans.
- B. Pipe:
 1. Measurement will be by the linear foot based upon plan quantities.
 2. The work performed and materials furnished as prescribed by this item will be paid for based on the unit price bid as specified in the bid proposal. These prices shall be full compensation to the Contractor for furnishing all materials, for all preparation, installation and hauling of same and for all labor, tools, equipment, supervision and incidentals to complete the work herein described. The Unit Price bid shall also include excavation, trenching, backfill, disposal of surplus materials, fittings required to vertically bend the pipe unless explicitly shown on the Plans, repairing all fences and for testing and disinfection.

PART 2 PRODUCTS

2.01 GENERAL

- A. Piping for water lines shall be of types and materials specified herein and shall conform to ANSI/NSF Standard 61.
- B. Each length of pipe shall be marked to identify size, material type and grade, pressure rating, ASTM or AWWA designation, manufacturer and NSF approval.

2.02 PVC PIPE

- A. Blue colored Polyvinyl chloride (PVC) pipe shall have a cast iron outside diameter and shall conform to all the requirements set forth in AWWA C900, C905 or C909, as shown on the Plans, with a minimum pressure class of 150 unless noted otherwise on the plans.
- B. The pipe and accessories shall be new and unused unless otherwise approved by the Engineer.
- C. The integral-bell joint shall contain an elastomeric gasket sealing ring for the purpose of forming a hydraulic seal within the bell-spigot joint. The elastomeric gasket ring shall be installed at the point of manufacturing and locked in place by a steel retainer ring. The gasket system shall be of the "Reiber" design or equivalent. The elastomeric gasket ring shall not be glued into or chemically bonded into the bell ring groove. Glues or chemicals shall not be used to secure or "lock-in" elastomeric gasket rings. Refer to ASTM F477.

2.03 FITTINGS

- A. All fittings for PVC water pipe shall be ductile iron and of the size shown on the Plans or as directed by the Engineer.
- B. All fittings shall conform to AWWA C153 for Mechanical Joint be asphaltic coated outside per AWWA C151 and be cement lined in accordance with AWWA C104. Minimum class of fittings shall be 350 for 10" and smaller and 250 for 12" and larger. Ductile iron fittings shall have rubber gasket joints in accordance with the latest revision of ANSI/AWWA C111. Bolts and nuts for mechanical joints will be of high strength corrosion resistant low-alloy steel and shall conform to AWWA C111.
- C. Joints shall be compression-type resilient joints. All mechanical joint ductile iron fittings shall utilize MEGALUG mechanical joint restraints as manufactured by EBAA Iron, Inc. or approved equal.
- D. Joints of mechanical installations inside structures, and of yard piping shall be as detailed on the Plans. Where not detailed on the Plans, such joints shall be mechanical type or push-on type, except that the first joint outside of buildings shall be mechanical type, and all pipelines installed under structures shall be mechanical joint pipe.
- E. All other joints shall be mechanical type or push-on type. Lubricant for push-on type shall be that recommended by the manufacturer of the pipe. Concrete thrust blocking shall be required on all buried bends, valves, tees and reducers as shown on General Details of the plans.
- F. Polyethylene wrap or encasement of ductile iron fittings shall conform to AWWA C105. Joint tape shall be self sticking PVC or 8-mil polyethylene.
- G. Any fittings not shown on the plans but required for the installation shall be installed at the Contractors sole expense and shall be considered subsidiary to the installation of the pipe.

PART 3 EXECUTION

3.01 STORAGE AND HANDLING

- A. Pipe to be shipped in accordance with the pipe manufacturer's recommendations and stored in a manner that the pipe is not damaged. The Contractor will replace damaged piping at no additional cost to the Owner.

- B. Store pipe in a flat surface so as to support the barrel evenly with bell ends overhanging. Store random lengths separately where they will be readily available. Individual lengths of pipe should be stacked in piles no higher than 5 feet. Pipe shall be protected during long exposures to sunlight. Do not use clear plastic sheets. Provide for air circulation under sheet.
- C. As the temperature approaches and drops below freezing, extra care should be used in handling during cold weather. Pipe at the bottom of the stack may become out-of-round due to the weight of material above it. Allow the pipe to recover to full initial roundness before installation. Pipe may be unloaded by hand, either by passing over the side or off the truck end. Sliding one length on another is permissible in unloading pipe, but lengths in the bottom layer shall be lifted off the rough surface of the truck body to avoid abrasion. Compact shipping units (palletized bundles in w wood frame) may be unloaded by conventional forklifts.
- D. Store all gaskets at a central point and distribute them as needed. Gaskets shall be kept clean, away from oil, grease, excessive heat and electric motors which produce ozone. Store all gaskets at a central point and distribute them as needed. . If gaskets are not to be used immediately, store them in their cartons, as shipped, in a cool dark place out of direct sunlight
- E. Mechanical joint bolts shall be handled and stored in such a manner that will ensure proper use with respect to types and sizes.

3.02 TRENCHING

- A. Trenching shall be in accordance with Section 02316 – Excavation, Trenching and Backfilling.
- B. All pipe shall be installed in accordance with AWWA C605 and have a minimum cover of 42" or as otherwise shown on the Plans. Pipe may be bent to the minimum radius recommended by the manufacturer for the kind, type, grade, wall thickness and diameter of the specified pipe. During pipe lowering operations, care shall be taken to avoid imposing strains that will over stress or buckle the pipe.

3.03 PIPE LAYING

- A. All pipe and fittings shall be installed to the line and grade as detailed on the Plans. Subject to the approval of the Engineer, other fittings may be added to or substituted for those shown on the Plans, should the need therefore arise during construction. This permissive stipulation in no way shall relieve the General Contractor of the responsibility for furnishing and installing all fittings required for a complete and proper installation of the lines as detailed on the Plans.
- B. The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method.
- C. The full length of each section of pipe shall rest solidly upon the pipe bed, with recesses excavated to accommodate bells and joints. Any pipe that has the grade or joint disturbed after laying shall be taken up and re-laid.
- D. All pipe and fittings shall be lowered carefully into the trench in such manner as to prevent damage to pipe, fittings, or linings. Neither pipe nor fittings shall be dropped or dumped into the trench.

- E. Cutting of pipe, where needed, shall be done in a neat and workmanlike manner without damage to pipe or pipe lining.
- F. Unless otherwise directed by the Engineer, pipe shall be laid with bell ends facing in the direction of laying. For lines on an appreciable slope, bells shall, at the direction of the Engineer, face upgrade. Wherever necessary to avoid obstructions, or for other allowable reasons, the degree of deflection at any joint shall be not greater than that which will provide adequate gasket space entirely around the spigot end of pipe. Maximum allowable deflections shall be as limited by the pipe manufacturer's recommendations.
- G. Pipe shall not be laid in water, or when trench or weather conditions are unsuitable for the work, except by permission of the Engineer. When work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth or other substances will enter the pipe or fittings.
- H. All PVC pipe shall have metallic tracing wire installed over pipe for detection purposes in accordance with Section 02506 – Underground Utility Locator System.
- I. Any section of pipe found to be defective before or after laying shall be replaced with sound pipe without additional expense to the Owner. Where pipe ends are left for future connections, they shall be valved, plugged or capped, as directed by the Engineer.

3.04 GRADES

- A. The grade elevations shown in the Plans is the invert elevation, or lowest point, of the inside barrel of the pipe except as noted on the Drawings. The pipe shall run on straight grades between the elevations shown. The General Contractor shall establish the grade line in the trench from control points set by the Engineer.

3.05 POLYETHYLENE ENCASEMENT

- A. All cast iron and ductile iron fittings shall be provided with 8-mil polyethylene encasement. Completely cover all fittings and connections with polyethylene film held securely in place with joint tape or strapping in accordance with AWWA C105.

3.06 EMBEDMENT

- A. Embedment shall be in accordance with Section 02316 – Excavation, Trenching and Backfilling.

3.07 TESTING AND DISINFECTION

- A. Testing shall be in accordance with Section 02511 – Hydrostatic Testing of Waterlines.
- B. Disinfection shall be in accordance with Section 02510 – Disinfection of Waterlines.

3.08 CONNECTION OF EXISTING SYSTEM TO PROPOSED IMPROVEMENTS

- A. The Contractor shall provide all fittings and perform the necessary work, including pavement repair, associated with connection of the existing piping systems (lines currently in use) to the completed water lines proposed herein. Location of these connections shall be as shown on the plans or as determined by the Engineer during construction.

3.09 CLEANUP

- A. Upon completion of the installation of the water lines and all appurtenances, the Contractor shall remove all debris and surplus materials resulting from the work.

END OF SECTION

SECTION 02514
WATER UTILITY DISTRIBUTION VALVES

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contract work to be performed under this section of the Specifications includes furnishing all labor, materials, equipment, implements, transportation, supplies and supervision for performing all work in connection with the installation of valves for ordinary waterworks service. All items shall be completed in strict accordance with this specification and the applicable drawings and subject to the terms and conditions of the Contract.

1.02 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Section 02316 – Excavation, Trenching and Backfilling
- B. Section 02511 – Hydrostatic Testing of Waterlines
- C. Section 02503 – Concrete Thrust Blocks and Collars
- D. Section 02506 – Underground Utility Locator System
- E. Section 02510 – Disinfection of Waterlines

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. American Water Works Association (AWWA)
 - 1. AWWA C110 – Ductile-Iron and Gray-Iron Fittings
 - 2. AWWA C111 – Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings
 - 3. AWWA C512 -Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
 - 4. AWWA C515 – Reduced Wall, Resilient-Seated Gate Valves for Water Supply Service
 - 5. AWWA C550 - Protective Epoxy Interior Coatings for Valves and Hydrants
 - 6. AWWA C600 – Installation of Ductile-Iron Mains and Their Appurtenances
- C. 2. American National Standards Institute (ANSI):
 - 1. B16.1, Cast-Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800.

1.04 MEASUREMENT AND PAYMENT

- A. All work performed and materials furnished will be paid for based on the unit prices bid for each item. These prices shall be full compensation to the Contractor for furnishing all materials, for all preparation, installation and hauling of same, and for all labor, tools, equipment, supervision and incidentals to complete the work, including excavation,

backfilling, blocking and disposal of surplus materials.

- B. Payment for gate valves shall be considered complete in place with valve box, valve marker, necessary fittings, concrete thrust, concrete surface pad and appurtenances.

1.05 SUBMITTALS

- A. Submit manufacturer's data on materials furnished as listed in Part 2.

PART 2 PRODUCTS

2.01 GENERAL

- A. Valves for waterworks service shall be of types and materials specified herein and shall be NSF Standard 61 certified.
- B. Each valve shall be marked to identify size, material type and grade, pressure rating, ASTM or AWWA designation, manufacturer and NSF certification.

2.02 GATE VALVES

- A. All gate valves shall be of the size specified on the Plans and shall be mechanical joint Mueller gate valves, or approved equal. Gate valves shall be designed for a working pressure rating of 250 pounds per square inch and shall conform to the requirements of AWWA C515.
- B. All gate valves shall have a square nut operated valve turning clockwise to close.

2.03 AIR RELEASE VALVES

- B. Materials:
 - a. Body, cover and flange: NSF 61 Certified Reinforced Nylon
 - b. Internal components: NSF 61 Certified Polypropylene
 - c. Gasket and seals: NSF Certified NBR 70.
 - d. Float NSF 61 Certified Formed Polypropylene
- A. Design requirements:
 - a. Working pressure: Rated for 250 psi.
 - b. 2 IN screwed inlet.
 - c. Air Release Orifice diameter: 1¼ IN.
 - d. Operating pressure: 75 psi
 - e. Provide stainless steel isolation valve (2 IN ball valve) between mainline and pressure air release valve.
 - f. Pipe connection for exhaust
- B. Acceptable manufacturers:
 - a. A.R.I. (2 IN): Model No. D-040 P.
 - b. Approved equal

2.04 VALVE BOXES

- A. A valve box shall be provided for every underground valve. The boxes shall be cast iron, two-piece screw type, with a shaft diameter of not less than 5-1/4" and shall have the word "WATER" stamped on the lid.
- B. Provide extension stem for all buried valves terminating in a standard 2-inch square AWWA nut within four to five feet of valve box cover.
- C. The valve box shall not transmit shock or stress to the valve and shall be centered over the operating nut of the valve. The box cover shall be set flush with the surface of the finished area or such other level as may be directed by the Engineer.

2.05 VALVE ENDS

- A. Underground valves shall have mechanical joint ends. Mechanical joint ends shall conform to AWWA C111.
- B. All mechanical joint ends shall utilize MEGALUG mechanical joint restraints as manufactured by EBAA Iron, Inc. or approved equal.
- C. Bolts and nuts for mechanical joint ends will be high-strength low-alloy corrosion resistant steel conforming to AWWA C111. All mechanical joint glands will be ductile iron.

2.06 OPERATOR EXTENSION SHAFTS

- A. Operator extension shafts are required on all valves when the operating nut is over five feet below finished grade. Extension shaft is to bring the operating nut to within four to five feet of the top of the valve box. Extension shaft shall have a centering collar placed directly below the operating nut and shall be bolted to valve operating nut with a stainless steel set screw.

PART 3 EXECUTION

3.01 STORAGE AND HANDLING

- A. All valves should be unloaded carefully. The valve should be carefully lowered from the truck to the ground, not dropped. In the case of larger valves, fork trucks or slings around the body of the valve or under the skids should be used for unloading. Only hoists and slings with adequate load capacity to handle the weight of the valve or valves should be used. Do not hook hoists into or fasten chains around bypasses, yokes, gearing, motors, cylinders, or hand wheels.
- B. Valves should be inspected at the time of receipt for damage in shipment. The initial inspection should verify compliance with specifications, direction of opening, size and shape of operating nut, number or turns, and type of end connections. A visual inspection of gate rings and body rings should be performed to detect any damage in shipment or scoring of the seating surfaces. Inspection personnel should look for bent stems, broken hand wheels, cracked parts, missing parts and accessories, and any other evidence of mishandling during shipment. The valve should be cycled through one complete opening and-closing cycle. All valves sixteen (16") inches and larger should be operated through one full operating cycle in the position in which they are to be installed.
- C. Valves should be stored in the fully closed position to prevent entry of foreign material that could cause damage to the seating surfaces. Whenever practical, valves should be stored

indoors. If outside storage is required, means should be provided to protect the operating mechanisms, such as gears, motor operators, and cylinders, from the weather and foreign materials. If valves may be subject to freezing temperatures, remove water from the valve interior and close the gates tightly before storage. Valves in outside storage in cold climates should be stored with the discs in a vertical position; if the discs are in a horizontal flat position, rain water can accumulate on top of the top disc, seep into the valve body cavity, freeze, and crack the casting. Any valves damaged by weather will not be installed.

3.02 TRENCHING

- A. Trenching shall be in accordance with Section 02316 – Excavation, Trenching and Backfilling.
- B. All valves shall be installed in accordance with AWWA C600.

3.03 INSTALLATION

- A. Prior to installation, gate valves shall be inspected for direction of opening, freedom of operation, rightness of pressure containing bolting, cleanliness of valve parts and especially seating surfaces, handling damages and cracks. Gate valves found to be defective shall be replaced with no additional expense to the Owner.
- B. Valves shall be installed in the closed position to prevent inadvertent entry of foreign materials into the valve. Gate valves shall be set plumb and installed where shown on the Plans or as directed by the Engineer. Where feasible, valves shall be located outside the paved areas of roads and streets.
- C. A valve box shall be provided for every underground valve. The valve box shall not transmit shock or stress to the valve and shall be centered over the operating nut of the valve. The box cover shall be set flush with the surface of the finished area or such other level as may be directed by the Engineer.
- D. The gate valve assembly shall include all materials and labor required to install and complete the necessary components for a complete and operational valve installation.
- E. All gate valves shall have metallic tracing wire and appurtenances installed in accordance with Section 02506 – Underground Utility Locator System.

END OF SECTION

SECTION 02515
TAPPING SLEEVES AND VALVES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tapping sleeves and valves for connections to existing water system.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.
 - 1. Payment is on unit price basis for each tap installed.
 - 2. For water lines 4-inches and greater, no payment will be made until coupon (cut out portion of pipe tapped) is delivered to City.

1.03 REFERENCES

- A. ASTM A240 - Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels
- B. ASTM A193 Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
- C. ASTM A194 Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service
- D. AWWA C110 - Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and other Liquids.
- E. AWWA C200 - Standard for Steel Water Pipe - 6 in. and Larger.
- F. AWWA C207 - Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 in. Through 144 in.
- G. AWWA C500 - Standard for Metal Seated Gate Valves, for Water Supply Service.
- H. AWWA C223 - Fabricated Steel and Stainless Steel Tapping Sleeves.
- I. OSHA 29 CFR 1926.1101 – Asbestos.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 – Shop Drawings and Submittals.
- B. Submit results of tapping sleeves NPT test opening.
- C. Submit manufacturer's data on materials and equipment for tapping sleeves and tapping valves.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Ship steel sleeves in wooden crates that provide protection from damage to epoxy coating during transport and storage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Tapping Sleeves:
 - 1. Tapping Sleeve Bodies: AWWA C 110 cast or ductile iron or AWWA C 200 carbon steel in two sections to be bolted together with high-strength, corrosion-resistant, low-alloy steel bolts with mechanical joint ends.
 - 2. Branch Outlet of Tapping Sleeve:
 - a. Flanged, machined recess, AWWA C 207, Class D, ANSI 150 pound drilling.
 - b. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.
 - 3. Use cast iron split sleeve where fire service from 6-inch water line is approved.
- B. Welded-steel tapping-sleeve bodies may be used in lieu of cast or ductile iron bodies for following sizes and with following restrictions:
 - 1. Flange: AWWA C 207, Class D, ANSI 150 pound drilling.
 - 2. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.
 - 3. Steel sleeves are restricted to use on pipe sizes 6 inches and larger.
 - 4. Body: Heavy, welded-steel construction; top half grooved to retain neoprene O-ring seal permanently against outside diameter of pipe.
 - 5. Bolts: AWWA C 500 Section 3.5; coated with 100 percent vinyl resin or corrosive resistant material.
 - 6. Steel Sleeves Finish: Fusion-bonded epoxy coated to minimum 12 mil thickness.
 - 7. Finished Epoxy Coat: Free of laminations and blisters; and remain pliant and resistant to impact with non-peel finish.
 - 8. Provide approved steel tapping sleeves
 - 9. Tapping Sleeves: Provide with 3/4-inch NPT test opening for testing prior to tapping. Provide 3/4-inch bronze plug for opening.
 - 10. Do not use steel sleeves for taps greater than 75 percent of pipe diameter.
 - 11. Comply with AWWA C 223 - Fabricated Steel and Stainless Steel Tapping Sleeves.
- C. Stainless Steel tapping-sleeve bodies and flange may be used in lieu of cast or ductile iron bodies for following sizes and with following restrictions:
 - 1. Flange: ASTM A240 Stainless Steel, Type 304, ANSI 150 pound drilling.
 - 2. Gasket: Full circumferential, affixed around recess of tap opening to prevent rolling or binding during installation, compounded for water and sewer service.
 - 3. Stainless Steel sleeves are restricted to use on pipe sizes 4 inches and larger.
 - 4. Body: ASTM A240 Stainless Steel, Type 304.
 - 5. Bolts: ASTM A193 Stainless Steel, Type 304.

6. Nuts: ASTM A194 Stainless Steel, Type 304.
 7. Branch Outlet: Heavy Stainless Steel Pipe
 8. Provide approved stainless steel tapping sleeves.
 9. Do not use stainless steel sleeves for taps greater than 75 percent of pipe diameter.
 10. Comply with AWWA C223 - Fabricated Steel and Stainless Steel Tapping Sleeves.
- D. Tapping Valves: Meet requirements of Item 2.02 of Section 33 12 16 – Water Utility Distribution Valves with following exceptions:
1. Inlet Flanges:
 - a. AWWA C 110; Class 125.
 - b. AWWA C 110; Class 150 and higher: Minimum 8-hole flange.
 2. Outlet: Standard mechanical or push-on joint to fit any standard tapping machine.
 3. Valve Seat Opening: Accommodate full-size shell cutter for nominal size tap without contact with valve body; double disc.
- E. Valve Boxes: Meet requirements of Item 2.03 of Section 02514 – Water Utility Distribution Valves.

PART 3 EXECUTION

3.01 APPLICATION

- A. Install tapping sleeves and valves at locations and of sizes shown on Drawings. Install sleeve so valve is in horizontally level position unless otherwise indicated on Drawings.
- B. Clean tapping sleeve, tapping valve, and pipe prior to installation and in accordance with manufacturer's instructions.
- C. Hydrostatically test installed tapping sleeve to 150 psig for minimum of 15 minutes. Inspect sleeve for leaks, and remedy leaks prior to tapping operation.
- D. When tapping concrete pressure pipe, size on size, use shell cutter one standard size smaller than water line being tapped.
- E. Do not use Large End Bell (LEB) increasers with next size tap unless existing pipe is asbestos cement.

3.02 INSTALLATION

- A. Verify outside diameter of pipe to be tapped prior to ordering sleeve.
- B. Tighten bolts in proper sequence so that undue stress is not placed on pipe.
- C. Align tapping valve properly and attach to tapping sleeve. Insert insulation sleeves into flange holes of tapping valve and pipe. Make insertions of sleeves on pipe side of tapping valve. Do not damage insulation sleeves during bolt tightening process.
- D. Make tap with sharp, shell cutter:
 1. For 12-inch and smaller tap, use minimum cutter diameter one-half inch less than nominal tap size.
 2. For 16-inch and larger tap, use manufacturer's recommended cutter diameter.

- E. Withdraw coupon and flush cuttings from newly-made tap.
- F. Place concrete thrust block behind tapping sleeve (not over tapping sleeve and valve).
- G. Backfill in accordance with Section 02316 – Excavation, Trenching and Backfilling.

3.03 ADDITIONAL REQUIREMENTS FOR TAPPING ASBESTOS CEMENT (AC) PIPE

- A. Notify Engineer when AC pipe is encountered.
- B. Refer to Section 02222 – Removal, Handling, Cutting, Disturbance, and Disposal of Asbestos Cement Pipe for employee training, safety precautions, and AC pipe removal requirements.
- C. Protocol
 - 1. Mechanically excavate no more than 6-inches of AC pipe. Carefully uncover the remainder of the pipe by hand or with shovel
 - 2. Keep pipe adequately wet before and during work.
 - 3. Locate tap a minimum of 2-feet away from existing AC collars.
 - 4. Use of power tools is prohibited.
 - 5. Remove waste AC pipe coupon.

END OF SECTION

SECTION 02516

AUTOMATIC METER INFRASTRUCTURE (AMI)

Part 1 GENERAL

1.1 Summary

This section includes the equipment and system requirements for an Automatic Meter Infrastructure (AMI) system.

Acronym: Meter Transmission Unit (MTU).

The work shall consist of the replacement of existing water meters with new water meters, installation of electronic encoders, and installation of wireless communication devices. The work shall also include installing and integrating the AMI system with the water utility's information technology network and billing system. The work shall include the furnishing of all labor, materials, equipment and incidentals necessary to completely install, test, and place into operation the meters and AMI system.

In certain circumstances, described in section 2 Products, Contractor shall replace or modify the existing water meter box and/or lid, as provided in this specification, or as directed by the Engineer.

1.2 Measurement and Payment

The accepted quantities will be paid for at the contract unit price per unit of measurement as listed in the bid schedule.

Payment shall be full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, complete in place, as shown on the plans, and as specified in these specifications and as directed by the Engineer.

1.3 Administrative Requirements

1.3.1 Coordination

1.3.1.1 Project Management: The Contractor will assign a Project Superintendent who will manage the project for the Contractor. The Project Superintendent shall be thoroughly familiar and experienced with this type of project and will have the authority to speak on behalf of the Contractor on project related issues. This person will be the single point of contact for all matters related to this project. This person shall maintain a high level of control and quality of the work.

1.3.1.2 Customer Service Representative: The Contractor shall designate a representative knowledgeable of the AMI system to answer administrative and technical questions. This person shall also be available for any public relations activities related to this project that the Engineer or Owner may schedule.

1.3.1.3 Contractor shall utilize a Network Provider. The Network Provider will be responsible for commissioning the wireless network and ensuring accurate and timely delivery of water meter data to the owner. The Network Provider will be responsible for supplying, coordinating, and commissioning all the network components including: the Fixed Network Meter Reading System, the System Software, Meters, Endpoints, Meter Transmission Unit (MTU), and/or encoders, as applicable to specific equipment manufacturer selected for this project. Contractor shall provide the results for a propagation study to Owner and Engineer for review prior to beginning construction and the results shall be transmitted to the Engineer inside the meter submittal packet.

1.3.1.3 Pre-Construction Conference: A Pre-Construction Conference meeting will be held prior to the start of the meter replacement project. The exact date and time will be determined at a later date by the Engineer. Those individuals that are required to attend the meeting are as follows; additional persons that any of the below deem appropriate or necessary may also attend:

- A. Project Engineer or Representative of the Engineer
- B. Project Observer
- C. Contractors' Project Superintendent
- D. Representative of the AMI Network Provider
- E. Representative of the Owner's billing department
- F. Director of Public Works
- G. Meter Reader Supervisor
- H. Water Department Supervisor

1.3.1.4 Job Meetings: Regular job meetings will be held at least every other week at the beginning of the project and once per month thereafter. The following individuals (or their designated representative) will be required to attend: Engineer, Contractors Project Superintendent, AMR Network Provider, Director of Public Works, and Meter Reader Supervisor. The City or Contractor may include other individuals in the meeting as deemed necessary. The purpose of the meetings will be to review the progress of the work and any other issues that are integral to the success of the overall project.

1.3.1.5 Communications System: The Contractor shall have a communications system suitable so that the Contractor, Project Superintendent, Supervisors and meter replacement crews can be contacted at any time using radios, pagers or cell phones. The Contractor shall have a system established for 24-hour notification of emergencies.

1.3.1.6 Electronic Reporting: It is the desire of the City to achieve a project that involves minimal paper flow. As such, all reports of completed work or other information from the Contractor is to be filed with the City electronically.

1.3.1.7 Computerized Project Management System: Information will be provided to the Contractor by the City for all customers in the meter replacement program. This information will be provided electronically and may take the place of normal paper work orders. The following information will be provided:

- A. Customer Name and Address
- B. Customer Telephone Number
- C. Account Number
- D. Size of meter in place
- E. Existing Meter Number

The Contractor will use these lists to establish a computer database for the management and tracking of the meter replacement. Full use of computer system is expected and required to report the quantity of meter replacements performed each day.

1.3.1.8 Log of Installation Attempts: The Contractor shall keep a record of all attempts to replace the meter and the reason for non-replacements. All information maintained by the Contractor on attempts to install or replace meters shall be made available to the Engineer or Owner upon request.

1.3.1.9 The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other Contractors reasonable opportunity for the installation of their equipment or materials and the execution of their work. Each Contractor shall cooperate and coordinate his work with theirs as necessary.

1.3.1.10 Contractor's Facilities: The Contractor shall provide its own location for project management, administration functions, training of employees, and parking of vehicles. Contractor shall provide all tools and hardware necessary for Contractor's installation personnel/employees to properly perform the required work.

1.3.1.11 The Engineer shall provide the contractor with all the required work orders and any other data necessary to complete the meter replacement program.

1.3.2 Preinstallation Meetings

1.3.2.1 Contractor shall maintain a running list of meters which in the course of their work have been deemed to be on vacant property, where no meter or meter setup is available, where water is unable to be turned off, or other factors as determined by the Engineer. This list of meter installations shall be forwarded to the Engineer two (3) business days prior to the next scheduled Job Meeting to ensure adequate time for the Owner to investigate these instances prior to the next Job Meeting.

1.3.3 Sequencing

1.3.3.1 Route Sequencing: Work is expected to shift from one area to another as per the meter reading routes. Equipment installation shall be executed, route by route, in predetermined meter reading routes defined by the City's meter reading schedule. Each route shall be completed prior to starting the next route.

1.3.3.2 The Engineer will provide routes in numerical sequence by street and by route.

1.3.4 Scheduling

1.3.4.1 Work Hours: The work will take place during normal business hours Monday through Friday. Weekend and evening replacements will be scheduled as necessary to facilitate project completion.

1.3.4.2 Scheduling of Sequences: Contractor shall include a level of detail in the Project Schedule to allow for review and approval of Sequencing proposed for the work, in conformance with Sequencing requirements for this project.

1.4 Submittals

1.4.1 Product Data, Shop Drawings, Samples

All products and/or materials to be furnished and installed under this project shall be submitted to the Engineer in accordance with these specifications.

Manufacturers shall submit shop drawings and propagation study with any recommended installation procedures which, when approved by the Engineer, shall become the basis for inspecting, accepting and/or rejecting actual installation procedures used on this project.

The manufacturers shall submit in writing a certification that the product meets these specifications.

1.4.2 Activity Reports

The Contractor will provide a weekly summary replacement report. Final content and layout of the report will be determined at the preconstruction meeting. The report shall contain the following information:

- A. Meter reading, serial number, size of the removed meter;
- B. Meter reading, serial number, size, MTU serial number of the newly installed meter.
- C. Time and date of installation completion.
- D. Account number – unique ID number for meter location.
- E. Name, address, and phone number of customer.
- F. GPS Coordinates of meter location.
- G. Installation notes (meter location, special circumstances, etc.)

1.4.3 Meter Replacement / Installation Form

During replacement of individual meters, Contractor shall complete a meter replacement / installation form (in triplicate) and return the old meter along with two of the three copies of the replacement / installation form to the City within three working days after completing the installation of the new meter and MTU. The form shall contain the following information to document the completion of the installation:

- A. Old meter ID
- B. Old meter final reading
- C. New meter initial reading
- D. New meter serial reading
- E. MTU serial number
- F. Date
- G. Size
- H. Additional Work

1.5 Quality Assurance

1.5.1 Qualifications

1.5.1.1 The Contractor shall have (and demonstrate) proven ability to monitor and report the progress and status of each metering site in the replacement program, as required by Specification Section 1.3.1 Coordination.

1.5.1.1 Uniforms and Identification: All of the Contractor's field personnel shall wear uniforms with the Contractor's company logo clearly visible and also have a pictured identification badge. All vehicles used by the Contractor's field personnel on the project shall be clearly marked with Contractor's company identification.

1.5.1.2 Courtesy and Conduct

Contractor's personnel must always be cognizant of being representatives of the City, and behave accordingly. Any reports of lack of courtesy or workmanship must be investigated by the Contractor's Project Manager within twenty-four (24) hours of being reported, and the results of said investigation reported to the Engineer and City for review and possible further action.

The Contractor's personnel shall not enter a residence without the permission or presence of an adult, eighteen (18) years or older, that resides at said residence.

The Contractor's personnel shall not perform any work at the residence other than necessary to complete the meter replacement, nor shall the Contractor's personnel accept payment for work performed during the meter replacement.

Under no circumstances shall the Contractor, its employees or representatives, solicit additional business, plumbing or otherwise, from the City's water customers.

Any inappropriate conduct will be grounds for dismissal of the employee.

1.5.1.3 Local Hiring Preferred: Contractor will make diligent attempts to hire necessary personnel from the local area. Only people who are technically competent and are of acceptable character and personality for work that entails unsupervised entry onto individually owned property will be hired. The Contractor will provide the City with the names and social security number of all its employees working on the project.

1.5.1.4 Applicant Qualification: All applicants for positions associated with this project must be thoroughly screened (including background checks), pass a pre-employment drug and alcohol test, and have a valid driver's license.

1.6 Delivery, Storage, and Handling

1.6.1 Acceptance at Site: Each meter and MTU provided to the contractor will be documented and, upon issuance to the contractor, will become the responsibility of the contractor. Meters or MTU's lost or damaged by the Contractor will be replaced by the Contractor at no additional cost to the Owner.

1.6.2 Storage and Protection: The Contractor shall be responsible for the storage and protection of the meters and MTU's received by the Contractor. The Contractor shall store the meters and MTU's in accordance with the manufacturer's recommendations and at a secure location.

1.6.3 Inventory Management: The Contractor must have the proven ability to manage the inventory of new meters, electronic registers, MTU's, and old meters removed during the project. If the Contractor should request payment for stored materials, then the ability to manage this inventory must also be proven. The Contractor's inventory program must be integrated with the computerized project management system described in this section.

2.0 PRODUCTS

2.1 Materials

2.1.1 Meter Boxes and Covers:

1.1.1 Traffic Rated Water Meter Box and Cover

For replacing meter boxes and lids in roadway, driveway, or sidewalk locations the existing meter boxes shall be replaced with traffic rated meter boxes and covers.

2.1.1.2 Medium Duty Water Meter Box and Cover

For replacing meter boxes and lids in locations out of pavement where it is agreed by the Contractor and Engineer that the existing meter box and lid cannot fit the new AMI system equipment, where the existing meter box and cover are damaged, where the existing water meter box and lid are unsafe to foot traffic and lawn maintenance equipment, or when existing water meter box and lid are not currently installed flush with existing ground and requires adjustment. Meter boxes may be plastic.

2.1.1.3 Existing Water Meter Box Lid Replacement

For replacing existing metal water meter lid with a plastic lid, Contractor shall field measure each meter box lid to be replaced, and new replacement lids shall closely and safely fit the existing water meter box frame.

2.1.3 Water Service Pipe and Fittings

Water service pipe and fittings shall meet the requirements of Section 02513 of the specifications. The approved manufacturer for fittings is provided in the specifications.

2.2 Equipment

AMI system equipment provider selected for this project shall provide equipment of a type compatible for cellular transmission for centralized collection and monitoring.

2.1.1 Master Meter

Products shall be as listed below, or approved equals.

2.1.1.1 Meter: Master Meter Bottom Load Multi-Jet Meter

2.1.1.2 Endpoint: Allegro AMI UTG Endpoint Register

3 EXECUTION

3.1 Examination

3.1.1 Verification of Conditions

3.1.1.1 Digital Photographs: The Contractor shall take a digital photograph of each meter replacement location prior to beginning the work at the specific location. A second photograph shall be taken showing the site after completion of the work. Additional photographs should be taken by the Contractor if any conditions exist that may be cause for dispute concerning pre-existing conditions.

Copies of the digital photographs shall be furnished to the Engineer on a weekly basis and maintained in the Contractors files to be available upon request.

3.1.1.2 Field Inspection: Contractor shall inspect the existing water meter box, water service, valves, and water meter to verify the suitability of the new equipment and work to be performed, prior to beginning of work.

3.2 Preparation

3.1 Public Notice: The public will be notified of the project through the use of the local newspaper and door hangers. Distribution of door hangers will take place approximately one week prior to working in the meter replacement area.

3.2 Customer Notification: The customer shall be informed that the water service will be shut-off to accomplish the meter replacement and it will be for as short as time as necessary. The City will provide timely assistance when requested by the Contractor in locating and operating shut-off valves for each customer's meter.

3.2.1 If resident is present, inform them of the meter replacement program and attempt to complete meter and MTU installation. If installation cannot be accomplished due to customer inconvenience, assist homeowner in calling Contractors office to schedule appointment or attempt on a different day.

3.2.2 If resident is not present, perform meter replacement and leave approved notice. Hang notice from doorknob. The notice should explain that the water meter was replaced and how to flush lines. The notice should also have a 24-hour, seven (7) days a week call number on it for emergencies or other problems with water service related to the meter replacement work.

3.3 Removal of Existing Meters

Old Meters removed for replacement shall remain the property of the City and will be returned to the City. The Contractor shall be held accountable for the return of all old meters to the City.

Upon removal, all meters shall be tagged and identified by the following information to allow for verification of final reading of the meter for billing purposes.

- a. Property address

- b. Account Number

3.4 Installation Attempts (for inaccessible meter locations)

In cases where the meter to be replaced is inaccessible without the assistance of the resident, the contractor shall make at least four (4) different attempts (calls, door hangers, mailings, etc.) to contact the water customer to gain access to the meter and perform the required work. The final attempt shall be a final notice mailer. If unsuccessful, the Contractor shall no longer be liable for scheduling the meter replacement and the work order will be returned to the City. The City will take necessary steps to schedule the meter replacement and upon scheduling, the contractor will then perform the meter replacement.

3.3 Installation

The Contractor will be provided assistance, upon request, to physically locate each meter from the City's water meter staff in those cases where the meter is not easily visible and cannot be readily located by the Contractor.

3.3.1 Meter Installation Practices

3.3.1.1 Replacement of existing meter with new meter, electronic register and MTU.

The Contractor will replace existing meters in accordance with the manufacturer's instructions. The meter shall be installed in a neat and workmanlike manner by personnel that have been trained and informed of the technical and procedural requirements of the work.

The new meter and appurtenances shall be at the customers meter site prior to any water shut-off or commencement of meter replacement.

The Contractor shall determine that the pipes, couplings and valves around the existing meters are in acceptable condition for meter change-out. If the valve is not capable of shut-off, the Engineer shall be notified of the situation. The City (within a reasonable length of time) will assist the contractor with a shut-down. In most cases, the Contractor will be instructed to install a new meter (or cut-off) valve on the City's side of the meter. This will be considered as additional work and will be paid for at the unit price for the particular item included in the bid form.

If, in the opinion of the Contractor, the meter cannot be removed without unreasonable risk of damage to the customer's premises, Contractor will notify the Engineer, who will make the final determination as to whether the meter shall be replaced by the Contractor. Any additional work (not included in the bid) required will be paid for on a negotiated time and materials basis.

The Contractor shall document and notify the Engineer of any pre-existing leaks that may be found prior to meter replacement.

After the flow of water has been shut-off, the Contractor shall remove the old meter and replace it with the new meter and MTU. The register of the new meter must be visible and easily accessible for reading purposes.

The shut-off valves shall then be reopened and all connections checked to certify that the flow is registering on the meter.

Wiring of transmitter/antenna to encoder shall be of sufficient length to easily remove the transmitter/antenna while still connected to the encoder mounted to the new water meter, and lay off to the side with sufficient slack. Any extra wiring present in the meter box shall not exceed 3 feet in length, and shall be neatly coiled and tied with removable twist or zip ties for cable management. Extra cable length shall not be tangled with other equipment when the lid is removed or the transmitter/antenna is moved.

3.3.1.2 The following summary describes the general steps of the meter replacement work to be done. The actual work may differ from this description and may not be limited to these actions:

- A. Be sure existing meter is within the currently scheduled work sequence and currently scheduled area.
- B. Attempt to contact resident by ringing doorbell or knocking on door only. Refrain from knocking on windows or entering backyards.
- C. Take a digital photograph of the meter replacement location prior to beginning the work.
- D. Remove existing meter box. Clean out meter pit to a depth below the water meter.
- E. Replace old meter with new meter and MTU.
- F. Replace meter box or meter box lid, as required.
- G. Mount MTU per applicable detail drawing and other manufacturer requirements and recommendations. Neatly stow extra wiring while allowing slack in wiring for MTU removal during meter box access without disconnecting wiring.
- H. Program/Test MTU as per training from AMR Network Provider.
- I. Clean work area.
- J. Take a digital photograph of the meter replacement location after all work is completed.
- K. Complete paperwork requiring signature and initials with old and new register readings.
- L. Inform resident of actions or leave a door hanger if resident is not present.
- M. Provide GPS coordinates of the new unit to Owner.

3.3.1.3 Field Splicing Meter to MTU (if necessary): The City requests that all meters and MTU's are factory wired so that no field splicing will be required.

3.3.1.4 Meter and MTU Testing: The Contractor shall test meter and MTU before leaving the new installation site. Each installation shall be completely tested, insuring water is flowing through the meter properly and not flowing backwards.

The MTU shall be tested according to the manufacturer's instructions.

The installation of meter and MTU shall be considered successfully completed when a valid meter reading is obtained through the MTU using appropriate test equipment and recorded.

3.3.1.5 MTU Mounting Location: The MTU shall be installed per detail. If directed by the Owner, the MTU shall be attached under the meter box lid instead, utilizing attachment kit and installation instructions and recommendations of the manufacturer of the MTU.

3.3.1.6 MTU Mounting Pole: Rough cut edges of the mounting pole shall be smoothed and wrapped with tape.

3.3.1.7 Disposal of Replaced Meter Boxes: Contractor shall dispose of all replaced meter boxes and lids.

3.3.1.8 Other: Any additional work requested by the Engineer or Owner that is not included in a bid item will be performed on a negotiated time and material basis.

3.3.1.9 Faulty Plumbing: If, in the Contractors opinion, the condition of the customers' existing service piping is such that significant damage would result from attempting to remove and replace the existing water meter, the Contractor shall so inform the City's designated representative. If the City's designated representative does not concur with the Contractors judgment and directs the Contractor to perform the meter replacement, and the customers service piping is damaged as a result, the City will bear all cost of repairing such damage.

If the meter (or cut-off) valve is not operable and the water is not able to be shut-off, the City will assist the Contractor with shut-off. The City will respond within a reasonable length of time from notification. (In most cases, the contractor will be instructed to install a meter (or cut-off) valve on the City side of the meter).

3.3.1.10 Damages: Contractor personnel shall be prepared to immediately repair any damage to customer service line. This will insure minimal time a customer would be without water service and further accelerate completion of the meter replacement project.

Payment for the service connection repairs or adjustments will be at the unit price bid as listed in the bid schedule.

3.4 Field Quality Control

3.4.1 Tests: Contractor's field crew shall test all meters as described in previous paragraphs. All other testing associated with the AMI system shall be staffed by the AMI Network Provider.

3.4.2 Installation Defects: It will be presumed that any leaks or defects outside the normal work area for the meter replacement that is reported by the customer to either the Contractor or the City within ten (10) calendar days after completion of the meter replacement are the result of the replacement efforts and the contractor will repair the damage at no additional cost to the City. This presumption will not apply to leaks or other pre-existing conditions noted and documented by the Contractor during the replacement, nor shall this presumption be construed as the sole basis upon which liability can be attributed to the Contractor.

3.4.3 Faulty Installations: All installations discovered to be faulty within the one (1) year warranty period shall be repaired by the Contractor at no extra or additional cost to the City.

3.5 Maintenance Obligation

If at any time during the performance of the contract, defects in the work shall develop or be discovered, the Contractor shall promptly repair or replace the defective workmanship or materials even though such workmanship or materials has already passed inspection.

When the work covered by the Contractor has been completed, it will be given the careful inspection and measurement. The Contractor shall remove all obstructions and deposits found in the pipes, connections, etc., and shall repair or remove and replace as directed by the Engineer, any crushed, broken or otherwise defective structures or appurtenances.

DIVISION 03000

CONCRETE

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Work consists of furnishing all plant, labor, materials, equipment and appliances, and performing all operations in connection with installation of the concrete work, complete, in strict accordance with the Specifications and Drawings.

1.2 SECTION INCLUDES

- A. Cast-in-place concrete consisting of Portland cement, aggregate, water, and admixtures.
- B. Mix design requirements.
- C. Formwork, reinforcement, joints, and placing requirements.

1.3 RELATED SECTIONS

- A. Section 01300 Submittals
- B. Section 01400 Quality Control
- C. Section 01600 Materials and Equipment
- D. Section 03100 Concrete Formwork
- E. Section 03200 Concrete Reinforcement
- F. Section 03400 Construction Joints and Waterstops

1.4 REFERENCES

The latest edition of the following codes and standards form a part of this Section to the extent specified herein:

- A. ACI-350 Concrete Sanitary Engineering Structures
- B. ACI 305 and 306 Recommended Practice for Hot (Cold) Weather Concreting
- C. ACI 117 – Tolerances for Concrete Construction and Materials
- D. ACI 224 – Joints in Concrete Construction
- E. ACI 301 – Specifications for Structural Concrete

- F. ACI 302 – Concrete Floor and Slab Construction
- G. ACI 318 – Building Code Requirements for Structural Concrete
- H. ASTM A615--Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- I. ASTM C31--Making and Curing Concrete Test Specimens in the Field.
- J. ASTM C33--Concrete Aggregates.
- K. ASTM C39--Compressive Strength of Cylindrical Concrete Specimens.
- L. ASTM C94--(1986; Rev. b) Ready-Mixed Concrete.
- M. ASTM C143--Slump of Portland Cement Concrete.
- N. ASTM C172--Sampling Freshly Mixed Concrete.
- O. ASTM C173--Air Content of Freshly Mixed Concrete by the Volumetric Method.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Certificates: Mill certificates for bulk cement.
- C. Product Data: Manufacturer's data sheets for Engineer approved additives and bonding agents.
- D. Submit test data on proposed design mixes for each type of concrete to be used in the project to verify that the Specification requirements are met or exceeded.

1.6 QUALITY ASSURANCE

- A. The contractor is responsible for providing quality assurance through conforming to Section 01400 - Quality Control
- B. Provide necessary controls during evaluation of material, mix designs, production and delivery of concrete, placement, compaction, finishing and curing necessary to assure that Work will be accomplished in such a manner to produce the Work in accordance with Contract Documents.

1.7 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver, store, protect and handle products to site under provisions of Section 01600
- B. Materials shall be delivered, stored, and handled in a manner to prevent deterioration, contamination, or any other circumstance that would be harmful to cast-in-place concrete.

1.8 PROJECT CONDITIONS

- A. Do not place concrete during rain, sleet, or snow unless protection is provided and approved by the Engineer.
- B. Coordinate concrete placement schedule with other related work.
- C. Notify Engineer at least 24 hours before placement.

PART 2 PRODUCTS

2.1 MATERIALS:

- A. Cement:
 - 1. ASTM C 94, Type I cement, unless approved by the Engineer.
 - 2. Only one brand of any one type of cement shall be used for exposed concrete surfaces of any individual structure.
- B. Fine Aggregate
 - 1. Aggregate meeting the requirements of ASTM C33 and shall be washed river sand composed of clean, uncoated grains of strong materials.
- C. Coarse Aggregate
 - 1. Aggregate sizes No. 467 or No. 57 according to ASTM C33 or as approved by the Engineer.
- D. Water
 - 1. Potable water free from detrimental chemicals and solids that will decrease the strength of the concrete.
- E. Embedded Items
 - 1. Embedded items shall be of the size and type shown or as needed for the application.
- F. Curing Materials
 - 1. Curing materials shall be burlap, impervious sheets, or membrane-forming compounds.
- G. Dowels
 - 1. Plain carbon steel bars, minimum yield point of 40,000 psi for use in slabs on grade.
- H. Expansion Joint Filler Strips
 - 1. Premolded non-extruding, resilient bituminous or non bituminous type for use in concrete paving or construction, thickness as shown.
- I. Form Materials
 - 1. Wood, metal or other Engineer approved materials that will produce the specified finishes without adversely affecting the concrete surfaces.
- J. Form Coating

1. Non-staining form oil or form-release agent that will not deleteriously affect concrete surfaces nor impair subsequent applications.

K. Form Ties

1. Metal, factory-fabricated removable snap-off type, that will not leave holes less than 1/4 inch nor more than 1 inch deep and not more than 1 inch in diameter.

L. Joint Sealant

1. As shown or approved by Engineer for sealing joints in concrete against moisture infiltration.

M. Reinforcement

1. Bar reinforcement shall be deformed, Grade 60 conforming to ASTM A615. Mesh reinforcement shall be welded wire fabric with wires at right angles to each other.

N. Bonding Agent

1. As approved by Engineer.

O. Admixtures

1. A cement reducing admixture conforming to ASTM C-618 may be used for all concrete at the Contractor's option. Concrete mix designs shall include the admixture, should this option be exercised.
2. Admixture shall be a cement dispersing agent used in conformance with manufacturer's directions. The dispersing agent used shall be subject to the approval of the Engineer. Contractor shall notify Engineer in writing that he is taking this option.
3. A retarding admixture, conforming to ASTM C-494, pretested with job materials under job conditions, shall be used, if approved, whenever necessary to prevent cold joints due to the quantity of concrete placed, to permit revibration of the concrete, to offset the effects of high concrete temperature rise.

P. Abrasive Aggregate shall be equal to fine (c.f.) "Alundum" aggregate as manufactured by Norton Company, Worcester, Mass. or "Frictex NS" as manufactured by Sonneborn-Contech.

Q. Curing Compound

1. Concrete curing compound shall be of a nature and composition not deleterious to concrete and shall be of a standard and uniform quality ready for use as shipped by the manufacturer. At the time of use, the curing compound shall be in a thoroughly stirred condition. Curing compounds shall not be diluted by the addition of solvent or thinners, or be altered in any manner without the specific approval of and in a manner prescribed by the manufacturer. Curing compound shall conform to the requirements of ASTM C309 Type 1.
2. The curing compound shall be sufficiently transparent and free from color so that there will be no permanent change in the color of the concrete. The compound shall contain, however, a temporary dye of sufficient color to make the membrane clearly visible for a period of at least four hours after application.

R. Cement Grout

Cement based grout shall be used for grouting work except as otherwise specified.

1. Quality
 - a. Grout shall be composed of cement, sand, admixtures and water proportioned and mixed as hereinafter specified.
2. Cement
 - a. Cement for grout shall be Type I normal Portland cement conforming to the specifications for cement in concrete. Type III high early strength Portland cement may be used only when approved by the Engineer.
3. Sand
 - a. Sand shall conform to ASTM C33 and shall be graded so that 100 percent by weight will pass a standard No. 8 mesh sieve, and at least 45 percent by weight will pass a standard No. 40 mesh sieve.
4. Design Mix
 - a. Grout shall be a mixture of one part cement to two parts sand with a water cement ratio of 0.55. Drypack grout shall be a mixture of one part cement, two parts sand and the minimum amount of water required for mixing and placing. When shrinkage control of standard grout is required, aluminum powder shall be added as herein specified.
5. Mixing
 - a. Mixing and placing apparatus shall be similar to that specified for concrete. Grout shall be mixed for a period of at least one minute. Diluted grout shall be agitated from time to time as considered necessary to keep the ingredients well mixed and in suspension. Sand and cement shall be free from lumps when placed in the mixer. Grout shall be screened to remove coarse particles.

S. Non-shrink Cement-Based Grout

1. Grout for setting equipment, columns and other bases and anchor bolts shall be non-shrink cement based grout. Nonshrink cement-based grout shall consist of pre-measured, prepackaged materials supplied by the manufacturer, requiring only the addition of potable water. The manufacturer's instructions shall be printed on the outside of each bag.
2. The manufacturer shall submit information verifying the cement-based grout exhibits the following properties:
 - a. Nonshrink -- No shrinkage (0.0%) and a maximum 4.0 percent expansion when tested in accordance with ASTM C-827. No shrinkage (0.0%) and a maximum of 0.2 percent expansion in the hardened state when tested in accordance with CRD-C 621.
 - b. Compressive Strength -- A minimum 28-day compressive strength of 5,000 psi when tested in accordance with ASTM C-109.
 - c. Setting Time -- A minimum initial set time of 60 minutes when tested in accordance with ASTM C-191.
 - d. Composition -- No metallic particles (aluminum powders, iron filings) or expansive cement.
 - e. The contractor shall perform all grouting in accordance with the manufacturer's recommendations, Technical service shall be supplied upon request.
 - f. Grout shall be Five Star Grout, as manufactured by U.S. Grout Corporation, Fairfield, CT or equal.

T. Non-shrink Epoxy-Based Grout

1. Nonshrink Epoxy-based Grout shall be a pourable, 100 percent solids epoxy system consisting of three, pre-measured, prepackaged components: resin, hardener, and specially-blended aggregate. Resin component shall not contain any non-reactive diluents. Variation of component ratios is not permitted unless specifically recommended by the manufacturer.
2. The manufacturer shall submit information verifying the epoxy grout exhibits the following properties:
 - a. Grout for bonding new cement to old, setting reinforcing dowels into pre-drilled holes and/or pressure grouting shall be an epoxy grout mixed in accordance with the manufacturer's instructions.
 - b. Nonshrink -- No shrinkage (0.0%) and a maximum 4.0 percent expansion when tested in accordance with ASTM C-827.
 - c. Compressive Strength -- A minimum compressive strength of 10,000 psi in seven days when tested according to ASTM C-579, Method B.
 - d. Heat Development -- A maximum 100°F peak exotherm in a 2" diameter x 4" high sample when tested at 75°F material and laboratory temperatures.
 - e. Thermal Coefficient -- A maximum 30×10^{-6} in./in./ °F thermal coefficient when tested according to ASTM C-531.
 - f. The contractor shall perform all grouting in accordance with the manufacturer's recommendations. Technical service shall be supplied upon request.
 - g. Grout shall be Five Star Epoxy Grout, as manufactured by U.S. Grout Corporation, Fairfield, CT or equal.

U. Drypack Mortar

- A. Drypack mortar shall be composed of approximately one part Type II Portland cement, one and one-half to two parts sand, two to three fluid ounces water reducing densifier per sack of cement, aluminum powder as required for shrinkage control, and sufficient water to make a stiff workable mix. Sand, cement, water, and water reducing densifier shall be as specified for concrete.

V. Cement Grout for Clarifiers

- A. Cement grout for clarifiers shall consist of a 7 sack mix (658 lbs.) with 40 gallons of water and 3,000 pounds of sand, or as recommended by the clarifier sludge and scum collection equipment manufacturer.

2.2 MIX DESIGN

- A. Concrete Class: Concrete mixes shall be proportioned to obtain the following characteristics:
 1. Class "A": Minimum compressive strength of 3,500 psi in 28 days.

- 2. Class "B": Minimum compressive strength of 2,500 psi in 28 days.
- B. All concrete shall be Class "A", unless specified otherwise.
- C. Air Content
 - 1. Total air content of exterior concrete shall be maintained at 5 to 7 percent by volume of concrete.
- D. Slump
 - 1. Slump shall be 3 to 5 inches. If admixtures are used, slump shall be as approved by Engineer.

2.3 STORAGE

- A. Materials shall be stored so as not to deteriorate or become contaminated.

PART 3 EXECUTION

3.1 INSPECTION

- A. Embedded items must be inspected and tests for concrete and other materials shall have been completed and approved by the Engineer before concrete is placed.
- B. Preparation Before Placing
 - 1. Water shall be removed from excavations before concrete is deposited. Hardened concrete, wood chips, shavings, and other debris shall be removed from interior of forms and inner surfaces of mixing and conveying equipment. Wood forms shall be oiled or, except in freezing weather, wetted with water in advance of pouring. Reinforcement shall be secured in position, inspected and approved, by the Engineer before starting pouring of concrete.
- C. Conveying
 - 1. Concrete shall be conveyed from mixer to forms as rapidly as practicable and by methods which will prevent segregation or loss of ingredients. It shall be deposited as nearly as practicable in its final position. Chutes used shall be such that concrete slides in them and does not flow. Chutes, if permitted, shall have a slope of less than 1 on 2. Where a vertical drop greater than 5 feet is necessary, placement shall be through elephant trunks or similar devices to prevent segregation.
- D. Placing
 - 1. Concrete shall be placed before initial set has occurred and in no event after it has contained its water content for more than 30 minutes. Unless otherwise specified, all concrete shall be placed upon clean, damp surfaces free from running water, or upon properly consolidated fills, but never upon soft mud or dry, porous earth. The concrete shall be compacted and worked in an approved manner into all corners and angles of the forms and around reinforcement and embedded fixtures as to prevent segregation of the coarse aggregate. Construction of forms for the

lifts of vertical walls shall be such as to make all parts of the walls easily accessible for the placement, spading, and consolidation of the concrete as specified herein.

E. Vibration

1. All concrete shall be placed with the aid of mechanical vibration equipment as approved by the Engineer. Vibration shall be transmitted directly to the concrete; in no case shall it be transmitted through forms. The duration of vibration at any location in the forms shall be held to the minimum necessary to produce thorough compaction. Vibrations shall be supplemented by forking or spading by hand, and adjacent to the forms on exposed faces in order to secure smooth, dense and even surfaces, with particular care being taken to prevent coarse aggregate from becoming set too near any surfaces that are to receive rubbed finish.

F. Construction Joints

1. Construction joints shall be formed in accordance with Section 03400 of these specifications.

G. Patching

1. Any concrete which is not formed as shown on the Plans, or for any reason is out of alignment or level or shows a defective surface shall be considered as not conforming with the intent of these Specifications and shall be removed from job by Contractor at his expense, unless the Engineer grants permission to patch defective area, which shall be done in accordance with the following procedures. Permission to patch any such area shall not be considered a waiver of the Engineer's right to require complete removal of defective work if patching does not, in his opinion, satisfactorily restore quality and appearance of surface. Suitable non-shrink, latex or epoxy mortar shall be used for patching and repairing defective surface if directed by the Engineer.
2. After removing forms, all concrete surfaces shall be inspected and any poor joints, void, stone pockets, all tie holes, or other defective areas shall be patched, if permitted by the Engineer. Where necessary, defective areas shall be chipped away to a depth of not less than 1" with edges perpendicular to the surface. Area to be patched and a space at least 6" wide entirely surrounding it shall be wetted to prevent absorption of water from the patching mortar. A grout of equal parts Portland cement and sand, with sufficient water to produce a brushing consistency, shall then be well brushed into the surface followed immediately by the patching mortar. The patch shall be made of the same material and of approximately the same proportions and shall not be richer than one part cement to three parts sand. White Portland cement shall be substituted for a part of the gray Portland cement to match color of the surrounding concrete. The proportion of white and gray cements shall be determined by making a trial patch. The amount of mixing water shall be as little as consistent with the requirements of handling and placing. The mortar shall be retempered without the addition of water by allowing it to stand for a period of one hour during which time it shall be mixed occasionally with a trowel to prevent setting.
3. The mortar shall be thoroughly compacted into place and screeded off so as to leave patch slightly higher than surrounding surface. It shall then be left undisturbed for a period of one to two hours to permit initial shrinkage before

being finally finished. The patch shall be finished in such a manner as to match the adjoining surface. On exposed surfaces where unlined forms have been used, the final finish shall be obtained by striking off the surface with a straightedge spanning the patch and held parallel to the direction of the form marks.

4. Tie holes left by withdrawal of rods or the holes left by removal of ends of ties shall be filled solid with mortar after first being thoroughly wetted.

H. Slabs on Grade

1. The Contractor shall insure that subgrade has been thoroughly compacted and leveled prior to concrete placement. Sprinkle all subgrades with water no more than 1/2 an hour prior to placing concrete.
2. Place vapor barrier below interior slabs unless noted otherwise. Sprinkling of fill is not necessary when using vapor barrier. Lap vapor barrier 6" in direction of pour, and seal laps with specified mastic. Repair all ruptures of the vapor barrier that might occur before or during concrete pour.
3. The Contractor shall insure that all reinforcing steel is located properly prior to pour, and that steel will not be vertically displaced during the pour.

I. Edging

1. Edges exposed to view on the outside of structures, footings, pads and slabs, and all those in the inside of structures shall be chamfered, unless otherwise approved by the Engineer. Chamfer shall be at an angle of 45 degrees, as shown on the drawings. If so required by the Engineer, however, the Contractor shall provide square edges for any portion of the work.

3.2 PROTECTION AND REPAIR OF CONCRETE CONSTRUCTION

- A. All surfaces shall be protected against damage. During the first 72 hours after placing the concrete, any wheeling, working or walking on the concrete shall not be permitted. All slabs subject to wear shall be covered with a layer of sand or other suitable material as soon as the concrete has set. Sisalcraft paper or other similar tough waterproof paper may also be used, provided all joints between adjacent strips of paper are carefully sealed. This does not alter the requirements for proper curing as specified herein.
- B. No concrete slabs or top surfaces or walls shall be placed during rain unless acceptable protective shelter is provided, and during such weather, all concrete placed within the preceding 12 hours shall be protected with waterproof canvas or other suitable coverings. These shall be provided and kept ready at hand.
- C. Immediately after the removal of forms, all concrete shall be inspected, and all pour joints, rough sections or rock pockets containing loose materials such size and shape as will form a 1" key for cement mortar fill. Before the mortar is applied, the surface of the existing concrete shall be coated with epoxy bonding compound. All form tie holes and small imperfections shall be filled. The fill for small imperfections and form ties shall consist of cement mortar composed of one part cement well mixed with three parts of the fine aggregate by volume and just enough water so that the mortar will stick together on being molded into a ball by slight pressure of the hands; and it shall be thoroughly compacted into place. Where the area or volume of defective concrete is large, it may be repaired by; reforming the surface and filling the opening with concrete. For such major repairs, the

filling shall be reinforced and doweled securely to the old concrete, neatly finished to match the surface and texture of the adjacent concrete. All patches shall be cured as accepted by the Engineer.

3.3 MODIFICATION OF EXISTING CONCRETE:

A. Where the work indicated on the drawings required modification of existing concrete structures or concrete poured over six months previously to be removed or modified, the existing concrete shall be cut accurately to the lines required under the supervision of the Engineer. Concrete faces exposed to view shall be cut with a concrete saw. The cutting shall be accomplished in a manner that preserves, free from cracks or other injuries, those parts of the existing structure that are to remain. Where the cut surface is to be left exposed, it shall be cleaned and faced with non-shrink grout and finished to match adjacent surface. Where new concrete or mortar is to be placed against existing concrete surfaces or surfaces that have been cut, such surfaces shall be thoroughly cleaned by sandblasting, if required by the Engineer, and coated with the bonding compound just prior to the placement of the new concrete. Bonding compounds shall be as specified herein. Depth of saw cut should be 3/4" minimum. Unless otherwise indicated on the drawings or specified, continuity of reinforcing steel shall be obtained by either exposing bars to provide sufficient laps with new bars or by welding existing bars with new bars as specified. Where indicated, existing bars shall be exposed and fully developed by; embedding in new concrete.

3.4 CONCRETING IN HOT WEATHER

- A. When climatic or other conditions are such that the temperature of the concrete may reasonably be expected to exceed 90°F at the time of delivery at the work site, during placement, or during the first 24 hours after placement, the following provisions also shall apply:
- B. The Contractor shall maintain the temperature of the concrete below 90°F during mixing, conveying, and placing. Methods used shall conform to "Recommended Practice for Hot Weather Concreting," ACI Standard 305.
- C. The concrete shall be placed in the work immediately after mixing. Truck mixing shall be delayed until only time enough remains to accomplish it before the concrete is placed.
- D. Exposed concrete surfaces which tend to dry or set too rapidly shall be continuously moistened by means of fog sprays or otherwise protected from drying during the time between placement and finishing, and after finishing.
- E. Finishing of slabs and other exposed surfaces shall be started as soon as the condition of the concrete allows and shall be completed without delay.
- F. Concrete surfaces exposed to the air shall be covered as soon as the concrete has hardened sufficiently and shall be kept continuously wet for at least the first 48 hours of the curing period, and for the entire curing period unless curing compound is applied as specified.

- G. Formed surfaces shall be kept completely and continuously wet for the duration of curing period (prior to, during, and after form removal) or until curing compound is applied as specified.

3.5 CONCRETING IN COLD WEATHER

- A. When the atmospheric temperature may be expected to drop below 40°F at the time concrete is delivered to the work site, during placement, or at any time during the curing period, the following provisions also shall apply:
- B. The temperature of the concrete at the time of placing shall not be less than 50°F nor more than 90°F. The temperature of neither aggregates nor mixing water shall be more than 100°F just prior to mixing with the cement.
- C. When the daily minimum temperature is less than 40°F, concrete structures shall be insulated or housed and heated after placement. The temperature of the concrete and air adjacent to the concrete shall be maintained at not less than 50°F nor more than 90°F for the duration of the curing period.
- D. Methods of insulating, housing, and heating the structure shall conform to "Recommended Practice for Cold Weather Concreting," ACI Standard 306.
- E. When dry heat is used to protect concrete, means of maintaining an ambient humidity of at least 40 percent shall be provided unless the concrete has been coated with curing compound as specified in Section 21 or is covered tightly with an approved impervious material.

3.6 FORMWORK

- A. Formwork shall be made mortar tight, properly aligned and adequately supported to produce concrete conforming accurately to the indicated shapes, lines, dimensions, and with surfaces free of offsets, waviness, or bulges.
- B. Unless otherwise shown exposed external corners shall be chamfered, beveled, or rounded by moldings placed in the forms. Chamfer shall be 1" nominal.
- C. Surfaces shall be thoroughly cleaned and coated before each use.
- D. Forms shall be removed at a time and in a manner that will not damage the concrete.
- E. Formwork shall meet the requirements of ACI 117.

3.7 REINFORCEMENT

- A. Reinforcement shall be fabricated to the shapes required.

- B. Reinforcement shall be interrupted 2 inches clear on each side of expansion joints.
- C. Reinforcement shall be continuous through contraction and construction joints.
- D. Supports fabricated of plastic, or other Engineer approved material, shall be used to support reinforcement during placing operations.
- E. Dowels and tie bars shall be installed at right angles to joints, accurately aligned parallel to the finished surface, and rigidly held in place and supported during concrete placement.
- F. One end of dowels shall be oiled or greased.

3.8 INSTALLATION OF ANCHORAGE ITEMS

- A. Installation of anchorage items shall be as shown or required to ensure sufficient anchorage for purpose intended.

3.9 JOINTS

- A. If joints are not specifically shown or detailed on the Plans, provide joints as set forth in ACI 224, as a minimum.
- B. Contraction Joints: Joints shall be installed as specified in ACI 224 or shown.
- C. Expansion Joints: Joints shall be installed as specified in ACI 224 or shown.
- D. Construction Joints: Construction joints shall be located as specified in ACI 224, as shown, or as approved by the Engineer.

3.10 PLACING

- A. Surfaces to receive concrete shall be clean and free from frost, ice, mud, and water.
- B. Concrete may be placed directly on impervious surfaces that are thoroughly moistened but not muddy.
- C. During cold weather, in-place concrete shall be protected from freezing weather, throughout the curing period.
- D. During hot weather, a retarder may be used if approved by the Engineer.
- E. Concrete to receive other construction shall be struck to the proper level leaving a textured surface to receive the additional construction.

3.11 CONSOLIDATION OF CONCRETE

- A. Except for slabs 4 inches or less, each layer of concrete shall be consolidated with internal concrete vibrators supplemented by hand spading, rodding, and tamping.

- B. Vibrating equipment shall be adequate to thoroughly consolidate the concrete.
- C. Concrete in slabs 4 inches and less shall be consolidated by compacting and screening.

3.12 FINISHING CONCRETE

- A. Formed Surfaces:
 - 1. Fins and loose material shall be removed.
 - 2. Unsound concrete, voids over 1/2 inch in diameter, and tie-rod and bolt holes shall be cut back to solid concrete, reamed, brush-coated with cement grout, and filled solid with a stiff Portland cement/sand mortar mix.
 - 3. Patchwork shall finished flush with adjoining concrete surfaces and, where exposed, shall match adjoining surfaces in texture and color.
- B. Unformed Surfaces
 - 1. Surfaces shall finished to a true plane with no deviation exceeding $\frac{5}{16}$ inch when tested with a 10-foot straightedge.
 - 2. Surfaces shall be screed and floated to the required finish level with no coarse aggregate visible before finishing as specified below.
- C. Monolithic Finish
 - 1. Monolithic finish shall be given to flatwork unless otherwise specified.
 - 2. After the surface moisture has disappeared, floated surfaces shall be steel-trowled to a smooth, even, dense finish, free from blemish including trowel marks.

3.13 CURING

- A. Curing shall start as soon as free water has disappeared from concrete surfaces after placing and finishing.
- B. Curing materials shall be applied and maintained so as to protect the concrete from moisture loss for 7 days.
- C. Curing shall be accomplished by impervious sheet or membrane-forming curing compound.
- D. Concrete surfaces shall be thoroughly wetted before covering with impervious sheet materials.
- E. Membrane-forming curing compound shall be applied with mechanical spraying equipment at a coverage rate as recommended by manufacturer.
- F. Curing compound shall not be used on surfaces receiving applications depending on adhesion or bonding.

3.14 DRYPACK MORTAR

- A. Where surfaces are required to be built up with mortar, such surfaces shall be thoroughly roughened by brushing, completely cleaned, and coated with appropriate bonding compound before the application of the required mortar. The mortar shall be applied

immediately following the application of the bonding compound in bands or strips to form a compact durable covering of the required thickness and shall be free from lumps and depression. Construction joints in the mortar shall be sloped to thin edges and, before application is resumed, the joint shall be thoroughly cleaned. Drypack mortar shall be used for built-up surfaces, setting miscellaneous metal items, and correcting minor repairs and imperfections.

- B. No mortar shall be applied during freezing weather unless adequate protection is provided.
- C. The mortar shall be cured as specified for concrete.

3.15 TESTING

- A. Refer to Section 01400 Quality Control for testing requirements.
- B. Aggregates
 - 1. Aggregates shall be sampled and tested in accordance with ASTM C33.
- C. Sampling of Concrete
 - 1. Samples of concrete for air, slump, unit weight, and strength tests shall be taken in accordance with ASTM C172.
- D. Air Content
 - 1. Tests for air content shall be performed in accordance with ASTM C173.
- E. Slump
 - 1. Tests shall be performed in accordance with ASTM C143.
- F. Cylinders
 - 1. Cylinders shall be molded and cured according to ASTM C31 and tested in accordance with ASTM C39.
- G. Failure of Concrete to Meet Strength Requirements
 - 1. The concrete shall be considered acceptable if, for any one class of concrete, the average of all tests or any five consecutive tests is equal to or greater than the specified strength, provided that no more than one test of the five falls between 90 percent and 100 percent of the specified strength. The only cylinders to be used for determination of concrete acceptability will be those laboratory cured and tested at twenty-eight days. When it appears the tests of laboratory-cured cylinders will fail to meet these requirements, the Engineer may require changes in the proportions of concrete for the remainder of the work in order to meet the strength requirements. In addition, the Engineer may also require additional curing not to exceed a total of twenty-one days on portions of the concrete already poured.
 - 2. The Engineer may also require tests in accordance with Methods of Securing, Preparing and Testing Specimen from Hardened Concrete for Compressive and Flexural Strengths (ASTM Specifications C42) when the concrete cylinder tests fail to meet strength requirements. In the event there still is question as the quality of the concrete in the structure, the Engineer may require load tests for that portion where the questionable concrete has been placed. Such load tests

will be made as outlined in Chapter 20 of American Concrete Institute Building Code. (ACI 318-71), and shall be at the expense of the Contractor.

3.16 TOLERANCES AND REFERENCE STANDARDS

- A. Formwork, reinforcement, and concrete structures shall meet the tolerances set forth in ACI 117.
- B. Floor and slab construction shall meet the requirements of ACI 302.
- C. Joint location, type, placement, and construction shall meet ACI 224.

END OF SECTION