

PROJECT MANUAL

FOR

WATER MAIN REPLACEMENT ADEM DWSRF PROJECT NO. FS010443-01

FOR THE

WATER WORKS BOARD OF THE CITY OF ENTERPRISE, ALABAMA

WATER WORKS BOARD

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OCTOBER 2024

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JOB NO. 11-465

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SECTION 00 11 13 – ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of Water Main Replacement – ADEM DWSRF Project No. FS010443-01 will be received by Water Works Board of the City of Enterprise, Alabama, at the Enterprise Water Works Maintenance Facility, 801 Mill Avenue, Enterprise, AL 36330, until 2:00 p.m. local time on Thursday, November 14, 2024, at which time the Bids received will be publicly opened and read.

Bids will be received for a single prime Contract. Bids shall be on a lump sum and unit price basis as indicated in the Bid Form.

The Issuing Office for the Bidding Documents is: Poly, Inc., 1935 Headland Avenue, Dothan, AL 36303, 334-793-4700. Prospective Bidders may examine the Bidding Documents at the Issuing Office on Mondays through Fridays between the hours of 8:00 a.m. and 5:00 p.m., and may obtain copies of the Bidding Documents from the Issuing Office as described below. Bidding Documents also may be examined at the office of the Water Works Board, 501 S. Main Street, Enterprise, AL, on Mondays through Fridays between the hours of 8:00 a.m. and 4:00 p.m.

Bidding Documents may be obtained electronically in portable document format (PDF) at no cost by registering with the Issuing Office at <https://poly-inc.com/bid-site>. Printed copies may be obtained from the same, during the hours indicated above, upon payment of deposit of \$130.00 for each set. Bidders who return full sets of the Bidding Documents in reusable condition within 10 days after receipt of Bids will receive a full refund. Additional sets for non-Bidders, Bidders who obtain more than one set of Bidding Documents, subcontractors, vendors, or dealers will be refunded as stated above less the cost of printing, reproduction, handling, and distribution. The date that the Bidding Documents are transmitted by the Issuing Office will be considered the Bidder's date of receipt of the Bidding Documents. Partial sets of Bidding Documents will not be available from the Issuing Office. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office. No Bidding Documents will be issued within 72 hours of the scheduled date and time of the Bid Opening.

A Pre-Bid Conference will be held at 2:00 p.m. local time on Thursday, October 31, 2024 at the Enterprise Water Works Maintenance Facility, 801 Mill Avenue, Enterprise, AL 36330. Attendance at the pre-bid conference is highly encouraged but is not mandatory.

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

All Bidders bidding in amounts exceeding that established by the State Licensing Board for General Contractors must be licensed under the provisions of Title 34, Chapter 8, Code of Alabama, 1975, and must show evidence of license before bidding or Bid will not be received or considered by the Owner. The Bidder shall show evidence by including its current license number during registration and clearly displaying on the outside of the sealed envelope in which the Bid is delivered.

The Owner reserves the right to reject any and all Bids and to waive technical errors if, in the Owner's judgment, the best interest of the Owner will thereby be promoted. The Owner further reserves the right to negotiate price and time with the low bidder.

This project is funded by a Drinking Water State Revolving Fund Loan from the Alabama Department of Environmental Management.

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

OWNER: Water Works Board of the City of Enterprise, AL

END OF SECTION 00 11 13

SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS

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ARTICLE 1—DEFINED TERMS

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

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Owner and/or Engineer has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.05 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.06 *Electronic Documents*
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version 10.0 or later. It is the intent of the

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

- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.
- C. After the Contract is awarded, the Owner may provide or direct the Engineer to provide for the use of the Contractor certain documents that were developed by Engineer as part of the Project design process, as Electronic Documents in native file formats.
 - 1. Release of such documents will be solely for the convenience of the Contractor. No such document is a Contract Document.
 - 2. Unless the Contract Documents explicitly identify that such information will be available to the Successful Bidder (Contractor), nothing herein will create an obligation on the part of the Owner or Engineer to provide or create such information, and the Contractor is not entitled to rely on the availability of such information in the preparation of its Bid or pricing of the Work. In all cases, the Contractor shall take appropriate measures to verify that any electronic/digital information provided in Electronic Documents is appropriate and adequate for the Contractor's specific purposes.
 - 3. In no case will the Contractor be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related document in native file format.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
- A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.

- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A pre-bid conference will be conducted for this Project as stated in the Advertisement for Bids.

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

5.01 *Site and Other Areas*

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

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
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:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the

presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

5.03 *Other Site-related Documents*

- A. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. Bidders visiting the Site are required to arrange their own transportation to the Site.
- C. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner or Engineer. Bidder must conduct the required Site visit during normal working hours.
- D. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- E. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- F. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- G. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

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

5.06 *Other Work at the Site*

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

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

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

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:
 - A. Submit via email to **Chris Matheny, Poly, Inc., cmatheny@poly-inc.com**.
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates), but in no event shall be more than \$10,000. The Bid security shall be in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 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 (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND “OR EQUAL” ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, 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 within 10 days of the issuance of the Advertisement for Bids or invitation to Bidders. Each such request must comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions, and the review of the request will be governed by the principles in those paragraphs. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all registered Bidders. Bidders cannot rely upon approvals made in any other manner.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the Work within five days after Bid opening.
- 11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the

Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, 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.”
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder’s name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder’s authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.

- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 Lump Sum

- A. Bidders must submit a Bid on a lump sum basis for each item of Work listed in the lump sum section of the Bid Form.

13.02 Unit Price

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

13.03 Allowances

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

ARTICLE 14—SUBMITTAL OF BID

- 14.01 The Bidding Documents include 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 2 of the Bid Form.

- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must 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 must 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 must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to **THE WATER WORKS BOARD OF THE CITY OF ENTERPRISE, P.O. BOX 311000, ENTERPRISE, AL 36331, Attention: Beverly Sweeney, City Clerk.**

- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

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

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the advertisement or 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 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 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 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

- 18.05 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 18.06 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
 - C. When alternates are included in the Bid, the apparent low Bidder will be determined per Paragraph 18.06.B for the base Bid. After determination of the Successful Bidder based 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 and/or deductive alternate Bids for which Owner determines funds will be available at the time of award.
- 18.07 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.08 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 19—BONDS AND INSURANCE

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

ARTICLE 20—SIGNING OF AGREEMENT

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

ARTICLE 21—ALABAMA IMMIGRATION LAW, HB56 (E-VERIFY)

- 21.01 The Alabama Immigration Law, HB56, prohibits employers from knowingly hiring illegal workers. The Successful Bidder shall only employ individuals who may legally work in the United States either U.S. citizens or foreign citizens who are authorized to work in the U.S. The Successful Bidder shall use the U.S. Department of Homeland Security's E-Verify Employment Eligibility Verification System (<http://www.uscis.gov/portal/site/uscis>) to verify the employment eligibility of:
- A. All persons employed during the term of this Agreement with the Owner, to perform employment duties within Alabama; and
 - B. All persons (including subcontractors and subrecipients) assigned to perform work pursuant to the agreement with the Owner.
- 21.02 The Successful Bidder shall include this provision in all subcontracts/subgrants it enters into for the performance of work under Agreement with the Owner. The Successful Bidder shall further execute a Certification of Compliance with this provision along with the other contract documents to include providing documentation that the Contractor is enrolled in the E-Verify Program.
- 21.03 The certification form is included in Section 00 41 00 as an attachment. It shall be included with submission of the Bid.
- 21.04 The Bidder shall submit the E-Verify MOU for Employer with the Bid.

ARTICLE 22—SALES AND USE TAXES

- 22.01 Refer to Supplementary Condition SC 7.10.
- 22.02 Refer to Article 3 of the Bid Form. The Bidder shall not include in the prices bid the sales and use tax on products which are exempt from sales and use tax.
- 22.03 Prior to Bid Award, the apparent low Bidder shall provide to the Owner all information needed for the completion of its application (Form ST: EXC-01) for a sales and use tax certificate of exemption for the Project. Such information includes, but is not limited to the following:
- A. Total labor, not including overhead and profit.
 - B. Total materials, not including overhead and profit.
 - C. Anticipated Project start date and completion date.
 - D. Whether the Contractor anticipates use of subcontractors.
 - E. Whether the Contractor anticipates any pollution control exemption being applicable, and if so, to what extent, including estimated pollution control costs.
- 22.04 Failure of the apparent low Bidder to provide the information in a timely manner may delay its ability to purchase materials on a tax exempt basis; therefore, its anticipated Project start date may be affected.



ALABAMA DEPARTMENT OF REVENUE
 SALES AND USE TAX DIVISION
 P.O. Box 327710 • Montgomery, AL 36132-7710

Reset

ST: EXC-01
 8/18

**Application For
 Sales and Use Tax Certificate of Exemption**

FOR GOVERNMENT ENTITY PROJECT

This Certificate of Exemption will be limited to purchases which qualify for an exemption of sales and use taxes pursuant to Rule No. 810-6-3-.77

PROJECT INFORMATION:

PROJECT NAME		PROJECT OWNER'S FEIN (EXEMPT ENTITY)	
STREET ADDRESS OF PROJECT (CITY AND COUNTY INCLUDED)	CITY	ZIP	COUNTY

APPLICANT'S INFORMATION:

RELATION: (CHOOSE ONE)
 Government Entity General Contractor Subcontractor

APPLICANT'S LEGAL NAME		FEIN	
DBA		CONSUMER'S USE TAX ACCOUNT NUMBER	
MAILING ADDRESS: STREET	CITY	STATE	ZIP
CONTACT PERSON		BUSINESS TELEPHONE NUMBER ()	
EMAIL ADDRESS			
PROJECT START DATE (PROVIDED BY GENERAL CONTRACTOR)		PROJECT COMPLETION DATE (PROVIDED BY GENERAL CONTRACTOR)	
ESTIMATED START DATE (FOR APPLICANT)		ESTIMATED COMPLETION DATE (FOR APPLICANT)	
WILL THE APPLICANT HAVE ANY SUBCONTRACTORS ON THIS JOB? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please attach list.		NAME OF PARTY TO THE CONTRACT	
JOB DESCRIPTION			
WILL ANY POLLUTION CONTROL EXEMPTION BE APPLICABLE? <input type="checkbox"/> Yes <input type="checkbox"/> No		ESTIMATED POLLUTION CONTROL COST \$	
TOTAL PROJECT BID AMOUNT (APPLICANT'S PORTION OF PROJECT) \$	LABOR COST (APPLICANT'S PORTION OF PROJECT) \$	MATERIAL COST (APPLICANT'S PORTION OF PROJECT) \$	

REVENUE DEPARTMENT USE ONLY

PENDING DOCUMENTATION / INFORMATION:
 GCL SBL Contract / NTP / LOI LOS Project Dates / Breakdown of Costs

Contact Dates: _____ Received Date: _____
 _____ Forwarded for Denial: _____

PROJECT NAME	PROJECT OWNER'S FEIN (EXEMPT ENTITY)
--------------	--------------------------------------

FORM OF OWNERSHIP:

- Individual Partnership Corporation Multi member LLC Single member LLC Government Entity

If applicant is a corporation, a copy of the certified certificate of incorporation, amended certificate of incorporation, certificate of authority, or articles of incorporation should be attached. If the applicant is a limited liability company or a limited liability partnership, a copy of the certified articles of organization should be attached.

OWNERSHIP INFORMATION:

Corporations – give name, title, home address, and Social Security Number of each officer.

Partnerships – give name, home address, Social Security Number or FEIN of each partner.

Sole Proprietorships – give name, home address, Social Security Number of owner.

LLC – give name, home address, and Social Security Number or FEIN of each member.

LLP – give name, home address, and Social Security Number or FEIN of each partner.

NAME (PLEASE PRINT)	SIGNATURE
---------------------	-----------

TITLE	DATE
-------	------

REVENUE DEPARTMENT USE ONLY

PENDING OTHER:

- Government Entity General Contractor Not on LOS

Contact Dates: _____ Received Date: _____

Forwarded for Denial: _____

Examiner's Remarks _____

Examiner _____ Date _____

Instructions For Preparation of Form ST: EXC-01 Sales and Use Tax Certificate of Exemption for Government Entity Project

NOTE: Exemption Certificates will be issued as of the project start date or the received date of the application. If, upon receipt of the application, the project has already commenced, the certificate will be issued as of the received date of the application. Any purchases made prior to the issuance of a certificate will not be exempt.

***** Please allow 10 to 14 business days for your application to be processed. *****

In order to expedite the processing of your application, please include the following documentation when submitting your application:

Exempt Entity:

1. Signed Application
2. Copy of Executed/Signed Contract, Letter of Intent, Notice of Award, and/or Notice to Proceed

General Contractor:

1. Signed Application
2. Copy of Executed/Signed Contract, Letter of Intent, Notice of Award, and/or Notice to Proceed
3. List of Subcontractors
4. Alabama Board of General Contractor's License
5. State/County Business License (usually obtained through county probate office)
6. Any other municipal business licenses associated with the project

Subcontractor:

1. Signed Application
2. Alabama Board of General Contractor's License
3. State/County Business License (usually obtained through county probate office)
4. Any other municipal business licenses associated with the project
5. List of Subcontractors (if any)

General contractors and subcontractors:

- Any additions and/or deletions to the list of subcontractors working on a project must be submitted to the Department within 30 days of occurrence.
- If an extension is needed for a project, please contact the Department of Revenue at the address, number, or email listed below. Extension requests should be submitted no more than 30 days after expiration date.
- Subcontractor's Estimated Start Date should be the date they will begin working on the project and ordering materials instead of the General Contractor's Estimated Start Date for the project.

THERE IS A FILING REQUIREMENT IF YOUR APPLICATION IS APPROVED. The return will be filed through the Consumer's Use Tax account. Please see the following page for detailed instructions and general information regarding the reporting requirements.

The application and required documentation may be mailed, faxed, or emailed to the following:

Fax: (334) 353-7867

Email: STExemptionUnit@revenue.alabama.gov

Mailing Address: ATTN: Contractor's Exemption
Alabama Department of Revenue
Sales & Use Tax Division
Room 4303
PO Box 327710
Montgomery, AL 36132-7710

*General Information and Instructions Regarding the
Reporting Requirements for Contractors Awarded an Exemption Certificate*

A contractor's exemption certificate for a Government Entity project is needed in order to purchase materials tax exempt for the qualified project. Once the exemption certificate has been applied for and awarded, there is a monthly filing requirement to report the purchases that have been made for each exempt project. The Consumer's Use (CNU) tax account is used to report the tax-exempt purchases made with each certificate for each exempt project for each month.

The consumer's use tax return must be filed for each of the months covered by the exemption certificate. (For example, if the certificate's effective date is June 29, 2014 and the expected completion date is October 1, 2014, a consumer's use tax return must be filed for each of the following months: June, July, August, September, and October.) A return MUST be filed each month to report the monthly purchases. Therefore, all active exemption certificates must be included on the monthly report even if the monthly purchases for a specific project was \$0.

If a CNU tax account is not already open under the taxpayer/business name, one will automatically be assigned at the time the exemption certificate is generated. Electronic filing is required through the Department's online filing system, My Alabama Taxes (MAT). A letter containing the online filing information will be mailed to the address on file within a few days after the new CNU tax account has been assigned. This letter will contain all the information needed to create your online filing account in MAT. For questions relating to setting up the account on www.myalabamataxes.alabama.gov, please contact Business Registration at 334-242-1584 or the Sales Tax Division at 1-866-576-6531.

Once the MAT account is set up, please log in and file the monthly CNU tax return. There is a table located at the bottom left hand corner labeled "Contractor's Exemption for Government Construction Projects." All three fields in the table are required to be completed: exemption number, project number, and total amount of purchases for that specific project for the month. Additional projects may be added on the additional rows that appear as data is added; the table will allow the addition of more projects.

***Please do not use lines 1 through 9 of the return for reporting exempt project information. Leave these lines blank unless taxable purchases were made outside of the state of Alabama that need to be reported and tax remitted. (Lines 1 through 9 do not have anything to do with the exemption reporting requirements).

When the certificate expires (upon the project's completion) and the CNU tax account is no longer needed, please contact the Business Registration Unit at 334-242-1584 and close the CNU tax account. Please be advised that if there are multiple government entity projects open, the consumer's use tax account should remain open until the last project completion date. For example, if Project EXC00ABCD ends in June of 2014 but Project EXC00EFGH ends January of 2015, the CNU tax account must remain open until the end of January 2015. A return for Project EXC00EFGH must be filed all the way through January 2015.

If the applicant already has a CNU tax account and it is currently set up online, please use this account to report exempt project purchases through www.myalabamataxes.alabama.gov using the instructions provided above. The return may then be filed as usual.

***All Consumer's Use Tax returns are due on the 20th of the month following the month in which purchases were made (i.e., the return for the month of June is due July 20th, etc. There are 20 days to file the return before it is deemed late.)

***Any penalty waiver requests may be directed to the Sales and Use Tax Division at 1-866-576-6531. Only one waiver per 18 month period is allowed.

ARTICLE 23—SRF SUPPLEMENTAL GENERAL CONDITIONS

- 23.01 Bidder shall comply with all provisions of Section 00 73 01 SRF Supplemental General Conditions.
- 23.02 Bidder shall include the following documents in his Bid in accordance with Section 00 73 01 Sections IV, V 2-6, VI, XV, and XVI.
- A. List of all subcontractors (DBE and non-DBE) with name, address, telephone number, estimated contract dollar amount, and duration. If there are to be no subcontractors, please indicate such in a letter on company letterhead.
 - B. List of any subcontract work yet to be committed with estimate of dollar amount and duration amount.
 - C. MBE-WBE (DBE) Documents
 1. DBE Compliance Form
 2. Certification regarding Equal Employment Opportunity
 3. Debarred Firms Certification
 4. EPA Form 6100-2 DBE Subcontractor Participation Form
 5. EPA Form 6100-3 DBE Subcontractor Performance Form
 6. EPA Form 6100-4 DBE Subcontractor Utilization Form
 - D. Debarred Firms Certification
 - E. Certification Regarding Equal Employment Opportunity
 - F. Acknowledgement and compliance with Section XV Davis-Bacon and Related Acts
 - G. Acknowledgement and compliance with Section XVI American Iron and Steel Requirement
 - H. Detailed documentation that the good faith solicitation efforts were followed. See Section IV and pages SGC-4 and SGC-5 of Section 00 73 01.
 - I. Bid will not be considered complete unless all forms and documentation are submitted at the time of bid.

SECTION 00 41 00 – BID FORM

BID FORM

Project Title:	Water Main Replacement
Project Location:	Enterprise, Alabama
Owner:	Water Works Board of the City of Enterprise, AL
Engineer Project No.:	11-465
Bid Opening Location:	Enterprise Water Works Maintenance Facility 801 Mill Avenue Enterprise, AL 36330
Bid Opening Date:	

SUBMITTED BY

Bidder Name:	
Bidder Address:	

ARTICLE 1 – OWNER AND BIDDER

1.01 This Bid is submitted to:

**Water Works Board
501 S. Main Street
Enterprise, AL 36330**

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 – ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. E-Verify MOU for Employers;
- C. Contractor's License Certification;
- D. HB56 Compliance Certification;
- E. List of Proposed Subcontractors;
- F. List of Proposed Suppliers;
- G. List of Project References;
- H. 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;
- I. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- J. Required Bidder Qualification Statement with supporting data.

ARTICLE 3 – BASIS OF BID

3.01 *Lump Sum and Unit Price Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum (stipulated) price(s), together with any Unit Prices:

The Bidder shall not include in the prices bid the sales and use tax on products which are exempt from sales and use tax.

B. Bidder acknowledges that:

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

BASE BID						
Item No	Quantity & Units		Description	Unit Price		Total Price
1.	1	LS	Mobilization including Bonds, Insurance, Etc.	\$	LUMP SUM	\$
2.	140	LF	2" PVC (Class 200, SDR21) Water Main, Complete In Place For	\$		\$
3.	860	LF	4" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$
4.	10,200	LF	6" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$
5.	9,800	LF	8" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$
6.	20	LF	4" Ductile Iron Water Main (Restrained Joint, Class 350), Complete In Place For	\$		\$
7.	470	LF	6" Ductile Iron Water Main (Restrained Joint, Class 350), Complete In Place For	\$		\$
8.	230	LF	8" Ductile Iron Water Main (Restrained Joint, Class 350), Complete In Place For	\$		\$
9.	6	EA	2" Gate Valve w/Valve Box, Complete In Place For	\$		\$
10.	2	EA	4" Gate Valve w/Valve Box, Complete In Place For	\$		\$
11.	50	EA	6" Gate Valve w/Valve Box, Complete In Place For	\$		\$
12.	18	EA	8" Gate Valve w/Valve Box, Complete In Place For	\$		\$
13.	4	EA	2"x2" Tapping Tee & 2" Gate Valve w/Valve Box, Complete In Place For	\$		\$
14.	1	EA	4"x2" Tapping Tee & 3" Gate Valve w/Valve Box, Complete In Place For	\$		\$
15.	8	EA	4"x4" Tapping Tee & 4" Gate Valve w/Valve Box, Complete In Place For	\$		\$
16.	27	EA	6"x6" Tapping Tee & 6" Gate Valve w/Valve Box, Complete In Place For	\$		\$
17.	3	EA	8"x6" Tapping Tee & 6" Gate Valve w/Valve Box, Complete In Place For	\$		\$
18.	4	EA	8"x8" Tapping Tee & 8" Gate Valve w/Valve Box, Complete In Place For	\$		\$
19.	240	LF	6" Uncased Dry Bore, Complete In Place For	\$		\$
20.	150	LF	8" Uncased Dry Bore, Complete In Place For	\$		\$

BASE BID						
Item No	Quantity & Units		Description	Unit Price		Total Price
21.	80	LF	16" Steel Casing, Jacked and Bored, Complete In Place For	\$		\$
22.	80	LF	8" PVC (C900, DR-18) Carrier Pipe with Spacers, Complete In Place for	\$		\$
23.	30	EA	6" Fire Hydrant (3-Way), Complete In Place For	\$		\$
24.	13,200	LBS	Ductile Iron Fittings, Complete In Place For	\$		\$
25.	185	LF	2" HDPE Bored Casing Pipe, Complete In Place For	\$		\$
26.	140	EA	3/4" Service Transfer, Complete In Place For	\$		\$
27.	2	EA	1" Service Transfer, Complete In Place For	\$		\$
28.	3	EA	2" Service Transfer, Complete In Place For	\$		\$
29.	4,000	LF	3/4" Type "K" Copper Service Tubing, Complete In Place For	\$		\$
30.	4	EA	6" Fire Hydrant Extension, Complete In Place For	\$		\$
31.	100	LF	1" Type "K" Copper Service Tubing, Complete In Place For	\$		\$
32.	120	LF	2" Muncipex Service Tubing, Complete In Place For	\$		\$
33.	9	EA	Cut & Plug Existing 1", 2", and 3" Water Main with Brass Plug, Complete In Place For	\$		\$
34.	7	EA	Cut & Plug Existing 4" Water Main, Complete In Place For	\$		\$
35.	30	EA	Cut & Plug Existing 6" Water Main, Complete In Place For	\$		\$
36.	6	EA	Cut & Plug Existing 8" Water Main, Complete In Place For	\$		\$
37.	25	EA	Remove Existing Fire Hydrant, Plug Main, and Deliver to Water Department, Complete In Place For	\$		\$
38.	7,800	LF	Remove & Replace Typical Asphalt Pavement for Water Main, Complete In Place For	\$		\$

BASE BID						
Item No	Quantity & Units		Description	Unit Price		Total Price
39.	300	LF	Remove & Replace ALDOT Asphalt Pavement for Water Main, Complete In Place For	\$		\$
40.	100	LF	Remove & Replace Typical Concrete Pavement, Complete In Place For	\$		\$
41.	85	SY	Remove & Replace Concrete Drives, 6" Thick, Complete In Place For	\$		\$
42.	10	SY	Remove & Replace Concrete Sidewalk, 4" Thick, Complete In Place For	\$		\$
43.	180	LF	Remove & Replace Curb, Complete In Place For	\$		\$
44.	245	LF	Remove & Replace Curb and Gutter, Complete In Place For	\$		\$
45.	10	LF	Remove & Replace Valley Gutter, Complete In Place For	\$		\$
46.	70	CY	Flowable Fill Abandoned Water Mains on ALDOT ROW Complete In Place For	\$		\$
47.	140	LF	Solid Thermoplastic (Class 2, Type A) Traffic Stripe, Complete In Place For.	\$		\$
48.	25	SF	Traffic Control Thermoplastic (Class 2, Type A) Marking, Complete In Place For	\$		\$
49.	200	SY	Solid Sodding, Topsoil, Fertilizer, Water, Etc., Complete In Place For	\$		\$
50.	2	AC	Grassing to Include Seed, Topsoil, Fertilizer, Water, Etc., Complete In Place For	\$		\$
51.	45	EA	Compaction Test on Trench Backfill and Base, Complete In Place For	\$		\$
52.	340	CY	Select Backfill Borrow Material, Complete In Place For	\$		\$
53.	1	LS	ADEM NPDES Permitting and Compliance (303d Stream), Complete In Place For	\$	LUMP SUM	\$
54.	30	EA	Inlet Protection, Complete In Place For	\$		\$
55.	2,000	LF	Silt Fence for Erosion Control, Complete In Place For	\$		\$
TOTAL BASE BID						\$

ADDITIVE ALTERNATE NO. 1 – ALBERTA STREET							
Item No.	Quantity and Units		Description	Unit Price		Total Price	
1.	1	LS	Mobilization including Bonds, Insurance, Etc.	\$	LUMP SUM	\$	
2.	40	LF	2" PVC (Class 200, SDR21) Water Main, Complete In Place For	\$		\$	
3.	10	LF	4" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$	
4.	340	LF	6" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$	
5.	2,960	LF	8" PVC (C900, DR18) Water Main, Complete In Place For	\$		\$	
6.	165	LF	6" Ductile Iron Water Main (Restrained Joint, Class 350), Complete In Place For	\$		\$	
7.	18	LF	8" Ductile Iron Water Main (Restrained Joint, Class 350), Complete In Place For	\$		\$	
8.	1	EA	2" Gate Valve w/Valve Box, Complete In Place For	\$		\$	
9.	7	EA	6" Gate Valve w/Valve Box, Complete In Place For	\$		\$	
10.	3	EA	8" Gate Valve w/Valve Box, Complete In Place For	\$		\$	
11.	1	EA	4"x4" Tapping Tee & 4" Gate Valve w/Valve Box, Complete In Place For	\$		\$	
12.	6	EA	6"x6" Tapping Tee & 6" Gate Valve w/Valve Box, Complete In Place For	\$		\$	
13.	245	LF	8" Uncased Dry Bore, Complete In Place For	\$		\$	
14.	3	EA	6" Fire Hydrant (3-Way), Complete In Place For	\$		\$	
15.	1,840	LBS	Ductile Iron Fittings, Complete In Place For	\$		\$	
16.	1	EA	New Meter Box w/Curb Stop, Complete In Place For	\$		\$	
17.	31	EA	3/4" Service Transfer, Complete In Place For	\$		\$	
18.	1	EA	2" Service Transfer, Complete In Place For	\$		\$	
19.	710	LF	3/4" Type "K" Copper Service Tubing, Complete In Place For	\$		\$	
20.	10	LF	2" Municipex Service Tubing, Complete In Place For	\$		\$	

ADDITIVE ALTERNATE NO. 1 – ALBERTA STREET							
Item No.	Quantity and Units		Description	Unit Price		Total Price	
21.	1	EA	Cut & Plug Existing 1", 2", and 3" Water Main with Brass Plug, Complete In Place For	\$		\$	
22.	1	EA	Cut & Plug Existing 4" Water Main, Complete In Place For	\$		\$	
23.	7	EA	Cut & Plug Existing 6" Water Main, Complete In Place For	\$		\$	
24.	4	EA	Remove Existing Fire Hydrant, Plug Main, and Deliver to Water Department, Complete In Place For	\$		\$	
25.	725	LF	Remove & Replace Typical Asphalt Pavement for Water Main, Complete In Place For	\$		\$	
26.	30	LF	Remove & Replace ALDOT Asphalt Pavement for Water Main, Complete In Place For	\$		\$	
27.	5	SY	Remove & Replace Concrete Drives, 6" Thick, Complete In Place For	\$		\$	
28.	55	LF	Remove & Replace Curb and Gutter, Complete In Place For	\$		\$	
29.	5	LF	Remove & Replace Valley Gutter, Complete In Place For	\$		\$	
30.	26	SF	Traffic Control Thermoplastic (Class 2, Type A) Marking, Complete In Place For	\$		\$	
31.	50	SY	Solid Sodding, Topsoil, Fertilizer, Water, Etc., Complete In Place For	\$		\$	
32.	0.5	AC	Grassing to Include Seed, Topsoil, Fertilizer, Water, Etc., Complete In Place For	\$		\$	
33.	8	EA	Compaction Test on Trench Backfill and Base, Complete In Place For	\$		\$	
34.	10	CY	Select Backfill Borrow Material, Complete In Place For	\$		\$	
35.	5	EA	Inlet Protection, Complete In Place For	\$		\$	
36.	300	LF	Silt Fence for Erosion Control, Complete In Place For	\$		\$	
TOTAL ADDITIVE ALTERNATE NO. 1 BID						\$	

ARTICLE 4 – TIME OF COMPLETION

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

ARTICLE 5 – BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda

Addendum Number & Date	Addendum Number & Date

ARTICLE 6 – BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder’s Representations*

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

the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

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

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 6.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

- c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
- d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

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

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address: _____

Bidder's Contractor License No.: _____

ATTACHMENT – CONTRACTOR’S LICENSE CERTIFICATION

Bidder/Contractor’s Name: _____

Alabama Contractor’s License Number: _____

Alabama Contractor’s License Classification: _____

Alabama Contractor’s License Bid Limit: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

BIDDER: _____

By: _____

(name signed)

(name printed or typed)

Title: _____

Date: _____

ATTACHMENT – COMPLIANCE CERTIFICATION (HB56)

(To be completed as a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity or employer that employs one or more employees)

State of _____

County of _____

Before me, a notary public, personally appeared _____

(print name) who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees, I hereby attest that my capacity as _____ (state position) for _____ (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ any unauthorized alien.

I further attest said business entity/employer/contractor is enrolled in the E-Verify program. (ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

_____ Signature of Affiant

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

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

_____ Signature and Seal of Notary Public

Author: Jean Brown

Statutory Authority: Code of Alabama, sections 31-13-9 (a) and (b); Section 31-13-9 (h).

History: New Rule: Filed December 12, 2011; effective December 12, 2011

820-4-1.02ER Contents of Acceptable Affidavit Form For Administering Code of Alabama, Section 31-13-9 (c).

END OF SECTION 00 41 00

SECTION 00 43 13 – BID BOND

<p>Bidder</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>	<p>Surety</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>
<p>Owner</p> <p>Name: Water Works Board of the City of Enterprise, AL</p> <p>Address (<i>principal place of business</i>): 501 S. Main Street Enterprise, AL 36330</p>	<p>Bid</p> <p>Project (<i>name and location</i>): Water Main Replacement ADEM DWSRF Project No. FS010443-01</p> <p>Bid Due Date: _____</p>
<p>Bond</p> <p>Penal Sum: _____</p> <p>Date of Bond: _____</p>	
<p>Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.</p>	
<p>Bidder</p> <p>_____</p> <p>(<i>Full formal name of Bidder</i>)</p>	<p>Surety</p> <p>_____</p> <p>(<i>Full formal name of Surety</i>) (<i>corporate seal</i>)</p>
<p>By: _____</p> <p>(<i>Signature</i>)</p>	<p>By: _____</p> <p>(<i>Signature</i>) (<i>Attach Power of Attorney</i>)</p>
<p>Name: _____</p> <p>(<i>Printed or typed</i>)</p>	<p>Name: _____</p> <p>(<i>Printed or typed</i>)</p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____</p> <p>(<i>Signature</i>)</p>	<p>Attest: _____</p> <p>(<i>Signature</i>)</p>
<p>Name: _____</p> <p>(<i>Printed or typed</i>)</p>	<p>Name: _____</p> <p>(<i>Printed or typed</i>)</p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i></p>	

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

END OF SECTION 00 43 13

SECTION 00 45 13 – BIDDER QUALIFICATION STATEMENT

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

Legal Name of Business:			
Corporate Office			
Name:		Phone number:	
Title:		Email address:	
Business address of corporate office:			
Local Office			
Name:		Phone number:	
Title:		Email address:	
Business address of local office:			

1.02 Provide information on the Business’s organizational structure:

Form of Business:	<input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation		
<input type="checkbox"/> Limited Liability Company <input type="checkbox"/> Joint Venture comprised of the following companies:			
	1.		
	2.		
	3.		
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:		State in which Business was formed:	
Is this Business authorized to operate in the Project location?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending	

1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	

Address:	
----------	--

1.04 Provide information regarding the Business’s officers, partners, and limits of authority.

Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

Name of License:			
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business’s Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
<input type="checkbox"/> Disadvantaged Business Enterprise		
<input type="checkbox"/> Minority Business Enterprise		
<input type="checkbox"/> Woman-Owned Business Enterprise		
<input type="checkbox"/> Small Business Enterprise		
<input type="checkbox"/> Disabled Business Enterprise		
<input type="checkbox"/> Veteran-Owned Business Enterprise		
<input type="checkbox"/> Service-Disabled Veteran-Owned Business		
<input type="checkbox"/> HUBZone Business (Historically Underutilized) Business		
<input type="checkbox"/> Other		
<input type="checkbox"/> None		

ARTICLE 4—SAFETY

4.01 Provide information regarding Business’s safety organization and safety performance.

Name of Business’s Safety Officer:		
Safety Certifications		
Certification Name	Issuing Agency	Expiration

4.02 Provide Worker’s Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

ARTICLE 5—FINANCIAL

5.01 Provide information regarding the Business’s financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:			
Business address:			
Date of Business’s most recent financial statement:		<input type="checkbox"/> Attached	
Date of Business’s most recent audited financial statement:		<input type="checkbox"/> Attached	
Financial indicators from the most recent financial statement			
Contractor’s Current Ratio (Current Assets ÷ Current Liabilities)			
Contractor’s Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)			

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:	
--------------	--

Surety is a corporation organized and existing under the laws of the state of:			
Is surety authorized to provide surety bonds in the Project location?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 7—INSURANCE

7.01 Provide information regarding Business’s insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):			
Insurance Provider		Type of Policy (Coverage Provided)	
Are providers licensed or authorized to issue policies in the Project location?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does provider have an A.M. Best Rating of A-VII or better?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 8—CONSTRUCTION EXPERIENCE

8.01 Provide information that will identify the overall size and capacity of the Business.

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

8.02 Provide information regarding the Business’s previous contracting experience.

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

8.03 List all projects currently under contract in Schedule A and provide indicated information.

8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business’s experience with projects similar in type and cost of construction.

8.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business’s key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

9.01 Provide the following information with the Statement of Qualifications:

- A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.
- B. Diverse Business Certifications if required by Paragraph 3.01.
- C. Certification of Business’s safety performance if required by Paragraph 4.02.
- D. Financial statements as required by Paragraph 5.01.
- E. Attachments providing additional information as required by Paragraph 8.02.
- F. Schedule A (Current Projects) as required by Paragraph 8.03.
- G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
- H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
- I. Additional items as pertinent.

This Statement of Qualifications is offered by:

Business:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(date signed)

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

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

Bidder's Contractor License No.:

Schedule A—Current Projects

Name of Organization					
Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					

Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					

Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					
Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					
Project Owner		Project Name			
General Description of Project					
Project Cost		Date Project			
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
		Name	Title/Position	Organization	Telephone
Owner					
Designer					
Construction Manager					

Schedule C—Key Individuals

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

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

END OF SECTION 00 45 13

SECTION 00 51 00 – NOTICE OF AWARD

NOTICE OF AWARD

Date of Issuance: _____

Owner: Water Works Board of the City of Enterprise, AL Owner's Project No.: _____

Engineer: Poly, Inc. Engineer's Project No.: 11-465

Project: Water Main Replacement - ADEM DWSRF Project No. FS010443-01

Contract Name: _____

Bidder: _____

Bidder's Address: _____

TO BIDDER:

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

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

The Contract Price of the awarded Contract is: \$_____. Contract Price is subject to adjustment based on the provisions of the contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

[Number of copies sent] 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.

Drawings will be delivered separately from the other Contract Documents.

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

1. Deliver to Owner **[number of copies sent]** counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation as specified in the Instructions to Bidders and General Conditions, (Articles 2 and 6), and Supplementary Conditions (Articles 2 and 6).
3. Other conditions precedent (if any): None

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 signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: **Water Works Board of the City of Enterprise, AL**

By (signature): _____

Name (printed): Mayor William E. Cooper Sr.

Title: Superintendent

Copy: Engineer

SECTION 00 52 13 – AGREEMENT FORM (STIPULATED PRICE)

This Agreement is by and between Water Works Board of the City of Enterprise, AL (“Owner”) and _____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Water Main Replacement - ADEM DWSRF Project No. FS010443-01.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Water Main Replacement - ADEM DWSRF Project No. FS010443-01.

ARTICLE 3 – ENGINEER

3.01 The Owner has retained **Poly, Inc.** (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

3.02 The part of the Project that pertains to the Work has been designed by “**Engineer**”.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time is of the Essence*

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

4.02 *Contract Times: Days*

A. The Work will be substantially completed within **365** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **410** days after the date when the Contract Times commence to run.

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 Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion*: Contractor shall pay Owner **\$500.00** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$500.00** for each day that expires after such time until the Work is completed and ready for final payment.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

4.04 *Special Damages*

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this Agreement.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
- A. For all Work other than Unit Price Work, at the lump sum prices stated in Contractor's Bid.
 - B. 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) stated in Contractor's Bid.
 1. 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.
 - C. Contractor's Bid is attached hereto as an exhibit.
 - D. Contract Price is \$ _____.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 15th 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. 95 percent of the value of the Work completed (with the balance being retainage).

- 1) 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. 95 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 98 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, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 *Consent of Surety*

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

6.05 *Interest*

- A. All amounts not paid when due shall bear interest at the rate of 6 percent per annum.

ARTICLE 7 – CONTRACT DOCUMENTS

7.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement.
 - 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 - 3. General Conditions.
 - 4. Supplementary Conditions.
 - 5. Specifications as listed in the table of contents of the Project Manual.
 - 6. Drawings (not attached but incorporated by reference) consisting of 25 sheets with each sheet bearing the following general title: Water Main Replacement.
 - 7. Addenda (numbers ___ to ___, inclusive).
 - 8. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor’s Bid.
 - 9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8 – REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 *Contractor’s Representations*

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.

2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
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.

8.03 *Standard General Conditions*

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

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

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

Owner:

Water Works Board of the City of Enterprise

(typed or printed name of organization)

By: _____

(individual's signature)

Date: _____

(date signed)

Name: Mayor William E. Cooper, Sr.

(typed or printed)

Title: Superintendent

(typed or printed)

Attest: _____

(individual's signature)

Title: _____

(typed or printed)

Address for giving notices:

501 S. Main Street

Enterprise, AL 36330

Designated Representative:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Address: _____

Phone: _____

Email: _____

(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.)

Contractor:

(typed or printed name of organization)

By: _____

(individual's signature)

Date: _____

(date signed)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

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

Attest: _____

(individual's signature)

Title: _____

(typed or printed)

Address for giving notices:

Designated Representative:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Address: _____

Phone: _____

Email: _____

License No.: _____

(where applicable)

State: _____

END OF SECTION 00 52 13

SECTION 00 55 00 – NOTICE TO PROCEED

NOTICE TO PROCEED

Owner: Water Works Board of the City of Enterprise Owner's Project No.: _____
 Engineer: Poly, Inc. Engineer's Project No.: 11-465
 Contractor: _____ Contractor's Project No.: _____
 Project: Water Main Replacement - ADEM DWSRF Project No. FS010443-01
 Contract Name: _____
 Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on _____, 20____ pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The number of days to achieve Substantial Completion is _____ from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion of _____; and the number of days to achieve readiness for final payment is _____ from the commencement date of the Contract Times, resulting in a date for readiness for final payment of _____.

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

Owner:	<u>Water Works Board of the City of Enterprise, AL</u>	Contractor:	_____
By (signature):	_____	By (signature):	_____
Name (printed):	<u>Mayor William E. Cooper, Sr.</u>	Name (printed):	_____
Title:	<u>Superintendent</u>	Title:	_____
Date Issued:	_____		

Copy: Engineer

SECTION 00 61 13.13 – PERFORMANCE BOND

<p>Contractor</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>	<p>Surety</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>
<p>Owner</p> <p>Name: Water Works Board of the City of Enterprise, AL</p> <p>Mailing address (<i>principal place of business</i>): 501 S. Main Street Enterprise, AL 36330</p>	<p>Contract</p> <p>Description (<i>name and location</i>): Water Main Replacement ADEM DWSRF Project No. FS010443-01</p> <p>Contract Price: _____</p> <p>Effective Date of Contract: _____</p>
<p>Bond</p> <p>Bond Amount: _____</p> <p>Date of Bond: _____ <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form: <input checked="" type="checkbox"/> None <input type="checkbox"/> See Paragraph 16</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.</p>	
Contractor as Principal	Surety
By: _____ <i>(Full formal name of Contractor)</i>	By: _____ <i>(Full formal name of Surety) (corporate seal)</i>
Name: _____ <i>(Signature)</i>	Name: _____ <i>(Signature)(Attach Power of Attorney)</i>
Title: _____ <i>(Printed or typed)</i>	Title: _____ <i>(Printed or typed)</i>
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

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

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

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

14. Definitions

14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

16. Modifications to this Bond are as follows: **None.**

END OF SECTION 00 61 13.13

SECTION 00 61 13.16 – PAYMENT BOND

<p>Contractor</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>	<p>Surety</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>
<p>Owner</p> <p style="text-align: center;">Water Works Board of the City of</p> <p>Name: Enterprise, AL</p> <p>Mailing address (<i>principal place of business</i>): 501 S. Main Street Enterprise, AL 36330</p>	<p>Contract</p> <p>Description (<i>name and location</i>): Water Main Replacement ADEM DWSRF Project No. FS010443-01</p> <p>Contract Price: _____</p> <p>Effective Date of Contract: _____</p>
<p>Bond</p> <p>Bond Amount: _____</p> <p>Date of Bond: _____ (<i>Date of Bond cannot be earlier than Effective Date of Contract</i>)</p> <p>Modifications to this Bond form: <input checked="" type="checkbox"/> None <input type="checkbox"/> See Paragraph 18</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.</p>	
Contractor as Principal	Surety
By: _____ (<i>Full formal name of Contractor</i>)	_____ (<i>Full formal name of Surety</i>) (<i>corporate seal</i>)
Name: _____ (<i>Signature</i>)	By: _____ (<i>Signature</i>)(<i>Attach Power of Attorney</i>)
Name: _____ (<i>Printed or typed</i>)	Name: _____ (<i>Printed or typed</i>)
Title: _____	Title: _____
Attest: _____ (<i>Signature</i>)	Attest: _____ (<i>Signature</i>)
Name: _____ (<i>Printed or typed</i>)	Name: _____ (<i>Printed or typed</i>)
Title: _____	Title: _____
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

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

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

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

END OF SECTION 00 61 13.16

SECTION 00 63 63 – CHANGE ORDER FORM

Change Order No. _____

Owner: Water Works Board of the City of Enterprise, AL Owner's Project No.: _____
 Engineer: Poly, Inc. Engineer's Project No.: 11-465
 Contractor: _____ Contractor's Project No.: _____
 Project: Water Main Replacement Contract Name: _____
ADEM DWSRF Project No. FS010443-01
 Date of Issuance: _____ Effective Date: _____

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments:

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES <i>[State as specific date or number of days]</i>
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____
[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: \$ _____	[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: Substantial Completion: _____ Ready for Final Payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____
[Increase] [Decrease] this Change Order: \$ _____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____

Recommended by Engineer (if required)

Accepted by Contractor

By: _____
 Title: _____
 Date: _____

Authorized by Owner

Approved by Funding Agency (if applicable)

By: _____
 Title: _____
 Date: _____

SECTION 00 65 19 – NOTICE OF ACCEPTABILITY OF WORK

Owner: Water Works Board of the City of Enterprise, AL Owner's Project No.: _____
Engineer: Poly, Inc. Engineer's Project No.: 11-465
Contractor: _____ Contractor's Project No.: _____
Project: Water Main Replacement Contract Name: _____
ADEM DWSRF Project No. FS010443-01
Notice Date: _____ Effective Date of the Construction Contract: _____

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

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

Engineer

By (*signature*): _____

Name (*printed*): _____

Title: _____

SECTION 00 72 00 – GENERAL CONDITIONS

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY1.01 *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. §§5101 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.I 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 (See Section 00 73 00 Supplementary Conditions)*

- 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 considered 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 for whom the Owner is responsible 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 (See Section 00 73 00 – Supplementary Conditions)*

- 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 11.04.C.2.a and

11.04.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 – CLAIMS12.01 *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 additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, 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 MADE TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD15.01 *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.

END OF SECTION 00 72 00

SECTION 00 73 00 – SUPPLEMENTARY CONDITIONS

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These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that 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.

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01.B Delete Paragraph 2.01 B and insert the following in its place:

- B. *Evidence of Contractor's Insurance:* After Award but before Contract Documents are executed, 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. All policies must provide 10 days advance notice to the Owner in the event of cancellation, expiration, or alteration. Each certificate shall be accompanied by a notarized statement itemizing each and every exclusion of the policy.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01 *Intent*

SC-3.01 Add the following new paragraph immediately after Paragraph 3.01.E:

- F. In the event of a conflict between the various items which make up the Contract Documents, the following hierarchy of Documents shall prevail:
1. Change Orders
 2. Addenda
 3. Special Conditions
 4. Agreement
 5. Instructions to Bidders
 6. Supplementary Conditions
 7. General Conditions
 8. Technical Specifications
 9. Drawings
 10. Advertisement

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-5.04 Differing Subsurface or Physical Conditions

SC-5.04 Add the following new paragraphs immediately after Paragraph 5.04.D:

- E. The plans show certain features of the topography and certain underground utilities, but they do not purport to show in detail all such lines or obstructions. Such topography and notes on the plans were inserted from records available and are for the Contractor's convenience only and shall not be used as a basis for any claims of extra compensation.
- F. All pipes or other underground utilities shall be maintained in continuous service where possible and shall be properly protected and supported. In no case shall interruptions to utilities be allowed to exist outside working hours.
- G. Prior to starting the Work, the proper authorities of all the utilities shall be notified by the Contractor, and the Contractor shall cooperate in every way possible with these authorities. Whenever necessary to determine the location of existing pipes, valves, or other underground structures, the Contractor shall examine all available records and shall make all explorations and excavations necessary for such purpose.

SC-5.05 Underground Facilities

SC-5.05 Add the following new paragraphs immediately after last paragraph of Paragraph 5.05.E:

- F. The plans show certain features of the topography and certain underground utilities, but they do not purport to show in detail all such lines or obstructions. Such topography and notes on the plans were inserted from records available and are for the Contractor's convenience only and shall not be used as a basis for any claims of extra compensation.
- G. All pipes or other underground utilities shall be maintained in continuous service where possible and shall be properly protected and supported. In no case shall interruptions to utilities be allowed to exist outside working hours.
- H. Prior to starting the Work, the proper authorities of all the utilities shall be notified by the Contractor, and the Contractor shall cooperate in every way possible with these authorities. Whenever necessary to determine the location of existing pipes, valves, or other underground structures, the Contractor shall examine all available records and shall make all explorations and excavations necessary for such purpose.

SC-5.06 Hazardous Environmental Conditions

- 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.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.02 Insurance—General Provisions

- SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:
 - 1. Contractor may obtain worker’s compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the project is located, (b) is certified or authorized as a worker’s compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker’s compensation insurance for similar projects by the state within the last 12 months.

SC-6.03 Contractor’s Insurance

- SC-6.03 Add the following new paragraph immediately after Paragraph 6.03.J:
 - 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, disability benefits, and other similar employee benefit acts, and damages because of bodily injury, occupational sickness or disease, or death of Contractor’s employees as provided in Paragraphs 6.03.A.1 and 6.03.A.2 of the General Conditions:

State:	Statutory
Federal, if applicable (e.g., Longshoreman’s):	Statutory

Employer’s Liability:	
Bodily injury, each accident	\$ 1,000,000
Bodily injury by disease, each employee	\$ 1,000,000
Bodily injury/disease aggregate	\$ 1,000,000

- 2. Contractor’s Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

Each Occurrence	\$ 1,000,000
Damage to Rented Premises (each occurrence)	\$ 100,000
Medical Expenses (any one person)	\$ 10,000

Personal and Advertising Injury	\$ <u>1,000,000</u>
General Aggregate	\$ <u>2,000,000</u>
Products – Completed Operations Aggregate	\$ <u>2,000,000</u>
3. Automobile Liability under Paragraph 6.03.D. of the General Conditions for all owned, hired, and non-owned vehicles:	
Combined Single Limit (each accident)	\$ <u>2,000,000</u>
4. Excess or Umbrella Liability:	
General Aggregate	\$ <u>2,000,000</u>
Each Occurrence	\$ <u>2,000,000</u>
5. Contractor's Pollution Liability:	
Each Occurrence	\$ <u>2,000,000</u>
General Aggregate	\$ <u>2,000,000</u>
<input checked="" type="checkbox"/>	If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract
6. Contractor's Professional Liability:	
Each Claim	\$ <u>1,000,000</u>
Annual Aggregate	\$ <u>1,000,000</u>
<input checked="" type="checkbox"/>	If box is checked, Contractor is not required to provide Contractor's Professional Liability insurance under this Contract
7. Owners and Contractors Protective Liability:	
Contractor to provide an Owners and Contractors Protective Liability Policy issued in the name of the Owner and Engineer covering the Contractor's obligations under Paragraph 6.03.B of the General Conditions. Coverage shall be provided under this policy for not less than the following amounts:	
Bodily Injury (each occurrence)	\$ <u>1,000,000</u>
Property Damage (each occurrence)	\$ <u>1,000,000</u>
Property Damage (annual aggregate)	\$ <u>1,000,000</u>

SC-6.05 Property Insurance

SC-6.05.A. Delete Paragraph 6.05.A in its entirety and substitute the following in its place:

A. Contractor shall provide and maintain installation floater insurance for property under the care, custody, or control of Contractor. The installation floater insurance shall be a broad form or "all risk" policy providing coverage for all materials, supplies, machinery, fixtures, and equipment that will be incorporated into the Work. Coverage under the Contractor's installation floater will include:

1. any loss to property while in transit,
2. any loss at the Site,
3. any loss while in storage, both on-site and off-site,
4. any loss during installation,
5. any loss during testing, and
6. any loss after the work is completed until Substantial Completion.

A. Coverage cannot be contingent on an external cause or risk, or limited to property for which the Contractor is legally liable. The Contractor will be solely responsible for any deductible carried under this coverage and claims on materials, supplies, machinery, fixture, and equipment that will be incorporated into the Work while in transit, in storage, or after installation until Substantial Completion. This policy will include a waiver of subrogation applicable to Owner, Contractor, Engineer, all Subcontractors, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them.

The coverage shall be for an amount not less than the full amount of the contract plus the aggregate value of the Owner-furnished equipment, products, and materials to be erected or installed by the Contractor.

The insurance shall provide for losses, to be payable to the Contractor and the Owner as their interests may appear.

Certificates of insurance covering installation floater insurance shall quote the insuring agreement and all exclusions as they appear in the policy; or in lieu of certificates, copies of the complete policy may be submitted.

Include the Owner, Contractor, Subcontractors, Engineer, and Engineer's subconsultants as insureds under the installation floater insurance policy.

SC-6.06 Waiver of Rights

SC-6.06 Delete Paragraph 6.06 in its entirety and replace with the following:

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraphs SC 6.05 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insured or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby.

- B. Any insurance policy maintained by CONTRACTOR covering any loss, damage or consequential loss referred to herein 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 OWNER, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.09 *Taxes*

- SC-7.09 State of Alabama Rule No. 810-6-3-.77 provides a sales and use tax exemption for contractors and subcontractors on purchases of building materials, construction materials and supplies, and other tangible personal property that is the subject of a written contract for and on behalf of exempt governmental entities.

Governmental Entity Defined

1. The State of Alabama and its political subdivisions
 - including a county, a municipality, and an industrial or economic development board of authority.
2. An educational institution of any of the foregoing Alabama political subdivisions.
 - including a public college or university, a county or a city board of education, and the State Board of Education.
3. Please note that this term does not include the federal government.

Overview of Procedure

1. Contractors and subcontractors licensed by the State Licensing Board for General Contractors shall apply for a sales and use tax certificate of exemption STC-1 through the Alabama Department of Revenue.

Procedure

1. The General Contractor is required to submit an application and to provide a copy of the contract showing they were awarded the bid in addition to a list of all subcontractors working on the project.
2. In the event, that the list of subcontractors changes, the General Contractor is required to notify the Department of Revenue within 30 days of changes.
3. The General Contractor and every subcontractor working on a qualifying project will be required to apply for an exception certificate for each project.

SC-7.12 *Safety and Protection*

- SC-7.12 Add the following new subparagraph immediately after Paragraph 7.12.C:

1. The Owner does not have any safety programs that are applicable to the Work.

- SC-7.12 Add the following new paragraph immediately after Paragraph 7.12.G:

- H. Contractor agrees to waive any claim against Owner and Owner's agents, architects, engineers, consultants, and their employees acting within the scope of their duties, and to defend, indemnify, and hold them harmless from any claim or liability for injury or loss that allegedly arises from Contractor's performance of the work described herein, but not including the sole negligence of Owner or Owner's agents, architects, engineers, consultants, or employees. Contractor will require all Subcontractors to conform with this provision before they start any work. Contractor shall insure this provision is in conformity with the insurance provisions of this contract.

ARTICLE 8 – OTHER WORK AT THE SITE

SC-8.02 Coordination

SC-8.02 Add the following new paragraph immediately after Paragraph 8.02.B:

- C. The Owner is not aware of any other work to be performed at the Site by Owner or others that relates to the Work contemplated by these Bidding Documents.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.01 Owner's Representative

SC-10.01 The following paragraph shall apply in addition to the requirements of 10.01 of the General Conditions:

Owner and Contractor agree that Engineer will be Owner's Representative during construction but remains an independent Contractor and not an Agent or Employee of the Owner.

SC-10.03 Project Representative

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (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 only 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 or designee, assist in providing information regarding the provisions and 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, if any, 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 is defective, 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 Start-ups:
 - 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 or keep a diary or log book, 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, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or 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 Contract Documents 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 Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
 - b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch 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, or Suppliers.
 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.
 5. Advise on, issue directions regarding, or assume control over security or 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.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.03 Unit Price Work

SC-13.03.E Delete Paragraph 13.03.E in its entirety.

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

SC-14.02 Tests, Inspections, and Approvals

SC-14.02.B Delete Paragraph 14.02.B in its entirety and insert the following in its place:

- B. Contractor 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, except that costs incurred in connection with the tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05. The independent inspector, testing laboratory, or other qualified individual or entity shall be acceptable to the Owner and Engineer.

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

SC-15.01 Progress Payments

SC-15.01.D Amend Paragraph 15.01.D.1 to read as follows:

Change “Ten days ...” to “Thirty days ...”

SC-15.03 Substantial Completion

SC-15.03.B Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-15.04 Partial Use or Occupancy

SC-15.04.A Add the following new paragraph immediately after Paragraph 15.04.A.4:

5. The Correction Period described in Paragraph 15.08 shall begin on the date of Substantial Completion for the entire Project regardless of any partial acceptance of the Project by the Owner.

SC-15.06 Final Payment

SC-15.06.A Add the following new paragraph immediately after Paragraph 15.06.A.2.e:

- f. Release of liens using the attached form.
- g. Certificate of products and completed operations insurance per 6.03.C.1.
- h. Contractor’s affidavit of advertisement of completion using the attached form. The Contractor immediately after being notified by the Engineer that all requirements of the contract have been completed shall give notice of said completion of by an advertisement for a period of 4 successive weeks in some newspaper in general circulation published within the county or counties where the work is performed. Proof of publication of said notice shall be made by the Contractor to the Owner by affidavit of the publisher and a printed copy of the published notice. If no newspaper is published in any county where the work is done, the notice may be given by posting at the Courthouse for 30 days and proof of same shall be made by the Probate Judge or Sherriff and the Contractor.

ARTICLE 18 – MISCELLANEOUS*SC-18.07 Controlling Law*

SC-18.07.A Add the following new paragraph immediately after Paragraph 18.07.A:

- B. The parties acknowledge that this Contract is executed in Coffee County, Alabama and that the Contract is to be performed in Coffee County, Alabama. Each party hereby consents to the Coffee County Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this Agreement, and each party hereby waives any and all objections to venue in the Coffee County Court.

ATTACHMENT – ADVERTISEMENT OF COMPLETION

_____ (Contractor)

_____ (Address)

gives notice of completion of Water Main Replacement - ADEM DWSRF Project No. FS010443-01
(Project) and sets _____ as the date of final settlement. All persons and firms
should file all claims for payment to the below address prior to the settlement date:

Water Works Board of the
City of Enterprise

c/o Poly, Inc.

P.O. Box 837

Dothan, AL 36302

By: _____ (Name)
_____ (Title)

Leg: _____ (Publication Dates)

ATTACHMENT – CONTRACTOR’S RELEASE OF LIENS

STATE OF: _____

COUNTY OF: _____

Before me, the undersigned Notary Public, in and for the said County and State personally appeared _____, representing the Contractor, _____, who being duly sworn according to law deposes and says that all labor, materials, and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract with the Water Works Board of the City of Enterprise, the Owner, for Water Main Replacement - ADEM DWSRF Project No. FS010443-01, have been paid in full and that for the final payment in the amount of \$_____, the Contractor releases and discharges the Owner and his authorized representatives from any liens or claims of any nature because of or arising from this contract and/or its performance which it has had, has, or may have in the future.

Authorized Signature

By: _____

Title: _____

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

Notary Public Signature

My Commission Expires _____

END OF SECTION 00 73 00



State of Alabama
Alabama Department of Environmental Management
State Revolving Fund (SRF) Loan Program

SRF Section
Permits and Services Division
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463

(334) 271-7793
(334) 271-7950 FAX

Supplemental General Conditions for SRF Assisted

Public Drinking Water and Wastewater
Facilities Construction Contracts



SRF Project Number: FS010443-01

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I – ADEM Special Conditions

1. Construction within State rights-of-way shall be in accordance with the Alabama Department of Transportation policies and procedures.
2. Construction is to be carried out in compliance with applicable NPDES permits and in a manner that prevents bypassing of raw wastewater flows during construction. If bypassing is anticipated, the ADEM NPDES Enforcement Branch (334-271-7975) shall be advised in advance and the contractor shall take all necessary steps to minimize the impacts of bypassing.
3. Siltation and soil erosion shall be minimized during construction. The contractor shall obtain an NPDES storm water permit for construction if required.
4. The owner shall provide and maintain competent and adequate supervision and inspection.
5. ADEM and EPA shall have access to the site and the project work at all times.
6. These Special Conditions shall supersede any conflicting provisions of this contract.
7. **A project sign is required.** See **Parts XVII and XVIII, pages SGC-36 – SGC-37**, for more information.

II – Bonds and Insurance

Bonding requirements shall comply with Alabama Act No. 97-225. Provisions of the Act are summarized below:

1. Bid Bond – Not less than 5% of either the owner’s estimated cost or of the proposed prime contractor’s bid up to a maximum of \$10,000. The bid guarantee shall consist of a cashier’s check drawn on an Alabama bank or a bid bond executed by a surety company duly authorized and qualified to make bonds in the State of Alabama.
2. Performance Bond – In an amount not less than 100% of the contract price.
3. Payment Bond – Payable to the awarding authority, shall be executed in an amount not less than 50% of the contract price.

In addition to the insurance requirements elsewhere in the specifications, the owner or the contractor, as appropriate, must acquire any flood insurance made available by the Federal Emergency Management Agency as required by 40 CFR 30.600 (b), if construction will take place in a flood hazard area identified by the Federal Emergency Management Agency.

III – Utilization of Disadvantaged Businesses Enterprises (DBEs)

It is the policy of the State Revolving Loan Fund (SRF) to promote a “fair share” of sub-agreement awards to **small, minority, and/or women-owned businesses** for equipment, supplies, construction, and services. Compliance with these contract provisions is required in order for project costs to be eligible for SRF funding. *The “fair share” objective is a goal, not a quota.* DBE (Disadvantaged Business Enterprise) is an all-inclusive business classification, which includes MBE (minority business enterprises and/or WBE (women business enterprises) and is used synonymously when these entities are referenced individually or collectively.

Failure on the part of the apparent successful bidder to submit required information to the Loan Recipient (Owner) may be considered (by the Loan Recipient (Owner)) in evaluating whether the bidder is responsive to the bid requirements. The project objectives for utilization of Minority Business Enterprises (MBEs) and Women's Business Enterprises (WBEs) are as follows:

Commodities (Supplies)	MBE 4%	WBE 11%
Contractual (Services)	MBE 8%	WBE 30%
Equipment	MBE 5%	WBE 20%
Construction	MBE 2.5%	WBE 3%

For purposes of clarification:

- This objective applies to any Federally assisted procurement agreement in excess of \$10,000.
- This objective necessitates three responsibilities; separate solicitations must be made of small and minority and women's business enterprises.
- A minority business is a business, at least 51 percent of which is owned and controlled by minority group members (Black; Hispanic; Asian American; American Indian; and, any other designations approved by the Office of Management and Budget).
- A women's business is a business, at least 51 percent of which is owned and controlled by one or more women.
- The control determination will revolve around the minority or woman owner's involvement in the day-to-day management of the business enterprise.
- Solicitation should allow adequate time for price analysis. ADEM recommends that contact be made no later than 15 days before bid opening.
- Efforts taken to comply with this objective must be documented in detail; maintain records of firms contacted, including any negotiation efforts to reach competitive price levels, and awards to the designated firms.
- ADEM recommends that the Loan Recipient (Owner) or proposed Prime Contractor utilizes the services of the Minority Business Development Service Centers. These Centers are funded by the U.S. Department of Commerce to provide technical, financial and contracting assistance to minority and women's business enterprises. These Centers are located in a number of Regional cities.
- Use of the services provided by these Centers does not absolve the Loan Recipient (Owner) or proposed Prime Contractor from pursuing additional efforts to meet this objective.

IV – Six Affirmative Steps for Good Faith DBE (MBE-WBE) Solicitation

The Loan Recipient (Owner) shall follow the six affirmative steps found in the SRF application when using loan funds to procure sources of supplies, construction and services.

If the successful bidder plans to subcontract a portion of the project, the bidder must submit to the owner within 10 days after bid opening, evidence of the affirmative steps taken to utilize small, minority and women's businesses. These six affirmative steps or 'good faith efforts' are required methods to ensure that DBEs have the opportunity to compete for procurements funded by EPA financial assistance dollars. Such affirmative steps are described as follows:

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever there 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 solicitation 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 firms competing for large contracts could subcontract with DBEs. 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 firms to handle individually.
5. Use the resources, services, and assistance of the AL Department of Transportation (ALDOT), Small Business Administration (SBA), and the Minority Business Development Agency of the Department of Commerce (MBDA).
6. If the Contractor awards subcontracts, it must take the steps described in items (1) through (5) listed above.

V – Documentation Required from Loan Recipient (Owner) and Contractor

The low, responsive, responsible bidder must forward the following items, in duplicate, to the loan recipient (owner) no later than 10 days after bid opening. The Loan Recipient (Owner) shall transmit one (1) copy of its DBE documentation of the prime contractor solicitation and one (1) copy of the prime contractor's/bidder's DBE documentation of all subcontractor solicitation to the SRF Section within 14 days after bid opening.

1. SRF project number and project name/loan name*. (*not contract name)
2. List of **all** subcontractors (DBE and non-DBE) with name, address, telephone number, estimated contract dollar amount and duration. If there are to be no subcontractors, please indicate such in a letter on company letterhead.
3. List of any subcontract work yet to be committed with estimate of dollar amount and duration of contract.
4. MBE-WBE (DBE) Documents - See **Part V, page SGC-6**.
5. Debarred Firms Certification – See **Part XIV, page SGC-25**.
6. Certification Regarding Equal Employment Opportunity – See **Part XIII, page SGC-24**.

The Loan Recipient (Owner) shall submit annual MBE/WBE Utilization Reports (EPA Form 5700-52A, **pages SGC-16 - SGC-17**) within 30 days of the end of the annual reporting period (**October 30th, i.e. by November 30th**). Submit reports directly to:

Laketa Ross, Accountant
Administrative Section
Fiscal Branch
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463

The proposed Prime Contractor must submit the following items to the Loan Recipient (Owner):

1) DBE Compliance Form. The Loan Recipient (Owner) must submit this information to the SRF Section to demonstrate compliance with the DBE requirements. ADEM's approval is required prior to award of the construction contract and commencement of any SRF-funded construction. **(Page SGC-8)**

2) Certification Regarding Equal Employment Opportunity. This form is required of the proposed prime contractor (re: all subcontracts executed) and should be submitted with the prime proposed contractor's MBE-WBE solicitation submittal to the Loan Recipient (Owner). **(Page SGC-24)**

3) Debarred Firms Certification. This form is required of the proposed prime contractor (re: all subcontracts executed) and should be submitted with the prime proposed contractor's MBE-WBE solicitation submittal to the Loan Recipient (Owner). **(Page SGC-25)**

4) EPA Form 6100-2 DBE Subcontractor Participation Form. This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the proposed prime contractor, how much the DBE subcontractor was paid, and any other concerns the DBE subcontractor might have. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). **(Page SGC-10)**

5) EPA Form 6100-3 DBE Subcontractor Performance Form. This form captures an intended DBE subcontractor's description of work to be performed for the proposed prime contractor and the price of the work. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). **(Page SGC-12)**

6) EPA Form 6100-4 DBE Subcontractor Utilization Form. This form captures the proposed prime contractor's intended use of all identified DBE subcontractors and the estimated dollar amount of the work. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). **(Page SGC-14)**

7) EPA Form 5700-52 A MBE/WBE Utilization Reports (DBE Annual Report), if applicable. The Loan Recipient (Owner) must submit this information to the SRF Section within 30 days of the end of the annual reporting period (October 30th), i.e., **by November 30th**. **(Pages SGC-16 - SGC-17)**

8) Changes to Approved DBE Compliance Form, if applicable. If any changes, substitutions, or additions are proposed to the subcontractors included in previous Department approvals, the Owner must submit this information to the Department for prior approval in order for the affected subcontract work to be eligible for SRF funding. **(Page SGC-23)**

9) Certified Payrolls. These should be submitted to the Loan Recipient (Owner), at least, monthly for the prime contractor and all subcontractors. The Loan Recipient (Owner) must maintain payroll records and make these available for inspection

Please note that DBEs, MBEs, and WBEs must be certified in writing by EPA, SBA, or DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's). Depending upon the certifying agency, a DBE may be classified as a Disadvantaged Business Enterprise (DBE), a Minority Business Enterprise (MBE), or a Women's Business Enterprise (WBE). Written certification as a DBE (MBE or WBE) is required in order to be counted toward the Loan Recipient/Owner's MBE-WBE accomplishments.

The documentation of these good faith solicitation efforts must be detailed in order to allow for satisfactory review. Such documentation might include fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The proposed prime contractor is strongly encouraged to follow up each written, fax, or email solicitation with, at least, 1 logged phone call.

The proposed prime contractor must employ the six affirmative steps to subcontract with DBEs, even if the proposed prime contractor has achieved its fair share objectives.

The prime contractor must employ the six affirmative steps to subcontract with DBEs, even if the proposed prime contractor has achieved its fair share objectives. If a DBE subcontractor fails to complete work under the subcontract for any reason, the proposed prime contractor must notify the Loan Recipient (Owner) in writing prior to any termination and must employ the six 'good faith efforts' described above if using a replacement subcontractor. Any proposed changes from an approved DBE subcontractor must be reported to the Loan Recipient (Owner) and to the SRF Section on the Changes to Approved Subcontractors Form prior to initiation of the action. EPA Forms Nos. 6100-3 and 6100-4 must also be submitted to the SRF Section for new DBE subcontracts.

-

VI – Resources for Identifying MBE-WBE (DBE) Contractors/Subcontractors

The following organizations may provide assistance in soliciting DBE participation:

City of Birmingham
Office of Economic
Development
ATTN: **Monique Shorts**,
Economic Specialist
710 20th Street North
Birmingham, Alabama
35203
Ph: (205) 254-2799
Fax: (205) 254-7741
Monique.shorts@birminghamal.gov

U.S. Small Business
Administration
<http://www.pro-net.sba.gov>

National Association
of Minority
Contractors (NAMC)
<https://namcatlanta.org/>

Alabama Department
of Transportation
ATTN: **John Huffman**
1409 Coliseum Boulevard
Montgomery, Alabama
36130
Ph: (334) 244-6261
<http://www.dot.state.al.us>

U.S. Department of
Commerce
Minority Business
Development Agency
ATTN: **Donna Ennis**
75 5th Street NW,
Suite 300
Atlanta, Georgia 30308
Ph: (404) 894-2096
<http://www.mbd.gov/>

Governor's Office of
Minority and Women's
Business Enterprises
Hilda Lockhart,
STEP Project Director
401 Adams Avenue
Suite 360
Montgomery, Alabama
36130
Ph: (334) 242-2220

Birmingham Construction
Industrial Authority ATTN:
Ashley Orl or **Kimberly
Bivins**
601 37th Street South
Birmingham, Alabama
35222
Ph: (205) 324-6202
aorl@bcia1.org
kbaylorbivins@bcia1.org

NOTE:

- (1) The Loan Recipient (Owner) and the proposed Prime Contractor shall use the necessary resources to identify and directly solicit no less than three (3) certified DBE/MBE/WBE companies to bid in each expected contract/subcontract area. If a diligent and documented search of ALDOT, SBA, and MBDA directories does not identify three (3) potential certified DBE/MBE/WBE firms, then the proposed Prime Contractor shall post an advertisement in, at least, one (1) of the other online or print resources. Whenever possible, post solicitation for bids or proposals should be posted/advertised for a minimum of 30 calendar days before the bid or proposal closing date.**
- (2) Expenditures to a DBE that acts merely as a broker or passive conduit of funds, without performing, managing, or supervising the work of its subcontract in a manner consistent with normal business practices may not be counted.**
- (3) The proposed Prime Contractor should attempt to identify and first solicit DBEs in the geographic proximity of the project before soliciting those located farther away.**
- (4) In addition, our SRF DBE Compliance Staff is readily available for assistance, as follows: Laketa Ross at (334) 271-7727 or laketa.ross@adem.alabama.gov OR Diane Lockwood (DBE Coordinator) at (334) 271-7815 or dpl@adem.alabama.gov.**

Please ensure the following is submitted in the full DBE submittal (with the DBE COMPLIANCE FORM (page SGC-8)):

- (1) **List of all committed and uncommitted subcontractors** by trade, including company name, address, telephone number, contact person, dollar amount of subcontract, and DBE/MBE/WBE status. Indicate in writing if no solicitations were made because the contractor intends to use only its own forces to accomplish the work.
- (2) **Proof of certification (certificate or letter)** by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE, or WBE.
- (3) **Documentation of solicitation effort for prospective DBE firms**, such as fax confirmation sheets, copies of solicitation letters/emails, printout of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The prime contractor is strongly encouraged to follow up each written, fax, or email solicitation with at least 1 logged phone call. Whenever possible, post solicitation for bids or proposals should be for a minimum of 30 calendar days before the bid or proposal closing date.
- (4) **Justification for not selecting a certified DBE subcontractor** that submitted a low bid for any subcontract area.
- (5) **Certification By Proposed Prime Contractor or Subcontractor Regarding Equal Opportunity Employment. (Page SGC-24)**
- (6) **Debarred Firms Certification. (Page SGC-25)**
- (7) **EPA Form 6100-2 DBE Subcontractor Participation Form** for **each** proposed **certified** DBE subcontractor.* **(Page SGC-10)** (*This form is completed by the proposed prime contractor. It is signed by **each** proposed subcontractor **only**.)
- (8) **EPA Form 6100-3 DBE Subcontractor Performance Form** for each DBE subcontractor.** **(Page SGC-12)** (**This form is completed by the proposed prime contractor and signed by each proposed certified subcontractor and the proposed prime contractor per subcontract.)
- (9) **EPA Form 6100-4 DBE Subcontractor Utilization Form** to summarize all DBE subcontracts/subcontractors.*** **(Page SGC-14)** (***)This form is completed and signed by the proposed prime contractor **only**.)

NOTE:

ALL DBE contractors selected must have a current DBE certificate or letter of certification by an approved certifying agency.

Loan Recipient (Owner) DBE Submittal

At minimum, the Loan Recipient (Owner)'s DBE submittal should **always** consist of a **cover letter** (*preferred, but optional*) **and a VII - DBE Compliance Form (page SGC-8) and DBE solicitation documentation** (i.e., DBE solicitation list(s) with source(s) of list(s) clearly identified, contractor contact information **and** results/outcomes of each solicitation (or of the overall solicitation effort, if all results/outcomes were the same), documentation of solicitation method (i.e., copies of emails, phone logs, faxes, etc.).

Prime Contractor DBE Submittal

At minimum, the Prime Contractor's DBE submittal should **always** consist of a **cover letter** (*preferred, but optional*) **and DBE solicitation documentation** (i.e., DBE solicitation list(s) with source(s) of list(s) clearly identified, subcontractor contact information **and** results/outcomes of each solicitation (or of the overall solicitation effort, if all results/outcomes were the same), documentation of solicitation method (i.e., copies of emails, phone logs, faxes, etc.) **OR** a "No Subcontractors" Letter (*if none will be utilized*) **and a List of ALL (DBE/non-DBE) subcontractors contracted/yet to be contracted and ALL EPA 6100 Forms described above (DBE subcontractors selected or not) and Certification Regarding Equal Employment Opportunity and Debarred Firms Certification.**

VIII - EPA Form 6100-2 DBE Subcontractor Participation Form



OMB Control No: 2090-0030

**Disadvantaged Business Enterprise (DBE) Program
 DBE Subcontractor Participation Form**

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

EPA FORM 6100-2 (DBE Subcontractor Participation Form)

VIII - EPA Form 6100-2 DBE Subcontractor Participation Form



OMB Control No: 2090-0030

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

IX - EPA Form 6100-3 DBE Subcontractor Performance Form



OMB Control No: 2090-0030

**Disadvantaged Business Enterprise (DBE) Program
 DBE Subcontractor Performance Form**

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: <input type="radio"/> DOT <input type="radio"/> SBA <input type="radio"/> Other: _____		Meets/ exceeds EPA certification standards? <input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

IX - EPA Form 6100-3 DBE Subcontractor Performance Form



OMB Control No: 2090-0030

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

X - EPA Form 6100-4 DBE Subcontractor Utilization Form



OMB Control No: 2090-0030

**Disadvantaged Business Enterprise (DBE) Program
 DBE Subcontractor Utilization Form**

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	<input type="radio"/> YES	<input checked="" type="radio"/> NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue on back if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

EPA FORM 6100-4 (DBE Subcontractor Utilization Form)

X - EPA Form 6100-4 DBE Subcontractor Utilization Form



OMB Control No: 2090-0030

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



**U.S. ENVIRONMENTAL PROTECTION AGENCY
MBE/WBE UTILIZATION UNDER FEDERAL GRANTS
AND COOPERATIVE AGREEMENTS**

**PART I OF II
(PAGES SGC-16 & SGC-17)**

**FOR COOPERATIVE AGREEMENTS OR OTHER FEDERAL FINANCIAL ASSISTANCE WHERE THE COMBINED TOTAL OF FUNDS BUDGETED FOR PROCURING SUPPLIES,
EQUIPMENT, CONSTRUCTION OR SERVICES EXCEED \$150,000.
PART 1: PLEASE REVIEW INSTRUCTIONS BEFORE COMPLETING**

1A. FEDERAL FISCAL YEAR (Oct 1- Sep 30) 20____	1B. REPORT TYPE <input type="checkbox"/> Annual <input type="checkbox"/> Last Report (Project completed)																		
1C: REVISION OF A PRIOR YEAR REPORT? <input type="radio"/> No <input type="radio"/> Yes, Year _____ IF YES, BRIEFLY DESCRIBE THE REVISIONS YOU ARE MAKING: 																			
2A. EPA FINANCIAL ASSISTANCE OFFICE ADDRESS (ATTN: DBE COORDINATOR)	3A. RECIPIENT NAME AND ADDRESS																		
2B. EPA DBE COORDINATOR Name: Email: Phone: Fax:	3B. RECIPIENT REPORTING CONTACT Name: Address: Phone: Email:																		
4A. FINANCIAL ASSISTANCE AGREEMENT ID NUMBER (SRF State Recipients, refer to Instructions for Completion of blocks 4A, 5A and 5C)	4B. FEDERAL FINANCIAL ASSISTANCE PROGRAM TITLE OR CFDA NUMBER:																		
5A. TOTAL ASSISTANCE AGREEMENT AMOUNT EPA Share: \$ _____ Recipient Share: \$ _____ <input type="checkbox"/> N/A (SRF Recipient)/Loan Amount: \$ _____	5B. If NO procurements and NO accomplishments were made this reporting period (by the recipients, sub-recipients, loan recipients, and prime contractors), CHECK and SKIP to Block No. 7. (Procurements are all expenditures through contract, order, purchase, lease or barter of supplies, equipment, construction, or services needed to complete Federal assistance programs. Accomplishments, in this context, are procurements made with MBEs and/or WBEs.) <input type="checkbox"/>																		
5C. Total Procurements This Reporting Period (Only include amount not reported in any prior reporting period) Total Procurement Amount \$ _____ (Include total dollar values awarded by recipient, sub-recipients and SRF loan recipients, including MBE/WBE expenditures.)																			
5D. Were sub-awards issued under this assistance agreement? Yes <input type="radio"/> No <input type="radio"/> Were contracts issued under this assistance agreement? Yes <input type="radio"/> No <input type="radio"/>																			
5E. MBE/WBE Accomplishments This Reporting Period Actual MBE/WBE Procurement Accomplished (Include total dollar values awarded by recipient, sub-recipients, SRF loan recipients and Prime Contractors.) <table style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width:10%;"></th> <th style="width:20%;">Construction</th> <th style="width:20%;">Equipment</th> <th style="width:20%;">Services</th> <th style="width:20%;">Supplies</th> <th style="width:10%;">Total</th> </tr> </thead> <tbody> <tr> <td>\$MBE:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td align="right">0.00</td> </tr> <tr> <td>\$WBE:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td align="right">0.00</td> </tr> </tbody> </table>			Construction	Equipment	Services	Supplies	Total	\$MBE:	_____	_____	_____	_____	0.00	\$WBE:	_____	_____	_____	_____	0.00
	Construction	Equipment	Services	Supplies	Total														
\$MBE:	_____	_____	_____	_____	0.00														
\$WBE:	_____	_____	_____	_____	0.00														
6. COMMENTS: (If no MBE/WBE procurements, please summarize how certified MBEs/WBEs were notified of the opportunities to compete for the procurement dollars entered in Block 5C and why certified MBEs /WBEs were not awarded any procurements during this reporting period.) 																			
7. NAME OF RECIPIENT'S AUTHORIZED REPRESENTATIVE	TITLE																		
8. SIGNATURE OF RECIPIENT'S AUTHORIZED REPRESENTATIVE	DATE																		

Instructions:

A. General Instructions:

MBE/WBE utilization is based on 40 CFR Part 33. The reporting requirement reflects the class deviation issued on November 8, 2013, clarified on January 9, 2014 and modified on December 2, 2014. EPA Form 5700-52A must be completed annually by recipients of financial assistance agreements where the combined total of funds budgeted for procuring supplies, equipment, construction or services exceeds \$150,000. This reporting requirement applies to all new and existing awards and voids all previous reporting requirements.

In determining whether the \$150,000 threshold is exceeded for a particular assistance agreement, the analysis must focus on funds budgeted for procurement under the supplies, equipment, construction, services or "other" categories, and include funds budgeted for procurement under sub-awards or loans

Reporting will also be required in cases where the details of the budgets of sub-awards/loans are not clear at the time of the grant awards and the combined total of the procurement and sub-awards and/or loans exceeds the \$150,000 threshold.

When reporting is required, all procurement actions are reportable, not just the portion which exceeds \$150,000.

If at the time of award the budgeted funds exceed \$150,000 but actual expenditures fall below, a report is still required.

If at the time of award, the combined total of funds budgeted for procurements in any category is less than or equal to \$150,000 and is maintained below the threshold, no DBE report is required to be submitted.

Recipients are required to report 30 days after the end of each federal year, per the terms and conditions of the financial assistance agreement.

Last reports are due October 30th or 90 days after the end of the project period, whichever comes first.

MBE/WBE program requirements, including reporting, are material terms and conditions of the financial assistance agreement.

B. Definitions:

Procurement is the acquisition through contract, order, purchase, lease or barter of supplies, equipment, construction or services needed to accomplish Federal assistance programs.

A **contract** is a written agreement between an EPA recipient and another party (also considered "prime contracts") and any lower tier agreement (also considered "subcontracts") for equipment, services, supplies, or construction necessary to complete the project. This definition excludes written agreements with another public agency. This definition includes personal and professional services, agreements with consultants, and purchase orders.

A **minority business enterprise (MBE)** is a business concern that is (1) at least 51 percent owned by one or more minority individuals, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more minority

individuals; and (2) whose daily business operations are managed and directed by one or more of the minority owners. In order to qualify and participate as an MBE prime or subcontractor for EPA recipients under EPA's DBE Program, an entity must be properly certified as required by 40 CFR Part 33, Subpart B.

U.S. citizenship is required. Recipients shall presume that minority individuals include Black Americans, Hispanic Americans, Native Americans, Asian Pacific Americans, or other groups whose members are found to be disadvantaged by the Small Business Act or by the Secretary of Commerce under section 5 of Executive order 11625. The reporting contact at EPA can provide additional information.

A **woman business enterprise (WBE)** is a business concern that is, (1) at least 51 percent owned by one or more women, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more women and (2) whose daily business operations are managed and directed by one or more of the women owners. In order to qualify and participate as a WBE prime or subcontractor for EPA recipients under EPA's DBE Program, an entity must be properly certified as required by 40 CFR Part 33, Subpart B.

Business firms which are 51 percent owned by minorities or women, but are in fact not managed and operated by minorities or females do not qualify for meeting MBE/WBE procurement goals. U.S. Citizenship is required.

Good Faith Efforts

A recipient is required to make the following good faith efforts whenever procuring construction, equipment, services, and supplies under an EPA financial assistance agreement. These good faith

efforts for utilizing MBEs and WBEs must be documented. Such documentation is subject to EPA review upon request:

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 firms 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 firms to handle individually.
5. Use the services and assistance of the 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 steps in paragraphs (a) through (e) of this section.

C. Instructions for Part I:

1A. Specify Federal fiscal year this report covers. The Federal fiscal year runs from October 1st through September 30th (**e.g. November 29, 2014 falls within Federal fiscal year 2015**)

1B. Specify report type. Check the annual reporting box. Also indicate if the project is completed.

1C. Indicate if this is a revision to a previous year and provide a brief description of the revision you are making.

2A-B. Please refer to your financial assistance agreement for the mailing address of the EPA financial assistance office for your agreement.

The "EPA DBE Reporting Contact" is the DBE Coordinator for the EPA Region from which your financial assistance agreement was originated. For a list of DBE Coordinators please refer to the EPA OSBP website at http://epa.gov/osbp/dbe_cord.

3A-B. Identify the agency, state authority, university or other organization which is the recipient of the Federal financial assistance and the person to contact concerning this report.

4A. Provide the Assistance Agreement number assigned by EPA. A separate report must be submitted for each Assistance Agreement.

***For SRF recipients:** In box 4a list numbers for ALL OPEN Assistance Agreements being reported on this form.

4B. Refer back to Assistance Agreement document for this information.

5A. Provide the total amount of the Assistance Agreement which includes Federal funds plus recipient matching funds and funds from other sources.

***For SRF recipients only:** SRF recipients will not enter an amount in 5a. SRF recipients should check the "N/A" box.

5B. Self-explanatory.

5C. Provide the total dollar amount of **ALL** procurements awarded this reporting period by the recipient, sub-recipients, and SRF loan recipients, **including** MBE/WBE expenditures, not just the portion which exceeds \$150,000. For example: Actual dollars for procurement from the procuring office; actual contracts let from the contracts office; actual goods, services, supplies, etc., from other sources including the central purchasing/ procurement centers).

***NOTE:** To prevent double counting on line 5C, if any amount on 5E is for a subcontract and the prime contract has already been included on Line 5C in a prior reporting period, then report the amount going to MBE or WBE subcontractor on line 5E, but exclude the amount from Line 5C. To include the amount on 5C again would result in double counting because the prime contract, which includes the subcontract, would have already been reported.

***For SRF recipients only:** In 5c please enter the total annual procurement amount under all of your SRF Assistance Agreements. The figure reported in this section is **not** directly tied to an individual Assistance Agreement identification number. (**SRF state recipients report state procurements in this section**)

5D. State whether or not sub-awards and/or subcontracts have been issued under the financial assistance agreements by indicating “yes” or “no”.

5E. Where requested, also provide the total dollar amount of all MBE/WBE procurement awarded during this reporting period by the recipient, sub-recipients, SRF loan recipients, and prime contractors in the categories of construction, equipment, services and supplies. These amounts include Federal funds plus recipient matching funds and funds from other sources.

6. If there were no MBE/WBE accomplishments this reporting period, please briefly how certified MBEs/WBEs were notified of the opportunities to compete for the procurement dollars entered in Block 5C and why certified MBEs /WBEs were not awarded any procurements during this reporting period.

7. Name and title of official administrator or designated reporting official.

8. Signature, month, day, and year report submitted.

D. Instructions for Part II:

For each MBE/WBE procurement made under this financial assistance agreements during the reporting period, provide the following information:

1. Check whether this procurement was made by the recipient, sub-recipient/SRF loan recipient, or the prime contractor.

2. Check either the MBE or WBE column. If a firm is both an MBE and WBE, the recipient may choose to count the entire procurement towards EITHER its MBE or WBE accomplishments. The recipient may also divide the total amount of the procurement (using any ratio it so chooses) and count those divided amounts toward its MBE and WBE accomplishments. If the recipient chooses to divide the procurement amount and count portions toward its MBE and WBE accomplishments, please state the appropriate amounts under the MBE and WBE columns on the form. **The combined MBE and WBE amounts for that MBE/WBE contractor must not exceed the “Value of the Procurement” reported in column #3**

3. Dollar value of procurement.

4. Date of procurement, shown as month, day, year. Date of procurement is defined as the date the contract or procurement was awarded, **not** the date the contractor received payment under the awarded contract or procurement, unless payment occurred on the date of award. **(Where direct purchasing is the procurement method, the date of procurement is the date the purchase was made)**

5. Using codes at the bottom of the form, identify type of product or service acquired through this procurement (e.g., enter 1 if construction, 2 if supplies, etc.).

6. Name, address, and telephone number of MBE/WBE firm.

**This data is requested to comply with provisions mandated by: statute or regulations (40 CFR Parts 30, 31, and 33 and/or 2 CFR Parts 200 and 1500); OMB Circulars; or added by EPA to ensure sound and effective assistance management. Accurate, complete data are required to obtain funding, while no pledge of confidentiality is provided.

The public reporting and recording burden for this collection of information is estimated to average 1 hour per response annually. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclosure or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2136), 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. Include the OMB Control number in any correspondence. Do not send the completed form to this address.

XII – Changes to Approved DBE Compliance Form

NOTE: THIS FORM IS REQUIRED OF THE LOAN RECIPIENT (OWNER) (WITH THE PRIME CONTRACTOR'S INPUT) FOR DBE COMPLIANCE ONLY IF A SUBCONTRACTOR/SUPPLIER/VENDOR IS SOUGHT AND/OR PROCURED AFTER THE CONTRACT ATA (APPROVAL-TO-AWARD) HAS BEEN ISSUED. IT IS SIMILAR TO THE DBE COMPLIANCE FORM (PAGE SGC-8) IN THAT IT IS THE COVER/SUMMARY FORM USED TO DOCUMENT THE ADDITIONAL DBE SOLICITATION AND/OR REVISE THE ORIGINAL DBE APPROVAL STATUS.

Loan Recipient: _____ Loan (Project) Number: _____

CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this company has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.

(Prime Contractor Signature) Date _____

(Printed Name and Title)

*I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Loan Recipient's/Owner's State Revolving Fund loan contract. (*Only ONE (1) signature required below.)*

(Signature of Loan Recipient (Owner)) Date _____

OR*

(Loan Recipient's (Owner's) Representative's Signature, (P.E.)) Date _____

(Printed Name and Title)

GENERAL INFORMATION: (Please attach additional pages to address 1 through 5, as needed.)

- (1) If an approved subcontractor is terminated or replaced, please identify this company and briefly state the reason.
- (2) For new or additional subcontractors, list name, trade, address, telephone number, contact person, dollar amount of subcontract and DBE status.
- (3) Attach proof of certification by EPA, SBA, DOT (or by state, local, Tribal or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE or WBE.
- (4) Attach documentation of solicitation effort for prospective DBE firms, such as fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The prime contractor is strongly encouraged to follow up each solicitation with, at least, one (1) logged phone call. Whenever possible, post solicitation for bids or proposals should be for a minimum of 30 calendar days before the bid or proposal closing date.
- (5) Provide justification for not selecting a certified DBE subcontractor that submitted a low bid for any subcontract area.

XIII – Certification Regarding Equal Employment Opportunity

The prime contractor is required to comply with Executive Order 112-46 of September 24, 1965 entitled "Equal Employment Opportunity" as amended by Executive Order 11375 of October 13, 1967.

The contract for the work under this proposal will obligate the prime contractor and its subcontractors not to discriminate in employment practices.

The prime contractor shall not maintain or provide for his/her employees the facilities, which are segregated on a basis of race, creed, color or national origin, whether such facilities are segregated by directive or on a de facto basis.

The prime contractor must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain his/her eligibility to receive the award of the contract.

The prime contractor must be prepared to comply in all respects with any contract provisions regarding non-discrimination stipulated in conjunction with labor standards.

PRIME CONTRACTOR'S CERTIFICATION:

Prime Contractor's Name: _____

Address: _____

- 1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. Yes ___ No ___
- 2. Compliance Reports were required to be filed in connection with such contract or subcontract. Yes ___ No ___
- 3. Bidder has filed all compliance reports due under applicable contract requirements. Yes ___ No ___

If answer to item 3 is "No", please explain in detail on reverse side of this certification.

Certification - The information above is true and complete to the best of my knowledge and belief.

Signature of Prime Contractor: _____

Title: _____

Date: _____

XIV – Debarred Firms Certification

All prime construction contractors shall certify that Subcontracts have not and will not be awarded to any firm that is currently on the General Service Administration's Master List of Debarred, Suspended and Voluntarily Excluded Persons, in accordance with the provisions of ADEM Administrative Code 335-6-14-.35. Debarment action is taken against a firm for noncompliance with Federal Law.

All bidders shall complete this certification in duplicate and submit both copies to the Loan Recipient (Owner) with the bid proposal. The Loan Recipient (Owner) shall transmit one copy to the SRF Section within 14 days after the bid opening.

Project Name/Loan Name*: _____
(*not **Contract** Name)

SRF Project No.: _____

The undersigned hereby certifies that the firm of _____
_____ has not and will not award a subcontract, in connection with any contract awarded to it as the result of this bid, to any firm that is currently on the General Service Administration's Master List of Debarred, Suspended, and Voluntarily Excluded Persons.

Signature of Prime Contractor: _____

Title: _____

Date: _____

XV – Davis-Bacon and Related Acts

Labor Standards Provisions for Federally Assisted Contracts

Wage Rate Requirements Under FY 2013 Continuing Appropriation

I. Requirements under the Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Governmental Entities:

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under the FY 2013 Continuing Resolution with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a State recipient needs guidance, the recipient may contact Cynthia Y. Edwards at Edwards.Cynthiay@epa.gov or at 404-562-9340 of EPA, Region 4 Grants and SRF Management Section, for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <http://www.dol.gov/whd/>

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

Under the FY 2013 Continuing Resolution, 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 recipient State 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 www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients 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 State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient 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 State recipient, 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 www.wdol.gov 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 www.wdol.gov 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 Subcontract Provisions.

(a) The Recipient shall insure that 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 § 5.1 or the FY 2010 appropriation , 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 § 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, www.dol.gov.

(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 State award official 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 State award official. The State award official 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 State award official or will notify the State award official 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 award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, 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 (Agency) 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 sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State 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 <https://www.dol.gov/agencies/whd/forms/wh347> 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 State or EPA if requested by EPA, the State, 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 State, 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 Federal agency or State 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), State, 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 (b)(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 (write the name of agency) 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) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are 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. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information

indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary 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 subcontractors 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 DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

"General Decision Number: AL20240068 05/31/2024

Superseded General Decision Number: AL20230068

State: Alabama

Construction Type: Heavy
 Including Water and Sewer Line Construction

Counties: Barbour, Bullock, Butler, Coffee, Crenshaw, Macon
 and Pike Counties in Alabama.

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).

<p>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:</p>	<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.
<p>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:</p>	<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>.

Modification Number	Publication Date
0	01/05/2024
1	05/31/2024

* ENGI0653-006 10/01/2023

	Rates	Fringes
Operating Engineers:		
Crane (Conventional & Hydraulic up to 100 Tons), and Derrick (Stationary Crane with 2 or more drums..	\$ 29.90	20.55
Crane (Conventional and Hydraulic 100 to 400 Tons) and Tower Cranes.....	\$ 32.75	20.55
Cranes with 350 feet or more boom and/or 400 to 600 ton capacity.....	\$ 33.85	20.55
Cranes with 500 feet Boom and/or 600 ton capacity.....	\$ 34.20	20.55
Oiler.....	\$ 28.95	20.55

* SUAL2007-153 11/28/2007

	Rates	Fringes
ELECTRICIAN.....	\$ 15.24 **	2.50
LABORER: Common or General.....	\$ 8.07 **	1.19
LABORER: Pipelayer.....	\$ 10.72 **	1.81
OPERATOR: Backhoe.....	\$ 13.25 **	2.17
OPERATOR: Bulldozer.....	\$ 12.72 **	1.09
OPERATOR: Drill.....	\$ 9.50 **	2.36
OPERATOR: Grader/Blade.....	\$ 12.59 **	1.33
OPERATOR: Loader (Front End)....	\$ 11.67 **	0.00
OPERATOR: Roller.....	\$ 9.45 **	0.00
OPERATOR: Scraper.....	\$ 9.78 **	0.18
OPERATOR: Trackhoe.....	\$ 12.00 **	0.00
TRUCK DRIVER.....	\$ 10.09 **	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.

State Adopted Rate Identifiers

Classifications listed under the "SA" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the SA identifier took effect under state law in the state from which the rates were adopted.

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:

XVI – American Iron and Steel Requirement

Section 4.13 Compliance with 2014 Appropriations Act. (a) The Loan Recipient agrees to comply with all federal requirements applicable to the Authority Loan (including those imposed by P.L. 113-76, Consolidated Appropriations Act (the "2014 Appropriations Act") and related SRF Policy Guidelines) which the Loan Recipient understands includes, among other things, requirements that all of the iron and steel products used in the Project are to be produced in the United States ("American Iron and Steel") unless (i) the Loan Recipient has requested and obtained a waiver from the U.S. Environmental Protection Agency pertaining to the Project or (ii) the Authority has otherwise advised the Loan Recipient in writing that the Buy American Requirement is not applicable to the Project. .

(b) The Loan Recipient also agrees to comply with all recordkeeping and reporting requirements under the Clean Water Act (codified generally under 33 U.S.C. §1251 et seq.) (the "Clean Water Act"), including any reports required by a federal agency or the Authority such as performance indicators of program deliverables, information on costs and Project progress. The Loan Recipient understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities, and (ii) failure to comply with the Clean Water Act and this Agreement may be an Event of Default hereunder that results in a repayment of the Authority Loan in advance of the maturity of the Evidence of Indebtedness and/or other remedial actions.


The Loan Recipient agrees to cause all contractors and subcontractors to comply with (through the inclusion of appropriate terms and conditions in all contracts, subcontracts and lower tiered transactions, such terms and conditions to be in substantially the form set forth in connection with the development and construction of the project

The Contractor acknowledges to and for the benefit of the City of Enterprise, Alabama ("Purchaser"), and the Alabama Water Pollution Control Authority or the Drinking Water Finance Authority (the "State Authority") 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") 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 and the State Authority 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 or the State Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State Authority to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State Authority or any damages owed to the State Authority by the Purchaser). While the Contractor has no direct contractual privity with the State Authority, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State Authority 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 State Authority.

XVII – Project Sign Detail - CWSRF

ADEM
Alabama Department of Environmental Management

STATE OF ALABAMA
Honorable (name), Governor



ALABAMA WATER POLLUTION CONTROL AUTHORITY
POLLUTION CONTROL PROJECT

(NAME OF OWNER)
(NAME OF PROJECT)



\$(amount) STATE REVOLVING FUND LOAN

(NAME OF CONTRACTOR) • CONTRACTOR
(NAME OF ENGINEER) • CONSULTING ENGINEER

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Sign is to be constructed of 1/2" MDO plywood, 4' x 8'. Alternate materials may be used if approved by ADEM prior to use.
2. Paint with two (2) coats oil-base enamel before lettering.
3. Background color white; lettering black.
4. Lettering may be painted or vinyl. All lettering sizes to be proportionate to sign layout.
5. Sign shall be attached to 4" x 4" x 8' treated posts. Alternatives may be used if approved by ADEM prior to use.
6. Sign shall be placed in prominent location, easily readable from existing street or roadway.
7. Sign shall be maintained in good condition until completion of project.

XVIII – Project Sign Detail - DWSRF

 Alabama Department of Environmental Management	STATE OF ALABAMA Honorable (Name), Governor	
ALABAMA AMERICAN RESCUE PLAN ACT (ARPA) DRINKING WATER / WASTEWATER PROJECT INFRASTRUCTURE		
(NAME OF OWNER) (NAME OF PROJECT)		
\$(amount) ARPA Funds \$(amount) State Revolving Fund Loan (if applicable)		
(NAME OF CONTRACTOR) • CONTRACTOR (NAME OF ENGINEER) • CONSULTING ENGINEER		
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT U.S. ENVIRONMENTAL PROTECTION AGENCY		

1. Sign is to be constructed of ½” MDO plywood, 4’ x 8’. Alternate materials may be used if approved by ADEM prior to use.
2. Paint with two (2) coats oil-base enamel before lettering.
3. Background color white; lettering black.
4. Lettering may be painted or vinyl. All lettering sizes to be proportionate to sign layout.
5. Sign shall be attached to 4” x 4” x 8’ treated posts. Alternatives may be used if approved by ADEM prior to use.
6. Sign shall be placed in prominent location, easily readable from existing street or roadway.
7. Sign shall be maintained in good condition until completion of project.

XIX – Construction Contract Requirements

This checklist is to be completed by the Loan Recipient (Owner)/Engineer when submitting plans and specifications to the SRF Section for review. It affirms to the SRF reviewer that the Loan Recipient (Owner)/Engineer has addressed these items (in boilerplate form) within the specifications manual.

Contract Page No.	Satisfied Yes/No	
_____	_____	Bid Advertisement (including date, time, and location of bid opening).
_____	_____	Bid Bond.
_____	_____	Performance Bond (100%).
_____	_____	Payment Bond (Not less than 50%).
_____	_____	Contract Length.
_____	_____	Liquidated Damages.
_____	_____	Liability Insurance (including workman’s comp, public liability, and builder’s risk, if applicable).
_____	_____	Method of Award (i.e. lowest, responsive, responsible bidder).
_____	_____	Air testing of gravity sewers (if applicable).

Within 14 days after the bid opening, the Loan Recipient (Owner)/Engineer is to prepare the Project Review and Cost Summary (per the **PR&CS Checklist, page SGC-39**) and submit it to the SRF Section of ADEM. Upon completion of review, a written ATA (Approval-to-Award) will be issued.

NOTE:

The Loan Recipient (Owner) assumes all financial risk, if the construction contract is awarded prior to the issuance of an ATA letter by the SRF Section.

XX – Project Review and Cost Summary

<h1 style="margin: 0;">ADEM</h1> <p style="font-size: small; margin: 0;">Alabama Department of Environmental Management</p>	<h2 style="margin: 0;">SRF Project Review and Cost Summary</h2>	Form Revised 07-2021
<p>This form is to be completed and submitted (with supporting documentation) to the SRF Section <u>within 14 days after bid opening</u>. Following satisfactory review, an ATA (Approval-to-Award) letter will be issued. After the ATA is issued/award of the contract, a pre-construction conference should be scheduled (with the SRF Project Manager in attendance). <u>A complete, bound set of the executed contract documents manual should be forwarded to the SRF Section for review and written approval following the pre-construction conference.</u></p>		
<p>Loan Recipient: _____ Project Number: _____</p> <p>Project Name: _____</p> <p>Contract Number: _____ Contract Name: _____</p>		
<p>1. Date of plans and specifications concurrence letter from ADEM-SRF Section: _____</p> <p style="padding-left: 40px;">Date of construction permit issuance from ADEM-DW Branch: _____</p>		
<p>2. Attach copies of the following documents:</p>		
<p>___ a. Bid advertisement with certification by publisher and date(s) of publication.</p>		
<p>___ b. Certified bid tabulation.</p>		
<p>___ c. Proposal of the selected bidder.</p>		
<p>___ d. Bid bond.</p>		
<p>___ e. Engineer’s letter to the loan recipient recommending award of the contract. If the award is made to other than the low bidder, provide justification.</p>		
<p>___ f. Site certificates for the project, if not previously submitted with the SRF loan application.</p>		
<p>___ g. <u>DBE Documentation from the loan recipient (owner) and the prime contractor.</u> Utilization, solicitation and documentation requirements (with a list of required documents) are discussed in detail in Parts III - V (pages SGC-3 - SGC-23) of the ADEM <i>SRF Supplemental General Conditions</i> for SRF Assisted Public Drinking Water and Wastewater Facilities Construction Contracts.</p>		
<p>___ h. Copy of the wage determination used in bidding.</p>		
<p>___ i. Any addenda that have been issued after ADEM review of the plans and specifications.</p>		
<p>Comments:</p> <p>_____</p> <p>_____</p>		

SECTION 00 73 93 – SPECIAL CONDITIONS

1. CONSTRUCTION STAKES

The Engineer will furnish the Contractor sufficient points and bench marks necessary to accurately establish the lines and elevations necessary to the proper prosecution of the work contracted herein. The Contractor shall be responsible for the establishment of all blue tops, grade pins, nails, cut stakes, offset Engineer's temporary bench marks, and all other control which in the opinion of the Engineer are necessary to construct the project as shown on the plans or as directed by the Engineer. The Contractor shall furnish all labor and materials necessary to perform the above mentioned control work at no additional cost to the Owner. The Contractor shall satisfy himself as to the accuracy of all measurements before constructing any permanent structure and shall not take advantage of any errors which may have been made in planning or laying out of work. Such stakes and markings as the Engineer may set either for his own or the Contractor's guidance shall be scrupulously preserved by the Contractor. In case of negligence on the part of the Contractor or his employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor, at the discretion of the Engineer.

2. CONFORMITY WITH PLANS

Elevations in all cases shall conform with line, grade, cross sections and dimensions shown on the approved Contract Drawings. Any deviations from the plans and approved drawings as may be required by the exigencies of construction, shall in all cases be approved by the Engineer and authorized in writing.

3. INSPECTION FACILITIES

The Contractor shall at all times provide access to, and all means necessary to provide for inspection of all parts of the work by the Engineer.

4. CONNECTION TO EXISTING PAVING

Where new paving is to connect to existing paving, the existing paving shall be neatly trimmed, squared, and removed in order to butt to the new asphalt.

5. EXTRA CHARGES

Upon receiving a change order or field order, the Contractor shall notify the Engineer of any additional charges the Contractor feels he is due prior to initiating the work under consideration.

6. ENVIRONMENTAL CONTROL

The Contractor shall insure that good environmental protection practices and methods are instituted to protect surface waters from excessive silt, sediments and nutrients caused by his construction operations.

Storm drainage facilities and temporary dikes, checks, channelization, grassing and any other prudent control shall be installed in the initial stages and as necessary in order to fulfill the

requirements set forth in the above regulations. The Contractor shall be responsible for all environmental damages caused by his operations.

7. PROSECUTION OF WORK

All the work shall be prosecuted in a manner which according to local conditions shall be best calculated to promote rapidity in construction, to secure safety to life and property and also to reduce to a minimum any interference with abutting property or public travel.

The Contractor shall conduct his operations diligently in all parts of the work, coordinating his part so that the completion of the work shall not be unnecessarily delayed.

8. USE OF ADJOINING PROPERTY

Whenever it is necessary for the Contractor to occupy or otherwise use land adjacent to the work which is not the property of the Owner or for use of which no permit has been granted, the Contractor must make his own arrangements with the Owner of such property.

9. SAFETY AND HEALTH REGULATIONS

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

10. OBSERVANCE OF LAWS AND REGULATIONS

The Contractor shall keep himself informed of all laws, ordinances, and regulations in any manner affecting those employed on the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. He shall at all times himself observe and comply with, and shall require all his agents, employees and subcontractors to observe and comply with all such applicable laws, ordinances, regulations, orders and decrees in effect or which may become effective before completion of this contract; and shall protect and indemnify the Owner against any claim of liability arising from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by himself, his employees or his subcontractors. When local or state laws or ordinances conflict with federal laws or regulations, federal laws or regulations shall take precedence.

11. EQUIPMENT AND MATERIALS REMOVED

All equipment and materials removed and/or replaced in the contract which the Owner wants shall become the property of the Owner and shall be placed at a location on the site designated by the Owner. All other equipment and materials which the Owner does not want shall be disposed off site at the expense of the Contractor. The Owner shall be final judge of what is salvageable.

12. TEMPORARY ROADS, DETOURS, AND MAINTENANCE OF ACCESS

No section of the work shall be closed to traffic unless approved by the Engineer.

Detours and temporary structures necessary for travel during the prosecutions of the work will be at the expense of the Contractor. If a portion of a road is closed so that only one lane of the road

is open to traffic, the Contractor shall place a flagman at each end of the single lane of direct traffic. All affected residents will be notified in writing at least 24 hours in advance and this notification shall include directions on how to get in and out of their neighborhood.

If the Engineer approves closure of a road or any section of road, prior to closing said section of the project to traffic, the Contractor shall furnish, erect, and maintain, at no expense to the Owner suitable barricades, warning signs, flares, red flags, or lights which shall be kept burning from sunset to sunrise.

The Contractor shall receive no direct compensation for furnishing, erecting, and maintaining the necessary barricades, lights, flares, signs, or for any other incidentals necessary for the good and proper safety, convenience, and direction of traffic during the period prior to final inspection and acceptance.

If in the opinion of the Engineer the Contractor does not comply with the above requirements such work as the Engineer may deem necessary may be performed by others at the direction of the Engineer and the charges therefore held from any money due or to become due to the Contractor on this or any other Contract.

13. RESTORATION OF THE GROUNDS

As the work progresses and whenever so directed by the Engineer, the Contractor is to remove all surplus material and completely restore to good condition, all surface, disturbed, destroyed or removed by the Contractor, or his agent, or on account of construction. When the Contractor fails to promptly restore the streets or other property, the Engineer, after having given three (3) days notice to the Contractor shall have the work shut down until the streets and other property have been restored. Loss of time due to such shut-down will not entitle the Contractor to any extension of time or extra compensation.

Before final inspection is made, all surfaces disturbed on account of this construction shall be leveled up and all surplus material and rubbish incident to the construction must be removed and disposed of and streets, gutters, ditches, sidewalks, crossings, railroads, grass plots and other property affected by the Construction shall be left in good and acceptable condition.

14. LOCATION AND DEPTH OF PIPE LAYING

Alignment and depth of pipe to be installed have been shown on the plans and in the specifications to reflect the general layout and facilities the Contractor is bidding and laying out the work. Pipe locations and depth of cover will be varied as directed by the Engineer if such variance is necessary in order to clear obstructions or utilities that interfere with the construction of the water mains. No additional payment will be made for pipe installed at greater depth or different locations than shown on the plans and/or in the specifications.

The Contractor shall make all necessary explorations and excavations for obstructions ahead of the pipe laying to permit sufficient time for any adjustments of locations or depth necessary for installing the water mains and making connections to the existing system.

15. CONSTRUCTION ALONG AND UNDER HIGHWAYS

Where and when lines are to be constructed under Federal, State or County Highways, or along the right-of-way of these highways, the Contractor is instructed to contact the State Highway

Department, the County Engineer or other authorities concerned as to their requirements for construction of this type and for maintaining traffic, detours and public safety during these operations. These requirements shall be fully complied with and all work along or under these highways shall be subject to the inspection and direction of the proper authorities concerned.

The Contractor shall give prior notice of his intention to perform work along these highways and shall coordinate the work with the highway authorities concerned. The Contractor shall provide at his own expense any bond or insurance required by the Highway Department.

16. CHEMICALS

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or other classification, must show approval of either EPA or USDA. Use of such chemicals and disposal of residues shall be in strict conformance with manufacturer's instructions.

17. LOCAL LABOR

Preference in employment will, insofar as practicable, be given to qualified local labor.

18. LOCAL PERMITS

The Contractor will obtain all local permits including building permits from the political jurisdiction in which work is being accomplished at his own expense. It shall be each Bidder's responsibility to determine the necessity and costs of such permits prior to bid.

19. MAINTENANCE OF CUT STREETS, WALKS, AND DRIVES

Maintenance of cut streets, walks and drives shall be performed as needed by the Contractor, but not less than daily. Failure to provide the required maintenance of temporary patching shall be grounds for diversion of the Contractor's work force from pay item work until maintenance work is complete.

20. GRADE CONTROL

The Contractor shall provide an acceptable and operational engineer's level and level rod at the work site at all times for verification of pipe grades, slope, depth of cover and general grades.

21. RESTORATION OF GRASS

Prior to excavation of the trench, the Contractor shall remove the grass and root soil from the excavation area and store in a suitable place. Immediately after laying the water main, backfill and restoration of the surface, the Contractor will replace the grass in the disturbed area and dress to natural ground. All damaged grass will be replaced in-kind by the Contractor.

22. CLEARING RIGHT-OF-WAY

Trees and bushes on the R.O.W. that are in conflict with the water main construction and are too large to be removed and reset shall be cleared, grubbed and disposed of by the Contractor.

23. WORK HOURS

Work shall be performed only during the hours 7 a.m. to 5 p.m. Work may be performed outside this work window under the following conditions:

- a. Contractor shall submit written request to Owner requesting different work hours and stating the reason for the request, including why it would be in the best interest of the Owner to approve the request.
- b. Owner gives written approval of the request.

24. 24-HOUR EMERGENCY RESPONSE PLAN

The Contractor shall develop and implement, prior to start of work, an emergency response plan for handling water main outages due to his construction activities. Contractor shall provide the name and telephone number of a local representative that can respond to emergencies on a 24-hour per day basis.

25. FEDERALLY FUNDED PROJECT

If project is Federally funded, Contractor must register online at [SAM.gov](https://www.sam.gov).

END OF SECTION 00 73 93

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work includes all labor, materials, equipment, supplies, and miscellaneous work items required to replace existing water distribution main and services in Enterprise, Alabama. The work includes water distribution main, service lines, connections to existing main, service transfers, associated appurtenances, roadway patching, and restoration of disturbed areas.

1.2 COORDINATION AND WORK SEQUENCE

- A. The project shall be constructed in a sequence that will provide the least inconvenience to the area residents. The project shall be coordinated in such a manner that utility services shall be minimally disrupted to all customers. In addition, access to all residences located in the area of construction shall be maintained continuously and no resident shall have their utilities disrupted without the prior approval of and coordination with the Enterprise Water Department.

1.3 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit his use of the premises for work and for storage, to allow for Owner occupancy and continuous operation of all facilities in the work areas.
- B. Contractor shall coordinate use of premises under direction of Owner.
- C. Contractor shall assume full responsibility for the protection and safekeeping of all stored products under this contract.
- D. Contractor shall move any stored products, under Contractor's control, which interfere with operations of the Owner.

1.4 PUBLIC USAGE

- A. The Public will utilize the project areas during the entire period of construction. Cooperate with Owner's Representative in all construction operations to minimize conflict, and to facilitate Public usage.

1.5 SCHOOL AREAS

- A. The Contractor shall coordinate construction work in school areas along Airport Road with the Enterprise School System such that a minimum disruption to school traffic and students is required. No adjacent street to the school will be closed to traffic unless approved by the Owner and Enterprise School System. The Contractor shall take every necessary precaution to insure the safety of the public, with special attention to school zones.

1.6 EMERGENCY RESPONSE PLAN

- A. The Contractor shall develop and implement, prior to the start of work, an emergency response plan for handling problems. This plan shall include how an immediate response will be achieved. Contractor shall provide the name and telephone number of a local representative that can respond to emergencies on a 24-hour per day basis.

1.7 WORK HOURS

- A. The Work shall be performed only during the hours of 7 a.m. to 5 p.m. Work may be performed outside this work window under the following conditions:
 - 1. Contractor shall submit written request to Owner requesting different work hours and stating the reason for the request, including why it would be in the best interest of the Owner to approve the request.
 - 2. Owner gives written approval of the request.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 11 00

SECTION 01 22 00 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 GENERAL

- A. This section describes the methods by which measurement will be made of the quantities for which payment will be made for the project.
- B. It is the intention of this specification that payment will be made for those items listed in the Bid Form only. All items of work not specifically listed in the Bid Form shall be considered incidental to the construction, and the cost of all such work and material shall be included in the prices bid for the various items listed.

1.2 STORED MATERIALS

- A. Partial payment shall be made for approved materials stored at the project site at the presentation of material invoices in the proper manner as stated in the General Conditions and Contract.

1.3 COORDINATION

- A. Coordination of the work with the Owner, residents, utilities and other Contractors shall be paid for in the various items of work. No separate payment will be made for this item.

1.4 SAFETY

- A. Complying with all safety requirements including temporary detours and structures and barricades, lights and signs shall be paid for in the various items of work. No separate payment will be made for this item.

1.5 MOBILIZATION

- A. Mobilization shall cover the preparatory work and operations, including, but not limited to 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 other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.
- B. Payment for mobilization shall be full compensation for organizing and moving all labor, tools, equipment, supplies, and incidentals to the project site and for disbanding, disorganizing, and removing all labor, tools, equipment, supplies, and incidentals from the project site, regardless of number of times such moves are made, including all preconstruction costs exclusive of bidding costs.

- C. Payment for mobilization when the amount bid for mobilization is \leq 12% of the total contract amount will be as follows:
1. 20% of the amount bid for mobilization will be paid in the first estimate.
 2. After the first estimate and upon completion of 5% of the original contract amount for the entire project excluding prior payment for mobilization, 50% of the amount bid for mobilization will be paid.
 3. After the first estimate and upon completion of 50% of the original contract amount for the entire project including prior payment for mobilization, the remaining 30% of the amount bid for mobilization will be paid.
 4. The total sum of all payments shall not exceed the original contract amount bid for the item of mobilization, regardless of the fact that the Contractor may have, for any reason, shut down his work on the project or moved equipment away from the project and then back again.
- D. Payment for mobilization when the amount bid for mobilization is $>$ 12% of the total contract amount will be as follows:
1. 2% of the amount bid for mobilization will be paid in the first estimate.
 2. After the first estimate and upon completion of 5% of the original contract amount for the entire project excluding prior payment for mobilization, 6% of the amount bid for mobilization will be paid.
 3. After the first estimate and upon completion of 50% of the original contract amount for the entire project including prior payment for mobilization, 4% of the amount bid for mobilization will be paid.
 4. The remaining 88% will be paid with the final estimate.
 5. The total sum of all payments shall not exceed the original contract amount bid for the item of mobilization, regardless of the fact that the Contractor may have, for any reason, shut down his work on the project or moved equipment away from the project and then back again.

1.6 ADEM NPDES PERMITTING AND COMPLIANCE

- A. Payment for ADEM NPDES PERMITTING AND COMPLIANCE shall be on a lump sum basis per the Bid Schedule depending upon the receiving stream classification. Payment shall include all of the work requirements under Section 01 41 26.01 of these specifications and include one (1) ADEM NOI filing per unit quantity.

1.7 TEMPORARY EROSION CONTROL

- A. General: Measurement and payment for temporary erosion control measures shall be as indicated below for each item except that 90% of the amount measured shall be paid at the time of installation. The remaining 10% of the amount measured shall be paid only after such measures and their accumulated sediment has been removed, and any areas disturbed as a result of the removal process have been permanently stabilized.
- B. Silt Fence: Measurement shall be actual linear feet installed and removed. Payment shall be made at the price per linear foot included in the Bid Schedule.

- C. Inlet Protection: Measurement shall be per each inlet installed and removed. The type protection utilized shall be based on the contractor's approved BMP Plan, acceptable to the Owner and the Engineer. Payment shall be made at the price per each included in the Bid Schedule.

1.8 EARTHWORK

- A. No separate measurement or payment will be made for trench earth excavation. Payment for all such excavation shall be included in the unit prices bid per linear foot of the various sizes of pipe laid as provided for in the contract Bid Form.
- B. The removing of all pavements, pavement foundations, sidewalks, driveways, etc., will be included in the trench excavation for which payment will be made as provided for in paragraph a. above. No separate payment will be made for these items.
- C. No separate payment shall be made for pumping, bailing, dewatering, testing, disposal of water, draining, backfilling, removing debris or waste material nor for the disposal of any materials or similar work.
- D. Crushed Stone Base and/or Temporary Surfacing: No separate payment will be made for crushed stone base or temporary surfacing of cut streets. Payment shall be included in other items of work.
- E. Rock Excavation: No separate measurement or payment will be made for trench rock excavation for pipelines, or for any other appurtenant facilities. Payment for all such excavation shall be included in the unit prices bid per linear foot of the various sizes of pipe laid as provided for in the Bid Form for this contract.
- F. Select Backfill Borrow Material: If specifically listed as a pay item in the Bid Form, separate payment will be made for Select Backfill Borrow Material at designated or authorized locations complete in place. Measurement will be on a Loose Truck Basis using truck dump tickets signed by the Engineer. Payment will be made at the unit price bid in the Bid Form.

1.9 GRASSING AND SODDING

- A. Grassing performed under these Specifications will be paid for according to the rate bid per acre in the Bid Schedule for the actual installation as measured in the field in the construction area only. Sodding performed under these specifications will be paid for according to the rate bid per square yard in the Bid Schedule for the actual installation as measured in the field in the construction area only. Measurement for payment shall be the area calculated from field measurements of width and length along pipeline centerline. Price bid for grassing shall include all soil preparation required, including removing and replacing existing topsoil (min. 2" thick), lime, and fertilizer, all seeding, and maintenance of grassed area until a stand of permanent grass is achieved and until acceptance by Owner.
- B. All areas disturbed beyond the immediate and reasonable limits of the water line construction, i.e., haul roads, staging areas, etc., shall be dressed and grassed in accordance with these specifications at no separate pay. Measurement for payment as described in paragraph (A) above does not apply to these areas.

1.10 TYPICAL ASPHALT REMOVAL/REPLACEMENT

- A. Asphalt pavement removal and replacement for water mains only shall be paid for on a per linear foot basis as listed in the Bid Proposal for the replacement surface specified regardless of width.
 - 1. Said payment to include removing the old paving, additional backfill compaction required for paved areas, 8" crushed stone base and temporary surface, trench maintenance prior to the application of the permanent surface, two (2) year settlement warranty, and all incidentals.
 - 2. Measurement for pavement removal and replacement shall be along the pipe centerline.
 - 3. No separate payment or measurement shall be made for pavement removal and replacement for services. Service tubing shall be dry bored from the main to the existing meter box. Any pavement removal and replacement required by service line construction shall be considered subsidiary to other items of work.
 - 4. Traffic stripe, markings, and legends shall be paid on a Unit Price basis as listed in the Bid Form and in accordance with the latest edition of the Alabama Department of Transportation Standard Specifications. Measurement for traffic stripe will be made along the centerline of each stripe. Each stripe in a doubled application will be measured separately for payment.

1.11 ALDOT ASPHALT REMOVAL/REPLACEMENT

- A. Asphalt Pavement removal and replacement for mains and service replacement in ALDOT roadways shall be paid for on a per linear foot basis as listed in the Bid Proposal for the replacement surface specified regardless of width.
 - 1. Said payment to include removing the old paving, additional backfill compaction required for paved areas, temporary 12" crushed stone base/surface, trench maintenance prior to the application of the permanent surface, permanent base and surface, two (2) year settlement warranty, and all incidentals.
 - 2. Measurement for ALDOT pavement removal and replacement shall be along the pipe centerline.

1.12 CONCRETE SURFACES

- A. Concrete pavement, drives, and sidewalk shall be measured in linear feet or square yards as indicated in the bid proposal. Measurements shall be of the actual width and/or length of concrete installed. Payment shall be made at the unit price bid per linear feet or square yard in the Bid Schedule and shall include removal of the existing surface, installation and maintenance of a temporary crushed stone base/surface and all forming, compaction, material, labor, reinforcing, placing, consolidating, flushing, curing, and all incidentals necessary to provide a complete and finished product. The temporary crushed stone surface in drives shall be a minimum 2 inches in thickness and shall be maintained until the drive is replaced.

1.13 POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

- A. Polyvinyl chloride pipe and plastic tubing shall be measured in linear feet along the centerline of the installed pipe with no deduction for fittings, valves, etc., within the limits of the installation work performed under this Contract.

- B. Any necessary repairs to existing mains and service lines damaged during performance of work under this Contract shall be made at the Contractor's expense and no reimbursement will be made for any labor, materials, equipment or other costs involved in such repairs. Materials furnished by the Owner shall not be used for such repairs unless approved by the Owner and the Contractor compensates the Owner for the cost of such materials so used.
- C. Where connections are shown or required to be made between new and existing mains, the cost of all such work, services and equipment, including excavation, cutting pipe, pumping, etc., as required to complete such connection shall be included in the unit prices bid in the Bid Schedule and no separate payment will be made. Payment for furnishing and installing any new pipe and fittings and furnishing and installing accessory items such as valves, etc., required for such connections shall be made at the applicable unit prices bid.
- D. No separate payment shall be made for concrete thrust blocking at bends and other fittings, when required and as authorized by the Engineer.
- E. Payment for furnishing, testing, sterilizing, placing in service and installing, complete in place, polyvinyl chloride pipe and plastic tubing including all common excavation, backfill and all standard bedding material shall be made per linear foot of pipe installed at the applicable contract unit prices set forth for each size and type of pipe in the Bid Schedule.
- F. Payment so made shall constitute full compensation to the Contractor for material, excavation, detector wire, backfill, and standard bedding material, installation, sterilization and tests, including all labor, materials, tools, equipment and services necessary to complete the work as specified herein.

1.14 DUCTILE IRON PIPING AND DUCTILE AND CAST IRON FITTINGS

- A. Measurement:
 - 1. The quantities of ductile iron pipe, including common excavation, for which payment will be made under this item shall be expressed in linear feet for each size and type of pipe as shown in the Bid Schedule and shall be the horizontal length of ductile iron pipe installed complete in place as measured along the centerline of the pipe with no deductions made for tees or connections.
 - 2. The quantities of cast iron or ductile iron fittings shall be determined in pounds based upon the actual weight of such fittings installed whether full body AWWA C110 or compact AWWA C153. Weight for payment shall be calculated using actual field count of fittings installed and the published individual catalog weights based on the type fitting (C110 or C153) exclusive of gaskets, glands, bolts, and other accessories.
 - 3. The Contractor shall inspect the location of proposed water lines and verify type of fitting, degree of bend, couplings, and all fittings necessary to make complete installation before ordering fittings.
- B. Payment:
 - 1. No separate payment shall be made for connections to existing water lines or for removal and disposal of existing mains required for construction. The cost of this work shall be included in the unit price bid for other items of work.
 - 2. Ductile iron fittings, 2" and larger, installed under these Specifications will be paid for at the rate bid per pound in the Bid Schedule.

3. No separate payment shall be made for any borrow excavation, clearing, or backfill. The cost of these items shall be included in the unit price bid for pipe.
4. Payment for ductile iron pipe constructed under these Specifications shall be made for the quantities determined in the manner specified above in A-1 at the price per linear foot, for each size and type of pipe.
5. Payment so made shall constitute full compensation to the Contractor for the material, common excavation, backfill, installation, including all labor, materials, tools, equipment, and services necessary to complete the work as specified herein.
6. Payment for sleeves will be made if used in the locations specifically called for on the plans. Sleeves used at any point not called for on the plans will not be paid for and will be furnished by the Contractor at his own expense.

1.15 UNCASED DRY BORES (WATERMAIN)

- A. Separate payment shall be made at various sizes for furnishing all labor, materials, equipment and services required to complete an uncased dry bore under a concrete/paved surface for watermain construction. Measurement shall be from edge of concrete/paving to edge of concrete/paving. Bores for service tubing shall be included in service tubing unit price with no separate payment.

1.16 JACKING AND BORING OF UTILITY PIPE

- A. Payment for furnishing all labor, materials, equipment and services required for the complete installation of casing pipe by boring or jacking methods, including all classes of excavation, crushed stone, concrete, wooden blocks, anchors, straps, end seals, etc., all in accordance with these Specifications and details shown on the Drawings, shall be made at the applicable unit price bid in the Bid Form and the actual number of linear feet of casing pipe installed. This measurement shall be made from outside end to outside end of casing pipe and shall include the end sections that may be installed in open trench excavation.
- B. Carrier pipe shall be furnished, installed and paid for separately under the applicable provisions of the piping sections of these Specifications at the unit price bid under the respective section in the Bid Form. Carrier pipe payment shall include the casing spacers furnished and installed per Section 33 05 23.16. Measurement shall be made from the outside end to outside end of installed casing pipe.

1.17 MISCELLANEOUS ITEMS

- A. Gate Valve with Box: The unit price bid for the various sizes of valves shall be compensation in full for furnishing all material, labor, equipment and incidentals necessary to install and complete one valve with box and concrete slab in accordance with these specifications.
- B. Wet Tie-In Connections: Where new mains are to be tied directly into existing wet lines as specifically called out on the plans or directed by the Engineer, the Contractor shall make the necessary tie-in. This work shall be done to cause the least convenience. Separate payment will be made for this item based on the main size as listed in the Bid Form.

- C. Concrete Trust Blocks: This item shall be concrete poured back of and to brace fittings and hydrants to prevent these units from pulling off and becoming disengaged from the pipe, when pressure is applied. No separate payment will be made for this item.
 - D. Hydrants: The unit price bid for the various sizes of hydrants, both fire and post type, shall be compensation in full for furnishing all material, labor, equipment and incidentals necessary to install and complete one hydrant in accordance with these specifications including the gravel drain pit and thrust restraint. The tee, gate valve and ductile iron lead shall be paid for separately.
 - E. Hydrant Extensions: Fire hydrant extensions shall be paid in 6" increments for the hydrant size listed in the bid form. Payment shall include all material, labor, equipment and incidentals necessary to install and complete the required extension. Payment will be made only at locations approved in advance by the Engineer's Field Representative.
 - F. Remove Existing Fire Hydrants: Fire hydrants shown to be removed shall be paid at the unit price bid per each and shall include all labor, materials and equipment necessary to remove the hydrant and gate valve, plug the existing main and transport the hydrant and valve to a location within the City designated by the Water Works Field Superintendent. Payment shall include dressup and regrassing of the disturbed area.
 - G. High Density Polyethylene (HDPE) Casing: HDPE casing of the size called for within the project plans shall be paid at the contract unit price bid per foot installed via direction drilling which shall include material, labor, and disposal of drilling mud.
 - H. Compaction Tests: The unit price bid shall be compensation in full for all labor, equipment and incidentals required to complete one compaction test at the location and depth selected by the Engineer to include required proctor densities and submission of a test report. Retests due to failed compaction tests shall be at the expense of the Contractor.
 - I. Curb and Curb and Gutter: The unit price bid for removal and replacement of curb, curb and gutter and gutter shall be compensation in full for all labor, equipment, materials and incidental required to remove and replace one linear foot of curb, regardless of the width, at locations specifically called out on the plans or approved by the Engineer. The Contractor shall exercise due diligence in protecting the existing curb from damage. Replacement of curb damaged due to the Contractor's negligence will **NOT** be considered for payment. Curb removed for water service construction shall **NOT** be considered for payment unless approved by the Engineer. The gutter section of driveway turnouts, as detailed, shall be considered curb and gutter and paid for in accordance with this paragraph. The remaining area of a driveway turnout shall be paid as remove and replace concrete driveway.
- 1.18 ABANDONMENT AND REMOVAL OF EXISTING WATER DISTRIBUTION MATERIALS
- A. Upon completion of all connections, the existing water main shall be abandoned, and the associated existing valve boxes shall be filled with concrete flush with the existing surface. All existing main abandoned in-place shall be suitably plugged. All removed materials determined as salvageable by the Water Department shall be delivered to the Enterprise Water Department main office on Mills Ave. Any other material shall be disposed of by the contractor. No

separate payment will be made for any of the above work unless specifically listed in the bid proposal.

- B. Payment for the abandonment of existing water mains on ALDOT ROW by flowable fill shall be made at the contract price bid per cubic yard. Measurement shall be the length of the existing water main multiplied by the inside area of the existing water main converted to cubic yards. The quantity shall be supported by actual concrete delivery tickets from the jobsite. Payment shall include excavation, cutting water main, plugging water main, backfill and compaction required in exposing the existing water main and all methods necessary to deliver flowable fill into the water main complete in place. Any necessary plugs shall be included with no separate pay.

1.19 WATER SERVICES

- A. Payment for service transfers shall be at the Unit Price Bid per each as detailed and shall include new tap, saddle, corporation stop, curb stop, dual check backflow preventer, brass, meter box reset if required, and all incidentals necessary to complete the transfer as detailed in the plans. Separate payment will be made for service tubing to include dry boring at the contract price bid per unit, respectively.
- B. Payment for a new meter box with curb stop shall be at the Unit Price Bid per each as detailed and shall include the curb stop and new meter box. Separate payment will be made for service tubing to include a dry boring at the contract price bid per unit, respectively.

1.20 SERVICE TUBING

- A. Service tubing of the type and size called for shall be paid at the contract unit price bid per foot which shall include material and labor. Measurement shall be from the corporation stop to the curb stop. Payment shall include dry boring tubing from main under all surfaces to the existing meter box. No separate payment shall be made for surface removal and replacement associated with service tubing.

1.21 CUT AND PLUG WATER LINES

- A. Separate payment shall be made for cut and plug water lines, based on sizes shown in bid schedule and specifically called for on the plans. The work shall include all coordination, labor, materials, equipment and services required to complete the item to include location, excavation, plugging, blocking, backfill, compaction and crushed stone base. The abandoned side of the cut shall also be plugged in an acceptable manner and shall be included in the payment.
- B. Cut and Plug Existing 1", 2", and 3" Water Main: Payment for cutting existing 1", 2", and 3" water main by unscrewing pipe and plugging with a brass plug shall be paid for according to the price bid per each regardless of depth. Payment shall include all coordination, labor materials, equipment and services required to complete the item to also include location, excavation, plugging, backfill, and compaction. The abandoned side of the cut shall also be plugged in an acceptable manner and shall be included in the payment. Pavement removal and replacement shall be a separate pay item.

1.22 TRAFFIC CONTROL

- A. The Contractor shall receive no direct compensation for traffic control measures necessary for the good and proper safety, convenience, and direction of traffic during the entire period of construction.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 22 00

SECTION 01 31 13 - COORDINATION OF WORK

PART 1 - GENERAL

1.1 GENERAL

- A. All work herein described shall be performed by the Contractor, or his approved subcontractors, who shall bear all responsibility for it and who shall willingly submit to inspection of and review of the work at all times by representatives of the U.S. Environmental Protection Agency, the state environmental agency, the Engineer, the Owner, and/or the Owner's designated representative.

1.2 EXISTING FACILITIES

- A. The Contractor shall coordinate his work with the Owner so that the construction will not restrain or hinder the operation of existing facilities.
- B. Connections to the existing facilities or alteration of existing facilities will be made at times when the use of the piping or facility can be conveniently interrupted for the period of time needed to make the connection or alteration. The Contractor shall closely coordinate the isolation of existing mains as required for construction. **The Water Department shall handle the operation of all existing water valves.**
- C. After having coordinated his work with the Owner, the Contractor shall notify the Engineer of the time, time limits and methods of each connection or alteration and have the approval of the Engineer before any work is undertaken on the connections or alterations.
- D. In addition to traffic control and coordination with the City and affected utility companies, the Contractor shall coordinate construction with any affected businesses and residents. Coordination shall include communication as necessary to insure minimum interruption in traffic flow and access.

1.3 OTHER UTILITIES

- A. The Contractor shall coordinate his operations with all utility companies near or adjacent to the area of his work. The Contractor shall require said utilities to identify in the field their property and provide drawings as necessary to locate them.

1.4 TRAFFIC CONTROL

- A. The Contractor shall provide approved traffic control measures during the entire period of construction in accordance with Section G of the Alabama Manual on Uniform Traffic Control Devices.

- B. Prior to closing or restricting any section of the project to traffic, the Contractor shall solicit and receive approval from the appropriate authorities and shall furnish, erect, and maintain, at no expense to the Owner, flagmen and suitable barricades, warning signs, red flags, or lights. In addition, the Contractor shall notify the City Police and the Fire Department of any closures as well as any time street traffic and access is affected.

- C. Detours and temporary structures necessary for travel during the prosecutions of the work will be at the expense of the Contractor. If a portion of a road is closed so that only one lane of the road is open to traffic, the Contractor shall place a flagman at each end of the single lane of direct traffic. All affected residents will be modified in writing at least 24 hours in advance and this notification shall include directions on how to get in and out of their neighborhood.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 31 13

SECTION 01 31 19.13 - PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. After award of bid and prior to beginning construction, a conference will be held with representatives of the Contractor, Owner, Engineer and the affected utility companies to discuss schedules and utility conflicts in the Project. This conference is intended to establish lines of communication between the parties involved. Time and place of preconstruction conference will be determined after bid award.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 31 19.13

SECTION 01 31 19.23 - PROGRESS MEETINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Owner may request meetings with the Contractor at any time on matters pertaining to the progress of Work being carried out under this Contract. It will be the responsibility of the Contractor to supply whatever information is requested by the Owner concerning the Project throughout its duration and to meet with the Owner and Engineer. These meetings may be as often as monthly (or more often if conditions of the construction require).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 31 19.23

SECTION 01 32 13 - CONSTRUCTION SCHEDULING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall submit to the Engineer for approval construction planning, scheduling, and cost value documentation pertaining to the project as detailed herein and shall update same throughout project as required.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
- B. Within ten (10) working days of Notice to Proceed, the Contractor shall submit to the Engineer for approval the products required by this Section of the Specifications.
- C. Within seven (7) working days following receipt of same the Engineer shall review the Contractor's proposed construction plans and schedules and provide any comments to the Contractor.
- D. Within seven (7) working days following the Engineer's review the Contractor shall resubmit a revised copy of those documents requiring revision.
- E. The Contractor shall update the work schedules at least monthly and indicate those activities whose completion dates are in jeopardy because of activities behind schedule.
- F. The Owner may require the Contractor to modify any portions of the work schedule that become infeasible because of "activities behind schedule" or for any other valid reason. Any such modification will be at the Contractor's expense unless the modification is required to accommodate schedule revisions required by the Owner.
- G. An activity that cannot be completed by its original latest completion date shall be deemed to be behind schedule.

1.3 CHANGE ORDERS

- A. Upon approval of a Change Order by the Owner, the approved change shall be reflected in the next submittal by the Contractor.

1.4 CONSTRUCTION PROGRESS SCHEDULE

- A. The Construction Progress Schedule shall be submitted in form satisfactory to the Owner showing:
 - 1. Activity Number
 - 2. Activity Description

3. Estimated Activity Duration (Work Days)
4. Activity Start Date (Calendar Dated)
5. Activity Finish Date (Calendar Dated)
6. Activity Cost

of each of the various subdivisions of work required under the Contract Documents, Specifications, and Drawings.

- B. The anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule shall be included thereon. This anticipated monthly payment schedule shall distribute the costs of the project more or less evenly over the scheduled project life in a manner acceptable to the Owner and compatible with the Owner's funding arrangements for the project. Resubmittal will be required until anticipated monthly payment schedule is acceptable to Owner. For this project, substantial variation from this schedule of payments will not be permitted.
- C. The activity durations shall be depicted in the form of a bar chart and shall be overlaid with graph of the cumulative anticipated monthly payments due the Contractor.

1.5 ESTIMATES

- A. The Detailed Estimates shall be submitted on forms provided by the engineer and shall give a complete and satisfactory breakdown of the contract amount.
- B. Periodic Itemized Estimates shall detail work done for the purpose of tabulating partial payments thereon.

1.6 PROJECT INFORMATION

- A. Each tabulation shall be prefaced with the following summary data:
 1. Project Name
 2. Contractor
 3. Type of Tabulation (Initial or Updated with revision number)
 4. Project Duration
 5. Project Scheduled Completion Date
 6. Effective or Starting Date of the Schedule
 7. If an updated (revised) schedule, the new project completion date and project status.

1.7 SCHEDULE MONITORING

- A. On a monthly basis, the Contractor shall submit to the Engineer a revised schedule for those activities that remain to occur.
- B. The revised schedule shall be submitted in the form, sequence, and of the number of copies requested for the initial schedule.

1.8 COST VALUE FOR ACTIVITIES

- A. The Contractor shall establish and submit a cost value for each lump sum activity in his progress schedule so that monthly partial payments to the Contractor can be calculated on the basis of work in place.
- B. Subject to the provisions for "Partial Payment" in the General Conditions of the Contract all cost value reports for network activities shall be based upon the close of books as of the 20th day of each month, and the submittal of such costs value for activities shall be submitted to the Engineer for review and approval not later than the 25th day of each month unless mutually agreed otherwise.
- C. Wherever in the Supplementary General Provisions it is provided that payments will be allowed for materials delivered to the site but not yet incorporated in the work, subject to the terms and conditions specified in the General Conditions, separate pay items shall be established for the furnishing and for the installation of such items.
- D. Costs of materials delivered to the site but not yet incorporated into the work shall be included as a separate pay item and shall not be included in the cost value of the installation activity for such materials.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 32 13

SECTION 01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION AND REQUIREMENTS

- A. Type of Submittals. This Section of the Specifications describes the procedures for submittals of Schedule of Submittals, Schedule of Construction, Insurance Certificates, List of Subcontractors, Anticipated Payment Schedules, Shop Drawings, Product Data, Samples, and miscellaneous work-related submittals.
- B. Related Work Specified Elsewhere:
 - 1. Definitions and Additional Responsible Parties:
 - a. Section 00 72 00: General Conditions.
 - b. Section 00 73 00: Supplementary Conditions.
- C. Submittal Contents. The submittal contents required are specified in each section and in this specification.
- D. Definitions. Submittals are categorized as follows:
 - 1. Shop Drawings:
 - a. Shop drawings shall include technical data, drawings, diagrams, performance curves, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name of preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by the Engineer to be used in connection with the Work.
 - 2. Product Data:
 - a. Product data includes standard printed information on materials, products and systems, not specially prepared for this project, other than the designation of selections from among available choices printed therein.
 - b. Collect required data into one submittal for each unit of work or system, and clearly mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.
 - c. Show all performance characteristics, capacities, clearances required, and wiring or piping diagrams. Supplement standard information to provide all information specifically applicable to work.

3. Samples:
 - a. Samples include both fabricated and unfabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or (where indicated) for more detailed testing and analysis.
 - b. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Engineer's selection is required. Prepare samples to match the Engineer's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of "kind" by the Engineer. Engineer will not "test" samples (except as otherwise indicated) for other requirements, which are the exclusive responsibility of the Contractor.
 - c. Samples shall be of sufficient size to clearly indicate functional characteristics of the products and full range of color, texture, and pattern.
4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

E. List of Required Submittals:

<u>No.</u>	<u>Description</u>	<u>Section No.</u>
1.	List of Subcontractors	00 21 13
2.	Insurance Certificates	00 72 00/00 73 00
3.	Schedule of Construction	01 32 13
4.	Advertisement of Completion (Affidavit)	00 73 00
5.	Contractor's Release of Liens	00 73 00
6.	ADEM NPDES Permit and Documentation	01 41 26.01
7.	Erosion Control Products	01 57 13
8.	Construction "As-Builts"	01 78 39
9.	Compaction Test Reports	31 00 01
10.	Sod/Seed/Fertilizer	32 92 20
11.	PVC Water Pipe	33 00 01
12.	Gate Valves and Valve Boxes	33 00 01
13.	Tapping Sleeves & Valves	33 00 01
14.	Tracer Wire	33 00 01
15.	Pressure Test/Bacteriological Test Results	33 00 01
16.	Fire Hydrants and Accessories	33 00 01
17.	Service Tubing	33 00 01
18.	Services Valves and Accessories	33 00 01
19.	Asphalt Mix Design	33 00 01
20.	Steel Casing Pipe	33 05 23.16
21.	Ductile Iron Pipe and Fittings	33 05 51

1.2 GENERAL SUBMITTAL REQUIREMENTS

- A. Scheduling. Where appropriate in various required administrative submittals (listings of products, manufacturers, supplier and subcontractors, and in job progress schedule), show principle work-related submittal requirements and time schedules for coordination and integration of submittal activity with related work in each instance.
- B. Coordination of Submittal Times. Prepare and transmit each submittal to the Engineer sufficiently in advance of performing related work or other applicable activities, so the installation will not be delayed or improperly sequenced by processing times, including non-approval and resubmittal (if required). Coordinate with other submittals, testing, purchasing, delivery and similar sequenced activities. No extension of time will be authorized because of Contractor's failure to transmit submittals to the Engineer sufficiently in advance of the work.
- C. Sequencing Requirements. As applicable in each instance, do not proceed with a unit of work until submittal procedures have been sequenced with related units of work, in a manner which will ensure that the action will not need to be later modified or rescinded by reason of a subsequent submittal which should have been processed earlier or concurrently for coordination.
- D. Preparation of Submittals. Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for the Engineer's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the Contractor's office will be returned "without action".
- E. Transmittal Identification.
 - 1. Number transmittals in sequence for each Division of the Specifications. The number before the dash indicates the Section of the Specifications, and the number after the dash is the sequence number of the transmittal (33 11 00-1 would be the first transmittal applicable to Section 33 11 00 of the Specifications. 33 11 00-2 would be the second transmittal for Section 33 11 00, etc.)
 - 2. Identify resubmittals with a letter of the alphabet following the original number, using A for the first resubmittal, B for the second resubmittal, etc. A resubmittal affecting transmittal 33 11 00-1 would then be numbered 33 11 00-1A. The 33 11 00-1 would then be entered in the space "Previous Transmittal Number", which is left blank except on resubmittals.

1.3 SPECIFIC CATEGORY REQUIREMENTS

- A. General. Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal.
 - 1. Submittals shall be accompanied by a cover sheet which shall contain:
 - a. The date of submission and the dates of any previous submissions.
 - b. The Project title and number.
 - c. Date.
 - d. Contract No.
 - e. The names of the:
 - 1) Contractor

- 2) Supplier
- 3) Manufacturer
- f. Identification of the product, with the Specification Section number.
- g. A list of all the sheets included in the submittal.
- h. Field dimensions, clearly identified as such.
- i. Relation to adjacent or critical features of the work or materials.
- j. Applicable standards, such as ASTM or Federal Specification numbers.
- k. Notification to the Engineer in writing, at time of submission, of any deviations on the submittals from requirements of the Contract Documents.
- l. Identification of revisions on resubmittals.
- m. An 8 inch x 3 inch blank space for Contractor and Engineer stamps.
- n. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
- o. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.4 CONTRACTOR RESPONSIBILITIES

- A. In addition to any other requirements of this section, the Contractor shall be responsible to:
 1. Review shop drawings, product data and samples prior to submission.
 2. Determine and verify:
 - a. Field measurements.
 - b. Field construction criteria and required clearances.
 - c. Catalog numbers and similar data.
 - d. Conformance with specifications.
 3. Coordinate each submittal with requirements of the work and of the Contract Documents.
 4. Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.
 5. Begin no fabrication or work which requires submittals until return of submittals with Engineer approval.

1.5 ROUTING OF SUBMITTALS

- A. Submittals and routine correspondence shall be routed as follows:
 1. Supplier to Contractor (through representative if applicable) for detailed review.
 2. Contractor to Consulting Engineer for review or comment.
 3. Consulting Engineer to Contractor.
 4. Contractor to Field Office and Supplier.

1.6 SUBMITTAL COPIES REQUIRED

- A. Shop Drawings, Product Data, and Miscellaneous Submittals. All released submittals will be distributed as follows:

1.	For Poly, Inc.	2 copies
2.	For Owner	2 copies
3.	For Contractor	<u>2 copies</u>
	TOTAL	6 copies

- B. To the above number may be added additional copies as required by the Contractor.
- C. The Engineer will mark all copies of each shop drawing. One will be retained in the Engineer's office, one sent to the Field Inspection office, two will be retained for the Owner and the remaining copies sent to the Contractor for his records and distribution.
- D. For nonapproval items, such as parts lists, operation and maintenance data, five (5) copies are required, unless specified otherwise:

1.	For Poly, Inc.	2 copies
2.	For Owner	<u>2 copies</u>
	TOTAL	4 copies

- E. Samples
1. Submittal. At Contractor's option, provide preliminary submittal of a single set of samples for the Engineer's review and "action." Otherwise, initial submittal is final submittal unless returned with "action" which requires resubmittal. Submit two (2) sets of samples in final submittal; one set will be returned.
 2. Quality Control Set. Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Engineer and by others.

1.7 REVIEW OF SUBMITTALS

- A. Review Time. Allow a minimum of two (2) weeks for the Engineer's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals or when a sufficiently large number of submittals are sent during a short period. The Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed. Allow two weeks for reprocessing each submittal. Advise the Engineer on each submittal as to whether processing time is critical to progress of the work, and therefore the work would be expedited if processing time could be foreshortened.
- B. Engineer's Action:
1. Final Unrestricted Release. Work may proceed, provided it complies with contract documents, when submittal is returned with the following:
 - a. Marking: "A" - No Exceptions Taken.
 2. Final-But-Restricted Release. Work may proceed, provided it complies with notations and corrections on submittal and with contract documents, when submittal is returned with the following:
 - a. Marking: "B" - Mark Corrections.
 3. Returned for Resubmittal. Do not proceed with Work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking. Do not allow submittals with the following marking (or unmarked submittals where a marking is required) to be used in connection with performance of the work.
 - a. Marking: "C" - Revise and resubmit.

- b. Marking: "D" - Rejected - Does Not Comply with Project Requirements.
4. Only three (3) copies of items marked "C" or "D" will be reviewed and marked. One copy will be retained in the Poly, Inc. office, one copy will be sent to the Poly, Inc. field office, and the other copy with all remaining unmarked copies will be returned to the contractor for resubmittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 33 00

SECTION 01 41 00 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Permits and Responsibilities. The Contractor shall, without additional expense to the Owner, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State and municipal laws, codes and regulations, 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 until completion and acceptance of the Work, except for any completed unit of construction thereof which may heretofore have been accepted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 41 00

SECTION 01 41 26.01 – ADEM NPDES PERMIT FOR CONSTRUCTION ACTIVITIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. ADEM NPDES permitting and compliance including the following:
 - a. Filing for Notice of Intent (NOI).
 - b. Inspection.
 - c. Monitoring.
 - d. Reporting.
 - e. Filing for Notice of Termination (NOT).

1.2 APPLICABILITY

- A. The requirements of this section apply to any construction activity that disturbs at least one acre.

1.3 REFERENCES

- 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.

1. ENVIRONMENTAL PROTECTION AGENCY (EPA) :

- a. EPA Publications 832-R-92005 (SEP 1992) Storm Water Management for Construction Activities - Developing Pollution Plans and Best Management Practices.

2. ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM):

- a. ADEM Administrative Code 335-6-12 - NPDES Construction, Noncoal/Nonmetallic Mining And Dry Processing Less Than Five Acres, Other Land Disturbing Activities, And Areas Associated With These Activities.
- b. Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, latest edition.
- c. ADEM NPDES General Permit No. ALR100000.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.

- B. Two copies of the NOI, the CBMPP, logs, inspection reports, monitoring results, the NOT and all other documents and correspondence submitted to or received from the regulating agencies shall be submitted to the Owner and Engineer.
- C. At the termination of the project the Contractor shall furnish to the Owner one copy of all records of inspections and monitoring information along with materials listed above in a bound volume or volumes filed by date for records retention.
- D. Submit names and qualifications of Contractor personnel assigned to inspect implementation and effectiveness of the erosion control plan. Submit phone numbers of Contractor personnel that can be contacted 24 hours per day in the event of an emergency.
 - 1. Qualified Credentialed Inspector (QCI).
 - 2. Qualified Credentialed Professional (QCP).

1.5 GENERAL REQUIREMENTS

- A. The Contractor is responsible for meeting the requirements of ADEM Administrative Code 335-6-12 and General NPDES Permit No. ALR100000. These requirements include, but are not limited to, the following:
 - 1. Notice of Intent (NOI) including any updates as required by changes in the scope of work.
 - 2. Duty to mitigate adverse impacts.
 - 3. Discharges cannot violate water quality standards.
 - 4. Construction Best Management Practices Plan (CBMPP) maintained on-site by a qualified credentialed professional (QCP).
 - 5. Effective erosion and sediment control measures implemented.
 - 6. Regular comprehensive inspections of site and affected water bodies by QCP or qualified credentialed inspector (QCI).
 - 7. Copies of inspection reports maintained.
 - 8. Detailed logs maintained.
 - 9. Spill prevention, control, and countermeasure implemented.
 - 10. Cannot discharge other pollutants or wastes.
 - 11. Right of entry. The site will be inspected by ADEM personnel.
 - 12. Information provided to ADEM upon request.
 - 13. Posting of proper registration signage at the site.
 - 14. Installation of a rain gauge at the site.
 - 15. Proper record keeping as required by the NPDES permit.
 - 16. Notice of Termination (NOT).

1.6 LIABILITY

- A. The Contractor shall ensure that any agent, subcontractor or other person employed by, under contract, or paid a salary by the Contractor complies with the NPDES permit. Any violations resulting from the actions of such person shall be considered violations of this permit and may subject the Contractor to enforcement action.

PART 2 - PRODUCTS

2.1 FORMS AND INSTRUCTIONS

- A. The Contractor shall obtain at his expense all forms, instructions, rules, and reference publications required for the NOI, NOT, inspection, monitoring, etc. Forms and instructions can be obtained from the following:
1. Alabama Department of Environmental Management
Water Division
PO Box 301463 (36130-1463)
1400 Coliseum Boulevard
Montgomery, AL 36110-2059
 2. <http://adem.alabama.gov/programs/water/constructionstormwater.cnt>

2.2 NOTICE OF INTENT (NOI)

- A. The NOI shall include the following per the general permit:
1. A general description of the construction activity for which coverage is desired, which shall be in sufficient detail to allow ADEM to determine that the stormwater and non-stormwater discharges are included in the category of the general permit.
 2. The latitude and longitude to the nearest second of the entrance to the construction site and each point of discharge for which coverage under the general permit is desired. For the purposes of this requirement, the entrance to the construction site will be identified as the primary point of access by normal vehicle traffic.
 3. Identification of the waterbodies receiving discharges for which coverage under the general permit is desired.
 4. The correct fee pursuant to ADEM Admin. Code R. 335-1.
 5. A portion or copy of a U.S. Geological Survey map showing the site location.
 6. A contact person, address, and phone number for the site to be covered under the general permit.
 7. For priority construction sites, the NOI must be accompanied by a copy of the CBMPP prepared and certified as required by Part III.D of the general permit.
 8. The NOI shall be signed by a person meeting the requirements for signatories under ADEM Admin. Code R. 335-6-6.09, and the person signing the NOI shall make the certification required for submission of documents under ADEM Admin. Code R. 335-6-6.09.
- B. The NOI shall be signed by a QCP and shall have the following certification statement: *“I certify under penalty of law that a comprehensive Construction Best Management Practices Plan (CBMPP) for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this site/activity, and associated regulated areas/activities. The CBMPP meets the requirements of this permit and if properly implemented and maintained by the operator, discharges of pollutants in stormwater runoff can reasonably be expected to be effectively minimized to the maximum extent practicable according to the requirements of ADEM Administrative Code Chapter 335-6-6-.23 and this Permit. The CBMPP describes the erosion and sediment control measures that must be fully implemented and regularly maintained as needed at the permitted*

site in accordance with sound sediment and erosion control practices to ensure the protection of water quality.”

2.3 NOTICE OF TERMINATION (NOT)

- A. The NOT shall include the following per the general permit:
1. The Permittee name, permit number, and location of the site; and
 2. Certification by the Permittee and the QCP that all construction activity covered by this permit has been completed and final stabilization has been achieved; or
 3. Identification, including complete contact information, of the person that has assumed legal or operational control over the construction site.

2.4 QUALIFIED CREDENTIALLED PROFESSIONAL (QCP)

- A. As defined by ADEM Admin. Code 335-6-12.02.

2.5 QUALIFIED CREDENTIALLED INSPECTOR (QCI)

- A. As defined by ADEM Admin. Code 335-6-12.02.

PART 3 - EXECUTION

3.1 NOTICE OF INTENT (NOI)

- A. Submit NOI to and receive approval from ADEM prior to initiation of construction activity.
- B. The NOI and all other documents required to be submitted to ADEM by the general permit shall be done so on the Alabama Environmental Permitting and Compliance System (AEPACS). This electronic system allows operators to apply for permits as well as submit other required applications, registrations, and certifications. In addition, the system allows operators to submit required compliance reports or other information to ADEM.
- C. <https://aepacs.adem.alabama.gov/nviro/ncore/external/home>

3.2 NOTICE OF TERMINATION (NOT)

- A. The Permittee must submit a NOT to ADEM within 30 days of one of the following conditions:
1. Final stabilization has been achieved on all portions of the site;
 2. Another operator has assumed control over all areas of the site that have not achieved final stabilization and the new operator has submitted an NOI for coverage under this permit; or
 3. Coverage under an individual permit or alternative general permit has been obtained.
- B. Submit the NOT to ADEM using the AEPACS website.

3.3 GENERAL

- A. Conduct the work in this section in accordance with ADEM Administrative Code 335-6-12 and General NPDES Permit No. ALR100000.

END OF SECTION 01 41 26.01

SECTION 01 42 13 - ABBREVIATIONS

PART 1 - GENERAL

1.1 GENERAL

- A. Wherever in these Specifications and Contracts Documents the abbreviations or pronouns in place of them are used, the intent and meaning shall be interpreted as specified herein.

1.2 ABBREVIATIONS

- A. Abbreviations include the following:

1.	AA	Aluminum Association
2.	AAMA	Architectural Aluminum Manufacturer's Association
3.	AASHTO	American Association of State Highway and Transportation Officials
4.	ACI	American Concrete Institute
5.	ACPA	American Concrete Pipe Association
6.	ADEM	Alabama Department of Environmental Management
7.	AFBMA	Anti-Friction Bearing Manufacturers Association
8.	AGA	American Gas Association
9.	AGMA	American Gear Manufacturers Association
10.	AISC	American Institute of Steel Construction
11.	AISI	American Iron and Steel Institute
12.	ANSI	American National Standards Institute
13.	APHA	American Public Health Association
14.	API	American Petroleum Institute
15.	APWA	American Public Works Association
16.	AREA	American Railroad Engineering Association
17.	ASA	American Standards Association
18.	ASCE	American Society of Civil Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASTM	American Society for Testing and Materials
21.	AWS	American Welding Society
22.	AWWA	American Water Works Association
23.	CFR	Code of Federal Regulations
24.	CRSI	Concrete Reinforcing Steel Institute
25.	EDA	Economic Development Administration
26.	EPA	Environmental Protection Agency
27.	FDEP	Florida Department of Environmental Protection
28.	FS	Federal Specifications
29.	GEPD	Georgia Environmental Protection Division
30.	IEEE	Institute of Electrical and Electronics Engineers
31.	IESNA	Illuminating Engineering Society of North America
32.	ISA	Instrument Society of America
33.	MSS	Manufacturers Standardization Society of the Valve and Fitting Industry
34.	NACE	National Association of Corrosion Engineers
35.	NBFU	National Board of Fire Underwriters

36.	NBS	National Bureau of Standards
37.	NCPI	National Clay Pipe Institute
38.	NEC	National Electric Code
39.	NEMA	National Electrical Manufacturers Association
40.	NFPA	National Fire Protection Association
41.	NRCS	National Resources Conservation Service
42.	NRMA	National Ready-Mix Association
43.	NSF	National Sanitation Foundation
44.	OSHA	Occupational Safety and Health Administration
45.	PCA	Portland Cement Association
46.	PCI	Prestressed Concrete Institute
47.	SBC	Southern Building Code
48.	SSPC	Steel Structures Painting Council
49.	UBC	Uniform Building Code
50.	UL	Underwriters Laboratories
51.	USACE	United States Army Corps of Engineers
52.	USDA	Rural Development
53.	USDC	United States Department of Commerce
54.	WEF	Water Environment Federation

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 42 13

SECTION 01 42 19 - APPLICABLE CODES AND STANDARDS

PART 1 - GENERAL

1.1 GENERAL

- A. All materials, equipment, fabrication, and installation practices shall comply with the following applicable codes and standards, except in those cases where the Contractor's quality standards establish more stringent quality requirements, as determined by the Engineer.
1. Piping:
 - a. ANSI (American National Standards Institute)
 - b. API (American Petroleum Institute)
 - c. ASME (American Society of Mechanical Engineers)
 - d. AWWA (American Water Works Association)
 - e. NSF (National Sanitation Foundation)
 2. Materials:
 - a. AASHTO (American Association of State Highway and Transportation Officials)
 - b. ANSI (American National Standards Institute)
 - c. ASTM (American Society for Testing and Materials)
 3. Painting and Surface Preparation:
 - a. NACE (National Association of Corrosion Engineers)
 - b. SSPC (Steel Structures Painting Council)
 4. Aluminum:
 - a. AA (Aluminum Association)
 - b. AAMA (Architectural Aluminum Manufacturers Association)
 5. Steel:
 - a. AISC (American Institute of Steel Construction)
 6. Concrete:
 - a. ACI (American Concrete Institute)
 7. Welding:
 - a. ASME (American Society of Mechanical Engineers)
 - b. AWS (American Welding Society)
 8. Safety:
 - a. OSHA (Occupational Safety and Health Act)
 9. Plumbing:
 - a. AGA (American Gas Association)
 - b. NSF (National Sanitation Foundation)
 - c. PDI (Plumbing Drainage Institute)
 - d. SPC (SBCC Standard Plumbing Code)
 10. Electrical:
 - a. ANSI (American National Standards Institute)
 - b. IEC (International Electrotechnical Commission)
 - c. IEEE (Institute of Electrical and Electronics Engineers)
 - d. IESNA (Illuminating Engineering Society of North America)
 - e. NEMA (National Electrical Manufacturer's Association)
 - f. NFPA (National Fire Protection Association)

- B. In addition, all work shall comply with the applicable requirements of local codes, utilities, and other authorities having jurisdiction.
- C. All material and equipment, for which a UL Standard, an AGA approval, or an ASME requirement is established, shall be so approved and labeled or stamped. Label or stamp shall be conspicuous and not covered, painted, or otherwise obscured from visual inspection.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 42 19

SECTION 01 57 13.01 - TEMPORARY EROSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. The work consists of implementing erosion control measures to prevent soil erosion, prevent sediment from leaving the site, and prevent sediment from entering streams or water bodies until permanent stabilization is established.

1.2 RELATED SECTIONS

- A. Section 32 92 20 – Grassing.

1.3 QUALITY ASSURANCE

- A. Materials and construction methods for all erosion control measures shall be in strict conformance with the following:
 1. Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas, latest edition (Alabama Handbook).
 2. ADEM General NPDES Permit No. ALR100000 (NPDES Permit).
 3. ALDOT Standard Specifications for Highway Construction, latest edition, for work on ALDOT right-of-way.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
- B. Product Data: For each product to be installed.

PART 2 - PRODUCTS

2.1 EROSION CONTROL MEASURES

- A. Sediment control measures, erosion control measures, and other site management practices must meet or exceed the technical standards outlined in the Alabama Handbook. Where notes or details are provided in the Drawings that are more stringent than the Alabama Handbook, the most stringent requirements govern.
- B. Unless specified otherwise by the Alabama Handbook, sediment control measures, erosion control measures, and other site management practices shall be designed and maintained to minimize erosion and maximize sediment removal resulting from a 2-year, 24-hour storm event.

PART 3 - EXECUTION

3.1 GENERAL

- A. Erosion control measures shall be installed, inspected, and maintained per the Alabama Handbook and the NPDES Permit.
- B. Maintain erosion control measures until all upstream disturbed areas have been permanently stabilized.
- C. The Contractor shall install and maintain effective erosion and sediment controls appropriate for site conditions to, at a minimum:
 - 1. Control stormwater volume and velocity to minimize soil erosion.
 - 2. Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets, and to minimize downstream channel and streambank erosion.
 - 3. Minimize the amount of soil exposed during construction activity through the use of project phasing or other appropriate techniques.
 - 4. Minimize the disturbance of steep slopes, unless infeasible.
 - 5. Minimize sediment discharges from the site.
 - 6. Minimize the generation of dust.
 - 7. Minimize all stream crossings.
 - 8. Stabilize all construction entrances and exits and minimize off-site tracking of sediment from vehicles.
 - 9. Where applicable, install storm drain inlet protection measures to further prevent sediment discharges.
 - 10. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.
 - 11. Minimize soil compaction and, unless infeasible, preserve topsoil.
 - 12. Implement measures or requirements to achieve the pollutant reductions consistent with a TMDL finalized or approved by EPA. Applicable TMDLs are located and/or can be accessed at <http://adem.alabama.gov/programs/water/approvedTMDLs.htm>.

3.2 FIELD QUALITY CONTROL

- A. Maintain temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition.
- B. Perform routine inspections and maintenance as required by the Alabama Handbook.

3.3 CLEANUP AND REMOVAL

- A. When all upstream disturbed areas have been permanently stabilized, all temporary erosion control measures and their accumulated sediment shall be removed. Any areas disturbed as a result of the removal process shall be permanently stabilized.

END OF SECTION 01 57 13.01

SECTION 01 57 26 - DUST CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall limit blowing dust caused by construction operations by applying water or employing other appropriate means or methods to maintain dust control, subject to the approval of the Owner.

1.2 PROTECTION OF EXISTING FACILITIES AND ADJACENT PROPERTY

- A. The Contractor shall visit the various sites and note the buildings, landscaping, roads, parking areas and other facilities near the work area that may be damaged by their operations in advance of mobilizing. The Contractor shall make adequate provision to fully protect the surrounding area and will be held fully responsible for all complaints and damages resulting from his operations.
- B. Protect all existing facilities (indoors or out) from damage by dust, fumes, spray or spills (indoors or out).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 57 26

SECTION 01 61 00 - GENERAL MATERIALS STIPULATIONS

PART 1 - GENERAL

1.1 SCOPE

- A. These General Materials Stipulations apply, in general, to all equipment and piping. They supplement the detailed specifications, but in case of conflict, the detailed specifications shall govern.

1.2 COORDINATION

- A. The Contractor shall assume full responsibility for the coordination of the installation of all materials and products furnished under these Contract Documents. The Contractor shall be completely responsible for verification that all structures, piping and components furnished by him and/or his Subcontractors and Suppliers are compatible. The Contractor shall start up each system and shall make all necessary adjustments to place each system in proper operating condition.

1.3 PATENT ROYALTIES

- A. All royalties and fees for patents covering materials, articles, apparatus, devices, or equipment shall be included in prices bid by the Contractor. Attention is directed to the requirements of the "General Conditions" concerning patents.

1.4 GUARANTEE

- A. The Contractor shall guarantee all material against faulty or inadequate design, improper assembly or erection, defective materials, defective workmanship breakage or other failure. The guarantee period shall be defined in The General Conditions, Article 15 and Section 01 79 00, Warranties and Bonds of these specifications.

1.5 WORKMANSHIP AND MATERIALS

- A. All material shall be designed, fabricated, and assembled in accordance with the best modern engineering and shop practice. Individual parts shall be manufactured to standard sizes and gages so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable. Material shall be new and shall not have been in service at any time prior to delivery, except as required by tests.
- B. Materials shall be suitable for service conditions. Iron castings shall be tough, close grained, gray iron free from blowholes, flaws, or excessive shrinkage and shall conform to ASTM A 48, Class 30 minimum. Plugging of defective castings shall not be permitted. Castings shall be

annealed to remove internal stresses prior to machining and shall have the mark number and heat number cast on them.

- C. Except where otherwise specified, structural and miscellaneous fabricated steel shall conform to the Standards of the American Institute of Steel Construction.

1.6 SHOP PRIMING AND PAINTING

- A. All iron and carbon steel surfaces of shop fabricated equipment and all ferrous and nonferrous surfaces specified to be shop primed or painted shall be painted in the shop with one or more coats of primer.
- B. All surfaces to be primed in the shop shall have all rust, mill scale, grease, oils, mud, dirt, welding flux, slag, weld spatter, and other foreign material removed after fabrication and prior to application of primer. Welds shall be scraped, chipped, and brushed as necessary to remove all embedded slag or weld spatter. Sharp edges of cut or sheared edges shall be dulled by at least one pass of a power grinder to improve paint adherence. Surface preparation prior to shop priming shall conform to that specified in the detailed equipment specifications. Where surface preparation prior to shop priming is not otherwise specified, iron and carbon steel surfaces that will not be placed in immersion service shall be given a commercial blast cleaning in accordance with Steel Structures Painting Council Specification SP-6. Iron and carbon steel surfaces that will be placed in immersion service shall be blasted in accordance with SSPC-SP 10 Near White Blast Cleaning. Galvanized, aluminum and stainless steel surfaces shall be abrasive blasted in accordance with SSPC-SP 7 Brush Off Blast Cleaning producing a minimum anchor profile of 1.0 mil. Copper surfaces shall be cleaned with a mild solution of phosphoric acid and buffed or polished to a bright finish. Cleaned surfaces shall be primed immediately after cleaning. Sand-blasting shall not be permitted on electrical or mechanical equipment after assembly. Sandblasting shall achieve an anchor pattern or blast profile of between 30 and 40 percent of the dry film thickness of the first applied coat of primer.
- C. Primers shall be applied with suitable brushes, rollers, or spray equipment at a rate of application not to exceed the manufacturer's recommended rate for the surface being painted. Primer shall not be applied in areas where there is an excessive amount of dust present in the air. Primer shall be mixed, stored, and applied in strict adherence to the manufacturer's recommendations. Primed surfaces shall be smooth and free of brush marks, streaks, laps, runs, or skipped or missed areas. Special care shall be taken to ensure that all cracks, corners, and crevices are filled with primer. Shop primed materials shall not be handled or assembled until the shop coating is dry and hard.
- D. Where shop primers are not otherwise specified, iron and carbon steel surfaces shall be coated with one coat of NSF approved, organic zinc rich urethane primer equal to Tnemec Series 91 H2O Hydro-Zinc applied to achieve a minimum dry film thickness of 2.5 mils. Galvanized, stainless steel and aluminum surfaces shall be coated with one coat of polyamide epoxy primer equal to Tnemec Series 20 Pota-Pox applied at a rate to achieve 2.0 mils minimum.
- E. Unless otherwise specified, miscellaneous iron castings shall be given a commercial blast cleaning and coated in the shop with one coat of Polyamidoamine epoxy applied to a minimum dry film thickness of 6.0 mils. Polyamidoamine epoxy shall equal Tnemec Series N140-1211 Pota-Pox Plus.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 61 00

SECTION 01 66 00 - STORAGE AND PROTECTION

PART 1 - GENERAL

1.1 GENERAL

- A. Material shall be received, inspected, unloaded, handled, stored, maintained, and protected by the Contractor in a suitable location on or off site, if necessary, until such time as installation is required.
- B. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept thoroughly dry at all times. All equipment shall be stored above ground level and adequately supported on wood blocking or other approved support material. Printed storage instructions of the manufacturer shall be strictly adhered to.
- C. Painted, anodized, or otherwise coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. All coated surfaces which are damaged prior to acceptance of shall be cleaned and coated painted to the satisfaction of the Engineer with the same or equivalent coating used in the original application.

1.2 STORAGE

- A. The Contractor shall be responsible for providing satisfactory storage facilities which are acceptable to the Engineer. In the event that satisfactory facilities cannot be provided on site, satisfactory warehouse, acceptable to the Engineer, will be provided by the Contractor for such time until the equipment, materials, and products can be accommodated at the site.
- B. Equipment, materials and products which are stored in a satisfactory warehouse acceptable to the Engineer will be eligible for progress payments as though they had been delivered to the job site.
- C. The Contractor shall be responsible for the maintenance and protection of all equipment, materials, and products placed in storage and shall bear all costs of storage, preparation for transportation, rehandling, and preparation for installation.
- D. Equipment and products stored outdoors shall be supported above the ground on suitable wooden blocks or braces arranged to prevent excessive deflection or bending between supports. Items such as pipe, structural steel, and sheet construction products shall be stored with one end elevated to facilitate drainage.
- E. Tarps and other coverings shall be supported above the stored equipment or materials on wooden strips to provide ventilation under the cover and minimize condensation. Tarps and covers shall be arranged to prevent ponding of water.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 66 00

SECTION 01 66 01 - TRANSPORTATION AND HANDLING

PART 1 - GENERAL

1.1 GENERAL

- A. The Contractor shall provide transportation of all equipment, materials, and products furnished under these Contract Documents to the site of the work. In addition, the Contractor shall provide preparation for shipment and storage, unloading, handling and rehandling, short-term storage, extended storage, storage facilities, maintenance and protection during storage, preparation for installation, and all other work and incidental items necessary or convenient to the Contractor for the satisfactory prosecution and completion of the work.

1.2 TRANSPORTATION

- A. All material shall be suitably boxed, crated, or otherwise protected during transportation.
- B. The Contractor shall be responsible for ensuring that the equipment is assembled and transported in such a manner so as to clear buildings, power lines, bridges, and similar structures encountered during shipment or delivery to the site of the work.

1.3 HANDLING

- A. All equipment, materials, and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation. All equipment, materials, and products damaged during transportation or handling shall be repaired or replaced by the Contractor at no additional cost to the Owner prior to being incorporated into the work.
- B. Under no circumstances shall equipment or products such as pipe, structural steel, casting, reinforcement, etc., be thrown or rolled off of trucks onto the ground.
- C. Items such as nonmetallic pipe shall be handled using nonmetallic slings or straps.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 66 01

SECTION 01 74 23 - CLEANUP

PART 1 - GENERAL

1.1 GENERAL

- A. This section covers the general cleanup which the Contractor shall be required to perform both during construction and before final acceptance of the project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.2 HAZARD CONTROL

- A. The Contractor shall prevent accumulation of wastes which create hazardous conditions.
- B. Burning or burying rubbish and waste materials on the site shall not be allowed.

1.3 DISPOSAL OF SURPLUS MATERIALS

- A. Unless otherwise shown on the Drawings, specified or directed, the Contractor shall dispose of all surplus excavated materials and equipment from demolition, legally off the site, and shall provide his own suitable, off-site spoil area, unless an on-site area is designated by the Owner.

1.4 DURING CONSTRUCTION

- A. As the work progresses and whenever so directed by the Engineer, the Contractor is to remove all surplus material and completely restore to good condition, all surface, disturbed, destroyed or removed by the Contractor, or his agent, or on account of construction. When the Contractor fails to promptly restore the streets or other property, the Engineer, after having given three (3) days notice to the Contractor shall have the work shut down until the streets and other property have been restored. Loss of time due to such shut-down will not entitle the Contractor to any extension of time or extra compensation.
- B. Execute periodic cleanup to keep the work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- C. Provide on-site containers for the collection of waste materials, debris and rubbish.
- D. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

1.5 FINAL CLEANING

- A. Before final site review is made, all surfaces disturbed on account of this construction shall be leveled up and all surplus materials and rubbish incident to the construction must be removed and disposed of and streets, gutters, sidewalks, crossings, railroads, grass plots and other property affected by the Construction shall be left in good and acceptable condition.
- B. Restoration of Landscape Damage. Any landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Engineer will decide what method of restoration shall be used.
- C. Post-Construction Cleanup or Obliteration. The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, stockpiles of excess or waste materials, or any other vestiges of construction, as directed by the Engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 74 23

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Maintain at the site for the Owner one record of:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Engineer Field Orders or written instructions.
 - 6. Approved Shop Drawings, Product Data and Samples.
 - 7. Field Test Records.

1.2 RELATED WORK ELSEWHERE

- A. Section 01 33 00: Submittals

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
 - 1. Provide files and racks for storage of documents.
 - 2. Provide locked cabinet or secure storage space storage samples.
- B. File documents and samples in accordance with Data Filing Format of the Uniform Construction Index.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by Engineer.

1.4 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- C. "As Built" Drawings: Legibly mark to record actual construction:
 - 1. Depths of various elements in relation to finish grade.
 - 2. Horizontal and vertical locations of new underground utilities tie-ins and appurtenances, referenced to at least two (2) permanent surface movements.

3. Location of all new and existing services.
4. Field changes of dimension and detail.
5. Changes made by Field Order or by Change Order.
6. Details not on original contract drawings.

D. Specifications and Addenda: Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by Field Order or by Change Order.

1.5 SUBMITTALS

- A. At Contract closeout, deliver Record Documents to Engineer for the Owner.
- B. Accompany submittal with transmittal letter in duplicate, containing:
 1. Date
 2. Project title and number
 3. Contractor's name and address
 4. Title and number of each Record Document
 5. Signature of Contractor or his authorized representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 78 39

SECTION 01 79 00 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 PROJECT MAINTENANCE AND WARRANTY

- A. Maintain and keep in good repair the improvements covered by these drawings and specifications during the life of the Contract.
- B. Indemnify the Owner against any repairs which may become necessary to any part of the work performed and to items of equipment and systems procured for or furnished under this Contract, arising from defective workmanship or materials used therein, for a period of one (1) year after acceptance from the final date of final resolution of the Owner accepting work.
- C. The Contractor shall provide an additional one year warranty against trench settlement bringing the total warranty period for this item to two (2) years from the date of project acceptance. Any pipeline trench settlement occurring within two (2) years of the date of project acceptance shall be repaired by the contractor in a manner acceptable to the Owner and Engineer at the Contractor's expense.
- D. The Contractor shall not be obligated to make replacements which become necessary because of ordinary wear and tear, or as a result of improper operation or maintenance, or as a result of improper work or damage by another Contractor or the Owner, or to perform any work which is normally performed by a maintenance crew during operation.
- E. In the event of failure due to faulty materials, equipment or installation prior to the expiration of the one-year warranty described above, the affected unit shall be disassembled, inspected, and modified or replaced as necessary to prevent further occurrences. All related components which may have been damaged or rendered non-serviceable as a consequence of the failure shall be replaced. A new 12 month warranty against defective or deficient materials, equipment and installation shall commence on the day that the item is reassembled and placed back into operation. The new 12-month warranty shall also include but not be limited to all items disassembled or removed to facilitate repairs. Failures may include, but are not limited to, cracked or broken housings, piping, or vessels, excessive deflections, bent or broken shafts, broken or chipped gear teeth, premature bearing failure, excessive wear, vibration or excessive leakage around seals. Failures which are directly and clearly traceable to operator abuse, such as operations in conflict with published operating procedures, or improper maintenance, such as substitution of unauthorized replacement parts, use of incorrect lubricants or chemicals, flagrant over or under-lubrication, and using maintenance procedures not conforming with published maintenance instructions, shall be exempted from the scope of the one-year warranty.

Should multiple failures occur during a warranty period, all products of the same size and type shall be disassembled, inspected, modified or replaced, as necessary and rewarranted for one year. As used herein, multiple failures shall be interpreted to mean two (2) or more failures of the same kind in the same item or failures of the same kind in two (2) or more items of the same type.

The Contractor shall be responsible for any expenses incurred by the Owner arising out of any repairs made during the warranty period(s). Expenses may include but are not limited to water purchases, equipment rentals and loss of income.

- F. The Contractor shall, at his own expense, furnish all labor, materials, tools and equipment required and shall make such repairs and removals or shall perform such work or reconstruction as may be made necessary by any structural or functional defect or failure resulting from neglect, faulty workmanship or faulty materials, in any part of the Work performed by him. Such repair shall also include refilling of trenches, excavations or embankments which show settlement or erosion after backfilling or placement.
- G. Except as noted on the Drawings or as specified, all structures such as embankments and fences shall be returned to their original condition prior to the completion of the Contract. Any and all damage to any facility not designated for removal, resulting from the Contractor's operations, shall be promptly repaired by the Contractor at no cost to the Owner.
- H. The Contractor shall be responsible for all road and entrance reconstruction and repairs and maintenance of same for a period of one year from the date of such reconstruction. In the event the repairs and maintenance are not made immediately and it becomes necessary for the Owner of the road to make such repairs, the Contractor shall reimburse the Owner of the road for the cost of such repairs.
- I. In the event the Contractor fails to proceed to remedy the defects of which he has been notified within 15 days of the date of such notice, the Owner reserves the right to cause the required materials to be procured and the work to be done, as described in the drawings and specifications, and to hold the Contractor and the sureties on his bond liable for the cost and expense thereof.
- J. Notice to Contractor for repairs and reconstruction will be made in the form of a registered letter addressed to the Contractor at his home office.
- K. Neither the foregoing paragraphs nor any provision in the Contract Documents, nor any special guarantee time limit implies any limitation of the Contractor's liability with the law of the place of construction.
- L. The Contractor shall provide the Owner copies of all manufacturers warranties for materials, equipment, parts and components installed under this contract. The copies shall list the model number, part number, serial number of the covered items as well as the item's installation location. Copies of material warranties shall also include the name and address of the manufacturer of each warranty item. Copies of warranties shall be bound in loose leaf form with a cover sheet and table of contents indicating item description and page number.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 79 00

SECTION 03 30 00.03 – ABANDONMENT OF UTILITY LINES BY PUMPING WITH LOW STRENGTH CEMENT MORTAR (FLOWABLE FILL)

PART 1 - GENERAL

1.1 SUMMARY

- A. The scope of work required by this project shall consist of furnishing all labor, materials, equipment, tools, and supervision and performing all work necessary to abandon in-place utility lines by filling with low strength cement mortar (flowable fill).

PART 2 - PRODUCTS

2.1 CEMENT

- A. Cement shall conform to ASTM C150.

2.2 FINE AGREGATE

- A. Fine aggregate shall be sand conforming to ASTM C33 and shall be clean and free of deleterious materials.

2.3 FLY ASH

- A. Fly ash shall conform to ASTM C618, Class C or F.

2.4 MIXING WATER

- A. Mixing water shall be clean, fresh, and free from oils, acids, alkalis, organic materials or other impurities in amounts that would be harmful to concrete or reinforcement.

2.5 MIX DESIGN

- A. Mix design for flowable fill shall be proportioned based on field experience or laboratory trial batches to produce a low strength, pumpable cement mortar.
- B. The Contractor shall coordinate selection of mix design with the concrete pump contractor and Ready-Mix supplier and shall submit the mix design to the Engineer for review and approval. An example mix design follows:

FLOWABLE FILL MIX DESIGN			
CEMENT	FLY ASH	FINE AGG.	WATER
100#	600#	2,250#	462#

2.6 EQUIPMENT

- A. Pumping equipment shall be in good working order and shall be sized to convey (pump) the flowable fill the entire length of the utility line being abandoned in-place. The pump hose shall be of sufficient strength as necessary to be withdrawn from the utility line while it is being filled.

PART 3 - EXECUTION

- A. All water present at the terminal end of the utility line being abandoned shall be removed by any suitable means prior to the filling operation.
- B. The Contractor shall plug the terminal end of the utility line being abandoning in place. The plug shall be structurally sound and shall be braced as necessary to contain the flowable fill within the utility line.
- C. The pump hose shall be inserted into the utility pipe from the upstream end to the terminal point.
- D. Flowable fill shall be pumped into the utility pipe and the pump hose slowly withdrawn to insure complete filling of the pipe interior and to displace any water that may have been trapped in the pipe. All work shall be performed in the presence of the Engineer, or engineer's representative.
- E. The Contractor shall clean-up the site including any grout that may have spilled on the ground during the operation and shall backfill any excavations and restore grounds to their original condition.

PART 4 - MEASUREMENT AND PAYMENT

- A. Measurement and payment shall be as specified in Section 01 22 00 of these Specifications.
- B. Dewatering the abandoned utility pipe, plugging the end, any excavation and backfill associated with this operation, and clean-up and restoration of grounds shall be deemed incidental to the work being performed and shall not be considered for payment.

END OF SECTION 03 30 00.03

SECTION 31 00 01 - EARTHWORK

PART 1 - GENERAL

1.1 SCOPE

- A. This specification section applies to all excavation and earthwork to include both mainline and service construction and related operations including, but not limited to, clearing and grubbing the construction site, dewatering, excavating all classes of material encountered, pumping, draining and handling of water encountered in the excavations, handling, storage, transportation, and disposal of all excavated and unsuitable material, backfilling around pipe, backfilling all trenches and pits, compacting, all sheeting, shoring and bracing, preparation of subgrades, surfacing and grading, and any other similar, incidental, or appurtenant earthwork operation which may be necessary to properly complete the work.
- B. The Contractor shall provide all services, labor, materials, and equipment required for all earthwork and related operations necessary or convenient to the Contractor for furnishing a complete work as shown on the Drawings or specified in these Contract Documents.

1.2 GENERAL

- A. Earthwork operations shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards.
- B. All excavated and filled areas for structures, trenches, etc., shall be maintained by the Contractor in good condition at all times until final acceptance by the Owner. All damage caused by erosion or other construction operations shall be repaired by the Contractor using material of the same type as the damaged material.
- C. Earthwork within the rights-of-way of the State Department of Transportation and the City of Enterprise shall be done in accordance with requirements and provisions of the permits issued by those agencies for the construction within their respective rights-of-way. Such requirements and provisions, where applicable, shall take precedence and supersede the provisions of these Specifications.
- D. The Contractor shall control grading in a manner to prevent water from running into excavations. Obstruction of surface drainage shall be avoided and means shall be provided whereby storm water can be uninterrupted in existing gutters, other surface drains, or temporary drains. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and kept shaped so as to cause the least possible interference with public travel. Free access must be provided to all fire hydrants, meters, and private drives.
- E. No classification of excavated materials will be made. Excavation and trenching work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the contract work, regardless of the type, character, composition, or condition thereof.

- F. Tests of compaction and density shall be conducted by an independent testing laboratory approved by the Engineer. Costs of compaction tests performed by an independent testing laboratory shall be paid for directly by the Contractor. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests. The cost of all retests made necessary by the failure of materials to conform to the requirements of these Contract Documents shall be paid by the Contractor.
- G. All earthwork operations shall comply with the requirements of OSHA Construction Standards, Part 1926, Subpart P, Excavations, Trenching, and Shoring, and Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations, and shall be conducted in a manner acceptable to the Engineer.
- H. It is understood and agreed that the Contractor has made a thorough investigation of the surface and subsurface conditions of the project and any special construction problems which might arise as a result of nearby watercourses and flood plains, particularly in areas where construction activities may encounter water-bearing sands and gravels or limestone solution channels. The Contractor shall be responsible for providing all services, labor, equipment, and materials necessary or convenient to him for completing the work within the time specified in these Contract Documents.

PART 2 - PRODUCTS

2.1 INITIAL SITE PREPARATION

- A. Preparatory to beginning of construction operations, the Contractor shall remove from the site all vegetable growth, brush, stumps, roots, debris, and any other objectionable matter which, if left in place, would interfere with the proper performance or completion of the contemplated work, would impair its subsequent use, or would form obstructions therein.
- B. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, buildings, and other structures which are located in the construction area but not within designated clearing limits. The Contractor shall be responsible for the repair and/or replacement of any of the aforementioned items damaged by his operation or construction activities.
- C. The Contractor shall remove and dispose of all excess material resulting from clearing or site preparation operations. The Contractor shall dispose of such materials in a manner acceptable to the Engineer and at an approved location where such materials can be lawfully disposed.

2.2 DEWATERING

- A. The Contractor shall provide and maintain at all times during construction ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the work. Dewatering shall be accomplished by methods which will ensure a dry excavation and preservation of the final lines and grades of the bottoms of excavations. Methods of dewatering may include sump pumps, well points, deep wells, or other suitable methods which do not damage or weaken structures, foundations, or subgrades. Shallow excavations may be dewatered using open ditches provided such ditches are kept open and free-draining at all times. The actual dewatering methods used shall be acceptable to the Engineer.

- B. Unless specifically authorized by the Engineer, no concrete or mortar shall be placed in water nor shall water be allowed to rise over newly-placed concrete or mortar for at least 24 hours after placement. No concrete structure shall be exposed to unequal hydrostatic forces until the concrete has reached its specified 28-day strength. Water shall not be allowed to rise above bedding during pipelaying operations. The Contractor shall exercise care to prevent damage to pipelines or structures resulting from flotation, undermining, or scour. Dewatering operations shall commence when ground or surface water is first encountered and shall be continuous until such times as water can safely be allowed to rise in accordance with the provisions of this section.
- C. Standby pumping equipment shall be on the jobsite. A minimum of one standby unit shall be available for immediate installation should any pumping unit fail. The design and installation of well points or deep wells shall be suitable for the accomplishment of the work. Drawings or diagrams on proposed well point or deep well dewatering systems shall be submitted to the Engineer for review.
- D. The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property. Conveyance of the water shall be such as to not interfere with traffic flow or treatment facilities operation. The Contractor will be held responsible for the condition of any pipe or conduit which he may use for drainage purposes, and all such pipes or conduits shall be left clean and free of sediment.
- E. Storm water runoff shall be controlled per Section 01 57 13.01 - Temporary Erosion Control of this Manual.
- F. Water shall be disposed of in such a manner as not to be a menace to the public health and in accordance with applicable Environmental Protection Agency, Corps of Engineers, and the Alabama Department of Environmental Management.

2.3 SHEETING, SHORING, AND BRACING

- A. The sides of all excavations shall be sufficiently sheeted, shored, and braced as necessary to prevent slides, cave-ins, settlement or movement of the banks, to maintain the excavation clear of all obstructions, and to provide safe working conditions. Wood or steel sheeting of approved design and type shall be used in wet, saturated or flowing ground. All sheeting, shoring, and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and to maintain shape and position under all circumstances.
- B. The responsibility for correctly assessing the need for sheeting and analyzing the stresses induced shall be the total responsibility of the Contractor. Since the Engineer does not dictate or determine the Contractor's sequence or limits of excavation, the Engineer assumes no responsibility for sheeting and shoring. The Contractor must employ or otherwise provide for adequate professional structural and geotechnical engineering supervision to assess the need for sheeting and shoring and design same. Results of sheeting and shoring analysis and design shall be submitted to the Engineer on request.
- C. Excavations adjacent to existing or proposed buildings and structures, or in paved streets or alleys shall be sheeted, shored, and braced adequately to prevent undermining beneath or subsequent settlement of such structures or pavements. Underpinning of adjacent structures shall be done when

necessary to maintain structures in safe condition. Any damage to structures or pavements occurring through settlements, water or earth pressures, slides, caves, or other causes; due to failure or lack of sheeting or bracing, or due to improper bracing; or occurring through negligence or fault of the Contractor in any other manner shall be repaired by the Contractor at his own expense.

- D. Sheeting, shoring, or bracing materials shall not be left in place unless otherwise specified or shown on the Drawings or ordered by the Engineer in writing. Such materials shall be removed in such manner that no danger or damage will occur to new or existing structures or property, public or private, and so that cave-ins or slides will not take place. Trench sheeting shall be left in place until backfill has been brought to a level 12" above the top of the pipe. It shall then be cut off and the upper portion removed. Sheeting for structures shall be left in place until backfill has been brought to a level of 12" above the top of the bottom footing. It shall then be cut off and the upper portion removed. The right of the Engineer to order sheeting or bracing left in place shall not be construed as creating any obligations on his part to issue such orders, and his failure to exercise such right shall not relieve the Contractor from liability for any damages to person or property arising from or upon the work occasioned by negligence or otherwise growing out of the failure on the part of the Contractor to leave in place in the trench, sufficient sheeting and bracing to prevent any caving or moving of the ground adjacent to the bank of the trench.
- E. All holes and voids left in the work by the removal of sheeting, shoring, or bracing shall be filled and thoroughly compacted.

2.4 EXCAVATION

A. General:

1. Excavation shall include the removal of all material from an area necessary for the construction of a pipeline or structure. Excavations shall provide adequate working space and clearances for the work to be performed therein.
2. Where quicksand, soft clay, spongy, swampy or other materials unsuitable for subgrade or foundation purposes are encountered below the excavation limits, they shall be removed and disposed of to the level of suitable material. Areas so excavated shall be backfilled with compacted layers of approved material conforming to the requirements specified herein for backfill to the lines and grades shown on the Drawings.
3. Barriers shall be placed at each end of all excavations and at such places as may be necessary along excavations to warn all pedestrian and vehicular traffic of such excavations. Lights shall also be placed along excavations from sunset each day to sunrise of the next day until the excavations are backfilled. All excavations shall be barricaded in such a manner as to prevent persons from falling or walking into any excavation.

B. Borrow Excavation:

1. Wherever the backfill of excavated areas requires specified material not available at the site or material in excess of suitable material available from the authorized excavations, such materials shall be obtained from other sources. This may require the opening of borrow pits at points not immediately accessible from the work. In such cases the Contractor shall make suitable arrangements with the property owner and shall pay all costs incidental to the borrow material including royalties, if any, for the use of the material. Before a borrow pit

is opened, the quality and suitability of the material to be obtained therefrom shall be approved by the Engineer.

2. Borrow pits shall be cleared, grubbed, and finish graded in accordance with the requirements specified herein.

C. Trench Excavation:

1. Trench excavation shall consist of the removal of materials necessary for the construction of pipelines and all appurtenant facilities.
2. Excavation for pipelines shall be made in open cut unless shown otherwise on the Drawings. Trenches shall be cut true to the lines and grades shown on the Drawings or established by the Engineer on the ground. The banks of trenches shall be cut in vertical, parallel planes equidistant from the pipe centerline. From an elevation 12" above the top of the pipe to the bottom of the trench, the horizontal distance between vertical planes for different sizes of pipe shall not exceed those shown on the Drawings. When sheeting is used, the width of the trench shall be considered as the distance between the inside faces of the sheeting. The bottom of the trench shall be cut carefully to the required grade of the pipe except where bedding materials or cradles are shown, in which case the excavation shall extend to the bottom of the bedding or cradles as shown on the Drawings. Minimum pipe cover shall be as shown on the Drawings or specified in these Contract Documents.
3. The use of a motor-powered trenching machine will be permitted but full responsibility for the preservation, replacement, and/or repair of damage to any existing utility services and private property shall rest with the Contractor.
4. Bell holes for bell and spigot pipe and/or mechanical joint pipe shall be excavated at proper intervals so the barrel of the pipe will rest for its entire length upon the bottom of the trench. Bell holes shall be large enough to permit proper installation of all joints in the pipe. Bell holes shall not be excavated more than 10 joints ahead of pipe laying. No part of any bell or coupling shall be in contact with the trench bottom, trench walls, or granular embedment when the pipe is jointed.
5. Pipe trenches shall not be excavated more than 200' in advance of pipe laying and all work shall be performed to cause the least possible inconvenience to the public. Adequate temporary bridges or crossings shall be constructed and maintained where required to permit uninterrupted vehicular and pedestrian traffic.
6. In all cases where materials are deposited along open trenches they shall be placed so that no damage will result to the work and/or adjacent property in case of rain or other surface wash.

2.5 BACKFILLING

A. Materials: Materials for backfilling shall conform to the following requirements:

1. Select Earth Backfill - Fine, sound, loose earth containing optimum moisture content for compaction to 100% of maximum density, free from all wood, vegetable matter, debris, and other objectionable material, and having scattered clods, stones, or broken concrete less than 1½" in maximum dimension except that the maximum particle size shall be ¾" when used with PVC or other flexible thermoplastic pipe.
2. Common Earth Backfill - Sound, loose earth containing optimum moisture content for compaction to 100% of maximum density, free from all wood, vegetable matter, debris, and

other objectional material, and have scattered clods, stones, or broken concrete and pavement less than 2" in maximum dimension.

3. Select Backfill Borrow Material - Select backfill borrow material shall be an approved sand or sand/clay free from all wood, vegetable matter, debris, or other objectionable material.
4. Sand - Natural or imported sand conforming to ASTM D 1073.
5. Crushed Stone - The material shall conform to the general requirements of Section 801 and the specific requirements of Section 825 Crushed Aggregate Base Type B of the Alabama Standard Specifications for Highway Construction, Latest Edition.

B. General:

1. Unless otherwise specified herein, earth backfill shall be compacted to not less than 95% of the maximum density at optimum water content as determined by AASHTO T-99, Method A. Crushed stone shall be compacted or consolidated to not less than 83% of the solid volume density as determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
2. Material that is too dry for adequate compaction shall receive a prior admix of sufficient water to secure optimum moisture content. Material having excessive water content shall not be placed at any time.
3. Unless otherwise specified herein backfill material required to be compacted shall be placed in horizontal layers not to exceed 6" in thickness (before compaction) and compacted in place by ramming, tamping, or rolling. Compaction shall be accomplished by power driven tools and machinery wherever possible. Compaction and consolidation of sand and crushed rock backfill shall be accomplished using vibrating equipment in a manner acceptable to the Engineer.

C. Backfilling Trenches:

1. The backfilling of pipeline trenches shall be started immediately after the construction of same has been inspected and approved by the Engineer. Compacted granular material shall be placed in the trench under and on each side of the pipe in 6" layers for the full width of the trench and thoroughly and uniformly compacted by ramming and/or tamping to a minimum of 95% of the maximum density determined as specified herein. Compacted granular material backfilling shall start above the class of pipe bedding as specified or shown on the Drawings. Sufficient select earth backfill shall be placed around the pipe and compacted to provide a cover of not less than 12" over the top of the pipe. Mechanical compactors or tampers shall not be used within 12" of pipe. Compaction in this area shall be accomplished by hand methods. Backfilling shall proceed simultaneously on both sides of the pipe to prevent lateral displacement. Caution shall be used during backfill operations for PVC or other flexible thermoplastic pipe to prevent pipe deformation. PVC or other flexible thermoplastic pipe shall not be subjected to roller or wheel loads until a minimum of 36" of backfill has been placed over the top of the pipe and hydrohammer shall NOT be used until a minimum depth of 48" backfill has been placed over the top of the pipe.
2. In streets, alleys, across sidewalks and driveways, and at any other places subject to vehicular traffic or other superimposed loads, common earth backfill shall be placed and compacted in 6" layers from the level of 12" above the top of the pipe upward for the full depth of the trench, except for the top 8" of backfill, which shall be compacted crushed stone base material. All backfill below the base layer shall be compacted to not less than 100% of the maximum density at optimum moisture content as determined by AASHTO T-99, Method A. Where specified or shown on the Drawings, compacted crushed rock shall be

substituted for common earth backfill for the entire depth of the trench. Crushed stone backfill shall be compacted to 83% of the solid volume density determined as specified above. When crushed rock backfill is required it shall be placed in lifts of 48" maximum and compacted by use of a hydrohammer or approved vibratory compactor.

3. All backfilling shall be done in such a manner that the pipe or structure over or against which it is being placed will not be disturbed or injured. Any pipe or structure injured, damaged, or moved from its proper line or grade during backfilling operations shall be removed and repaired to the satisfaction of the Engineer and then rebackfilled.

2.6 COMPACTION TESTS

- A. Compaction tests shall be run on the trench backfill along all streets and crossings. See Paragraph 3.2 Section 32 20 10. All tests shall be at locations and depths selected by the Engineer and/or the Engineer's field representative. Retests due to failures shall be the responsibility of the contractor.
- B. The Contractor shall furnish, two (2) copies of all test reports within 24 hours to the Engineer or Engineer's field representative onsite.

2.7 DISPOSAL OF WASTE AND UNSUITABLE MATERIALS

- A. All materials removed by excavation, which are suitable for the purpose, shall be used to the extent possible for backfilling pipe trenches or for such other purposes as may be shown on the Drawings. All materials not used for such purposes shall be considered as waste materials and the disposal thereof shall be made by the Contractor in a manner and at locations approved by the Engineer.
- B. Waste materials shall be spread in uniform layers and neatly leveled and shaped. Spoil banks shall be provided with sufficient and adequate openings to permit surface drainage of adjacent lands.
- C. Unsuitable materials, consisting of wood, vegetable matter, debris, soft or spongy clay, peat, and other objectionable material so designated by the Engineer shall be removed from the work site and disposed of by the Contractor in a manner and at a location approved by the Engineer.

2.8 FINAL GRADING

- A. After other earthwork operations have been completed, the sites shall be graded to reinstate the original condition. Grading operations shall be so conducted that materials shall not be removed or loosened beyond the required limits. The finished surfaces shall be left in smooth and uniform planes such as are normally obtainable from the use of hand tools. If the Contractor is able to obtain the required degree of evenness by means of mechanical equipment he will not be required to use hand labor methods. Slopes and ditches shall be neatly trimmed and finished to slopes shown on the Drawings unless otherwise approved by the Engineer.
- B. Unless otherwise specified or shown on the Drawings, all finished ground surfaces shall be graded and dressed to present a surface varying not more than plus or minus 0.10' as regards to local humps or depressions and shall be acceptable to the Engineer.

2.9 SETTLEMENT WARRANTY

- A. The Contractor shall be responsible for all settlement of backfill, fills, and embankments which may occur within two (2) years after final acceptance of the work by the Owner.
- B. The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after receipt of written notice from the Engineer or Owner.

2.10 MAINTENANCE OF TRENCHES

- A. Immediately after backfill and compaction of the excavated trenches, the Contractor shall dress the trenches flush with the existing pavement and begin maintenance of same. The Contractor shall provide backfill material for the trenches when settlement or washing of the trenches occur. At no time during the maintenance period shall the trenches show a settlement of 2" without additional backfill material being placed on the trenches. Maintenance is to be interpreted to mean daily or as needed to maintain in good condition in the opinion of the Engineer and Owner.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 31 00 01.

SECTION 32 20 10 - REPLACEMENT PAVING, DRIVEWAYS, AND SIDEWALKS

PART 1 - GENERAL

1.1 RELATED WORK ELSEWHERE

- A. Section 31 00 01 – Earthwork

1.2 SCOPE

- A. The work to be performed under this section shall consist of replacing existing sidewalks and pavement in paved streets and driveways where such sidewalks and pavement have been removed for constructing pipelines, and all other appurtenances and structures.

1.3 SUBMITTALS

- A. Submit product data on prime and tack, asphaltic concrete materials, paint materials and pavement markers.
- B. Submit mix designs on each type of asphaltic concrete.
- C. Submit in accordance with Section 01 33 00.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement: Conform to the requirements of Section 501 - Cement of the Alabama Standard Specifications for Highway Construction, Current Edition.
- B. Bituminous Prime and Tack: Conform to the requirements of Section 401 - Bituminous Surface Treatments of the Alabama Standard Specifications for Highway Construction, Current Edition.
- C. Asphaltic Concrete Materials: Conform to the requirements of Section 410 - Hot Mix Asphaltic Pavements of the Alabama Standard Specifications for Highway Construction, Current Edition.
- D. Traffic Line Stripe, Traffic Control Markings, and Pavement Markers: Conform to the requirements of Sections 701, 703, and 705 of the Alabama Standard Specifications for Highway Construction, Current Edition.

PART 3 - EXECUTION

3.1 TYPES OF PAVEMENTS

- A. All existing pavement in streets or driveways which is removed, destroyed, or damaged by construction shall be replaced with the same type of pavement (portland cement pavement, bituminous concrete pavement or gravel) as that which existed before construction work was started unless shown otherwise on the Drawings. Materials, equipment, and construction methods used for paving work shall conform to the State Department of Transportation specifications applicable to the particular type required for replacement, repair, or new pavements.
- B. Portland cement concrete pavement shall be replaced with concrete in accordance with paragraph 2.1.A of these Specifications. The surface finish of the concrete pavement replaced shall conform to that of the existing pavement. The surface of the replaced concrete base course shall be left rough. The slab shall be of depth equivalent to the existing concrete pavement or base course, but in no case less than 6 inches thick. Expansion joints removed shall be replaced. Concrete pavements or concrete base courses shall be reinforced and shall conform to details shown on the Drawings and applicable specification, Portland Cement Concrete Pavement, Section 501, Alabama Standard Specifications for Highway Construction.
- C. Bituminous concrete pavement shall be replaced with fine aggregate bituminous concrete conforming to Section 424, Superpave Bituminous Concrete Base Binder, and Wearing Surface Layers, Alabama Standard Specifications for Highway Construction. The pavement mixture shall not be spread until the designated surface has been previously cleaned and prepared, is intact, firm, properly cured, dry, and the tack coat has been applied. The mix shall be designed on the fine side of the restricted zone.
- D. Gravel Pavement: Where water lines and appurtenances are constructed in or across unpaved, chert, or crushed stone surfaced streets, roadways or driveways, or when a temporary crushed stone surface is called for in a paved street, the surface removed or damaged shall be repaired or replaced with a minimum of 8 inches of crushed stone in accordance with the plan details and the section of these specification titled "EARTHWORK".

3.2 REMOVAL AND REPLACEMENT OF ASPHALT PAVEMENT

- A. Where water lines and appurtenances are constructed in existing paved streets, the pavements shall be removed and replaced in accordance with the following procedure:
 - 1. The existing street pavement or surface shall be neatly and squarely cut and removed along the line of the work for the width required for the trench or structure.
 - 2. Immediately following water installation, trench backfill shall be compacted for the full depth of the trench as specified in the section of these specifications titled "EARTHWORK".
 - 3. Trench backfill along paved streets and driveways shall include crushed stone as a temporary surfacing of the trenches over and above the required final base thickness. This temporary surface shall be installed level with the existing asphalt surface and shall be maintained dust-free by the Contractor until compaction tests are performed and the replacement pavement is placed.

4. Unless approved otherwise, the asphalt surface shall be replaced within 30 days after backfill and crushed stone base is placed.
5. When the crushed stone surface is considered by the Engineer to be sufficient to be used as base, the surface shall be graded smooth and to the proper elevation. If adjacent undisturbed paving remains, the proper elevation is that which will make the final surfacing level with the adjacent surfacing that was undisturbed. Then compaction tests shall be performed. One (1) proctor density and one (1) field density test shall be performed at approximately 500 foot intervals at points selected by the Engineer. Minimum requirement for base compaction shall be 100% of the maximum density at the optimum moisture as determined by AASHTO T-180, Method A (Modified Proctor) for sand-clay, and for crushed stone shall be 83% of the solid volume density determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
6. A prime coat consisting of a single application of bituminous material shall be applied to the prepared base. No prime coat shall be applied until the preparation of the old surface has been approved by the Engineer. Before applying prime, the surface shall be swept clean and all loose and foreign matter removed. Method of material application for prime shall conform to the requirements as set forth in Section 401 of the Alabama Standard Specifications for Highway Construction.
7. Following application of prime, a surface course shall be applied. This item shall consist of a bituminous plant mix wearing surface applied in accordance with Section 410 of the Alabama Standard Specification for the Highway Construction. The plant mix surface shall be placed at the minimum rate shown on the drawings.
8. Wherever water lines are constructed across state highways, the Contractor shall comply with all additional requirements and provisions of the Standard Method of the State Department of Transportation for opening trenches through highways and replacing pavements as shown on the Drawings and specified herein. All such work shall be subject to inspection and approval by the State Department of Transportation.
9. Contractor shall remove all surplus excavation materials and debris and overspray of prime or tack from the street surfaces and rights-of-way and shall restore street, roadway, or sidewalk surfacing to its original condition. This work shall be done immediately following placement of asphalt and shall be considered as cleanup and no separate payment will be made for this item.

3.3 SIDEWALK AND DRIVEWAY REPLACEMENT

A. Construction:

1. All concrete sidewalks and driveways shall be built and/or replaced with concrete material as specified herein.
2. Asphalt driveways shall be replaced with asphalt material as specified herein.
3. Gravel and crushed stone driveways shall be replaced with a minimum of 6" of crushed stone which shall be shaped and compacted to the template of the remaining driveway.
4. Preformed joints for use in concrete sidewalks and driveways shall be ½-inch thick conforming to the latest edition of AASHTO Standard Specifications, M59, for preformed bituminous fiber joints.
5. Concrete forms shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength when in place to hold the concrete true to line and grade within springing or distortion.

- B. When a section of sidewalk and driveway is removed, the existing sidewalk or driveway shall be cut to a neat line perpendicular to both the centerline and the surface of the slab. Concrete shall be cut along the nearest existing contraction joints unless such joints do not exist in which case the cut shall be made at minimum distances shown on the Drawings.
- C. Existing sidewalks or driveways that have been cut and removed for construction purposes shall be replaced with sidewalks or driveways of the same width and surface as the portion removed. Concrete sidewalks shall have a minimum uniform thickness of 4 inches. Asphalt driveways shall have a minimum placement of 200 pounds per square yard. The new work shall be neatly jointed to the old so that the surface of the new work shall form an even unbroken plane with the old sidewalk.
- D. Subgrade:
 - 1. The subgrade for concrete sidewalks or driveways shall be formed by excavating to a depth equal to the thickness of the concrete plus 2 inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding, or unstable material shall be removed and backfilled with satisfactory material. Two (2) inches of porous crushed stone shall be placed under all sidewalks and shall be compacted thoroughly, and finished to a smooth unyielding surface at proper line, grade, and cross section.
 - 2. The subgrade for asphalt sidewalks or driveways shall be formed by excavating to a depth equal to the thickness of the asphalt plus 6 inches and to a width of the asphalt plus 12 inches.
- E. Base for sidewalks or driveways shall be 6 inches thick sand/clay and shall be 12 inches wider than the asphalt surface. Base shall be compacted to a minimum of 95% of the maximum laboratory density at optimum water content as determined by AASHTO T-99, Method A (Standard Proctor).
- F. A prime coat shall be sprayed uniformly over the compacted base at a rate of 0.15 gallons per square yard.
- G. A minimum of 200 pounds per square yard of asphalt shall be placed and compacted the entire width of the driveway. Asphalt shall be compacted to 95% of the maximum laboratory density.
- H. Expansion joints shall be required to replace any existing expansion joints that are removed with the sidewalk or driveway or in new construction every 30 feet. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within ½-inch of the top of finished concrete surface.
- I. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured.

3.4 TRAFFIC LINE STRIPE AND TRAFFIC CONTROL MARKINGS

- A. This item shall consist of preparing finished pavement for and applying reflectorized thermoplastic (Class 2, Type A) in accordance with the plans and these specifications. Construction methods and materials shall conform with Class 2, Type A Sections 701 and 703 of the Alabama State Highway Department Standard Specifications, Current Edition. The

Contractor may close sections of the street to traffic while applying and allowing paint to dry with written permission of the Engineer, and coordination with the Owner.

- B. Traffic materials shall be applied only to surfaces that have sufficiently cured to permit good adhesion of materials. Paving shall be cured a minimum of 14 days prior to striping or placement of markers.

NOTE: Unless indicated otherwise on the drawings, replacement Traffic Line Stripe and Traffic Control Markings shall be same as existing (Prior to construction).

3.5 MAINTENANCE

- A. The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the project. Maintenance shall include such dragging, reshaping, wetting, and rerolling as are necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and repair of damaged or unsatisfactory surfaces to the satisfaction of the Engineer. Maintenance shall also include sprinkling as may be necessary to abate dust.

END OF SECTION 32 20 10

SECTION 32 92 20.10 - GRASSING

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this Section consists of furnishing all labor, equipment, and material required to place topsoil, seed or sod, commercial fertilizer, agricultural limestone, herbicides, and mulch material, including seedbed preparation, harrowing, compacting, and other placement operations on graded earthen areas as described herein and/or shown on the Drawings. In general, seeding operations shall be conducted as directed on all newly graded earthen areas outside of landscaped areas not covered by structures, pavement, or sidewalks and all cleared or grubbed areas which are to remain as finish grade surfaces. Areas disturbed by borrow activities shall also be seeded according to these Specifications. Sodding shall be performed in existing landscaped areas indicated on the drawings or directed by the Engineer.
- B. At project closeout, if a satisfactory stand of permanent grass is not established, the Contractor shall provide a vegetation bond covering sustained growth of established or planted vegetation. The bond shall be of sufficient value to cover all costs associated with the replanting or reestablishment of the vegetation. The dollar amount of the bond shall be the costs for the labor, materials, and equipment required for the planting or establishment work. The dollar amount of the bond shall also include the costs of erosion and sediment control and traffic control if necessary for the performance of planting or establishment work. The period of time covered by the bond will not be required to be greater than 12 months unless shown otherwise on the plans.
- C. The work shall include temporary seeding operations to stabilize earthen surfaces during construction or inclement weather and minimize stream siltation and erosion. Temporary seeding shall be performed at the times and locations as directed by the Engineer.

1.2 QUALITY ASSURANCE

- A. Prior to seeding operations, the Contractor shall furnish to the Engineer labels or certified laboratory reports from an accredited commercial seed laboratory or a state seed laboratory showing the analysis and germination of the seed to be furnished. Acceptance of the seed test reports shall not relieve the Contractor of any responsibility or liability for furnishing seed meeting the requirements of this Section.
- B. Prior to sodding operations, the Contractor shall furnish to the Engineer evidence that the sod shall be procured from a state certified sod farm. The sod shall be certified as to the type specifically listed in the Bid Form.
- C. Prior to topsoil operations, the Contractor shall obtain representative samples and furnish soil test certificates including textural, pH, and organic content analyses from the State University Agricultural Extension Services or other certified testing laboratory.

1.3 ACCEPTANCE

- A. The Contractor shall, at his expense, maintain the grassed areas in a satisfactory condition until a growing stand of grass is achieved and until acceptance by the Owner. The Engineer, at any time, may require replanting of any areas in which the establishment of the grass stand does not appear to be developing satisfactorily. Periodic mowing required during the period prior to acceptance is the contractor's responsibility.
- B. When sodding, a satisfactory stand is defined as having at least 90% of the seedlings which are viable and growing 30-60 days following the sodding operation. Where seeding, a satisfactory stand is defined as having at least four (4) growing seedlings approximately 1½" long in each square foot of the planted areas.

PART 2 - PRODUCTS

2.1 TOPSOIL

- A. The Contractor shall carefully remove and stockpile existing topsoil prior to trench excavation or utilize borrow areas as required. The Contractor shall place a minimum of 2" of topsoil over all graded earthen areas and over any other areas to be seeded. Sources of topsoil shall be approved by the Engineer prior to disturbance. No additional compensation will be allowed for furnishing or spreading of topsoil.
- B. Topsoil shall be a friable loam containing a large amount of humus and shall be original surface soil of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, pebbles larger than ½" in diameter, lime, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips, or other undesirable material harmful or unnecessary to plant growth. Topsoil shall be reasonably free from perennial weeds and perennial weed seeds, and shall not contain objectionable plant material, toxic amounts of either acid or alkaline elements or vegetable debris undesirable or harmful to plant life.
- C. Topsoil shall be natural topsoil without admixture of subsoil material, and shall be classifiable as loam, silt loam, clay loam, sandy loam, or a combination thereof. The pH shall range from 5.5 to 7.0. Topsoil shall contain not less than 5% nor more than 20%, by weight, of organic matter as determined by loss on ignition of oven-dried samples to 65°C.

2.2 SEED

- A. Seed shall be delivered in new bags or bags that are sound and labeled in accordance with the U.S. Department of Agriculture Federal Seed Act.
- B. All seed shall be from the last crop available at time of purchase and shall not be moldy, wet, or otherwise damaged in transit or storage.
- C. Seed shall bear the growers analysis testing to 98% for purity and 90% for germination. At the discretion of the Engineer samples of seed may be taken for check against the growers analysis.

- D. The seeding of permanent grass shall consist of seeds sown during the spring and summer between the dates April 1 and September 30. The seeding of fall cover shall consist of a mixture of perennial rye grass and permanent grass sown in the late fall and winter between the dates October 1 to March 31. All seed mixes and seeding operations shall be in accordance with ALDOT Specifications.

2.3 SOD

- A. All grass sod shall be replaced with the same type as is removed. If type cannot be determined, sod type shall be centipede.
- B. All grass shall be native to the locality of the Work.
- C. All sod shall be procured from areas where the soil is fertile and contains a high percentage topsoil and where the grass is well rooted and full grown.
- D. Mechanical devices, such a sod cutters, may be used for cutting the sod into strips, blocks or rolls at least 12" wide with depth of $\frac{3}{4}$ " of soil removed with the turf.
- E. Sections of sod shall be cut away below the root line and shall be removed in such a manner that no tearing or breaking will occur. Approved mechanical methods will be permitted. All broken or dried sod shall be rejected.
- F. The sod shall, in general, be transplanted within three (3) days from the time it is harvested. Temporary storage shall be in a cool, moist, shady location with the grass side up.
- G. In no event shall more than 10 days elapse between the cutting and planting of the sod.

2.4 FERTILIZER AND LIMING MATERIALS

- A. Fertilizer and liming materials shall comply with applicable state, local, and federal laws concerned with their production and use.
- B. Commercial fertilizer shall be a ready mixed material and shall be equivalent to the grade or grades specified in the Seeding Requirements Table. Container bags shall have the name and address of the manufacturer, the brand name, net weight, and chemical composition.
- C. Agricultural limestone shall be a pulverized limestone having a calcium carbonate content of not less than 85% by weight. Agricultural limestone shall be crushed so that at least 85% of the material will pass a No. 10 mesh screen and 50% will pass a No. 40 mesh screen.

2.5 MULCH MATERIAL

- A. All mulch materials shall be air dried and reasonably free of noxious weeds and weed seeds or other materials detrimental to plant growth.
- B. Mulch shall be composed of wood cellulose fiber, straw, or stalks, as specified herein. Mulch shall be suitable for spreading with standard mulch blowing equipment.

- C. Wood-cellulose fiber mulch shall be as manufactured by Weyerhaeuser Company, Conway Corporation, or equal.
- D. Straw mulch shall be partially decomposed stalks of wheat, rye, oats, or other approved grain crops.
- E. Stalks shall be the partially decomposed, shredded residue of corn, cane, sorghum, or other approved standing field crops.

2.6 MULCH BINDER

- A. Mulch on slopes exceeding 3 to 1 ratio shall be held in place by the use of an approved mulch binder. The mulch binder shall be non-toxic to plant life and shall be acceptable to the Engineer.
- B. Emulsified asphalt binder shall be Grade SS-1, ASTM D 977. Cut-back asphalt binder shall be Grade RC 70 or RC 250.

2.7 EROSION CONTROL NETTING

- A. This section shall cover the work of furnishing, laying, and maintaining an approved protective netting material over seeded areas in accordance with Section 659 of the latest edition of ALDOT Specifications and in conformity with ALDOT Special Drawing No. ECN - 659. Areas to be covered by erosion control netting will be shown on the plans or designated by the Engineer. The Contractor may select one of the types of materials permitted for class of netting specified unless a specific type is designated by the plans or proposal.
- B. Materials furnished for use shall comply with the appropriate requirements of ALDOT Division 800, Materials, with specific reference made to Article 860.11.
- C. If the manufacturer's recommendations for installation are different than those described, the Contractor will be required to follow the more stringent of the two. Prior to placement of the erosion control netting, the area shall have been prepared in accordance with the ground preparation, fertilizing, and seeding as provided on the plans or directed, all in accordance with the applicable portion of these Specifications. Netting shall be placed immediately after completion of the required operation for placing the item of work which the netting is to control.
- D. The Contractor shall protect and make repairs made necessary by erosion, wind, fire, and/or other causes. Repairs shall be such as to re-establish the condition and grade of soil as existed prior to application of netting, including stability, restoring damaged ground preparation, refertilization and replanting of damaged areas, without additional compensation. The period of care shall continue until acceptance. Care shall be performed without additional compensation.

2.8 INNOCULANTS FOR LEGUMES

- A. All leguminous seed shall be inoculated prior to seeding with a standard culture of nitrogen-fixing bacteria that is adapted to the particular seed involved.

2.9 WATER

- A. Water shall be clean, clear water free from any objectionable or harmful chemical qualities or organisms and shall be furnished by the Contractor.

PART 3 - EXECUTION

3.1 SECURING AND PLACING TOPSOIL

- A. Topsoil shall be secured from areas from which topsoil has not been previously removed, either by erosion or mechanical methods. Topsoil shall not be removed to a depth in excess of the depth approved by the Engineer.
- B. The area or areas from which topsoil is secured shall possess such uniformity of soil depth, color, texture, drainage, and other characteristics as to offer assurance that, when removed the product will be homogeneous in nature and will conform to the requirements of these Specifications.
- C. All areas from which topsoil is to be secured, shall be cleaned of all sticks, boards, stones, lime, cement, ashes, cinders, slag, concrete, bitumen, or its residue, and any other refuse which will hinder or prevent growth.
- D. In securing topsoil from a designated pit, or elsewhere, should strata or seams of material occur which do not come under the requirements for topsoil, such material shall be removed from the topsoil, or if required by the Engineer, the pit shall be abandoned.
- E. Before placing or depositing topsoil upon any areas, all improvement within the area shall be completed, unless otherwise approved by the Engineer.
- F. The areas in which topsoil is to be placed or incorporated shall be prepared before securing topsoil for use.

3.2 SEEDBED PREPARATION

- A. Before fertilizing and seeding, the topsoil surfaces shall be trimmed and worked to true line free from unsightly variation, bumps, ridges and depressions, and all detrimental material, roots, and stones larger than 3" in any dimension shall be removed from the soil.
- B. No earlier than 24 hours before the seed is to be sown, the soil surface to be seeded shall be thoroughly cultivated to a depth of not less than 2" with a weighted disc, tiller, pulvimixer, or other equipment, until the surface is smooth and in a condition acceptable to the Engineer.
- C. If the prepared surface becomes eroded as a result of rain or for any other reason, or becomes crusted before the seed is sown, the surface shall again be placed in a condition suitable for seeding.
- D. Ground preparation operations shall be performed only when the ground is in a tillable and workable condition, as determined by the Engineer.

3.3 FERTILIZATION AND LIMING

- A. Following seedbed preparation, fertilizer shall be applied to all areas to be seeded. Soil samples shall be taken on all areas. Samples shall be analyzed by soil testing lab and fertilizer and lime shall be applied in accordance with the lab recommendations.
- B. Fertilizer shall be spread evenly over the seedbed and shall be lightly harrowed, raked, or otherwise incorporated into the soil for a depth of 2". In lieu of soil testing areas shall be fertilized initially with two (2) tones of agricultural limestone or basic slag with 1,500 pounds of grade 8-8-8 fertilizer per acre. Variations in quantity of fertilizer and lime shall be as recommended in the soil analysis.
- C. Fertilizer need not be incorporated in the soil as specified when mixed with seed in water and applied with power sprayer equipment. The seed shall not remain in water containing fertilizer for more than 30 minutes when a hydraulic seeder is used.
- D. It is the responsibility of the Contractor, at no additional cost, to make one application of maintenance fertilizer after the grass has shown growth, the application shall be made as a top dressing of approved high nitrogen analysis fertilizer applied at a rate to provide at least 67 pounds of nitrogen per acre.

3.4 SEEDING

- A. Permanent grass seed shall be the same type as the adjoining grass or, in lieu of adjacent grass, common bermuda and shall be sown at rates recommended by the local county extension service.
- B. Seed shall be sown as soon as preparation of the seedbed has been completed. No seed shall be sown during high winds, nor until the surface is suitable for working and is in a proper condition. Seeding shall be performed during the dates shown in Section 2.2 unless otherwise approved by the Engineer. Seed mixtures may be sown together provided they are kept in a thoroughly mixed condition during the seeding operation.
- C. Seeds shall be uniformly sown by any approved mechanical method to suit the slope and size of the areas to be seeded, preferably with a broadcast type seeder, windmill hand seeder, or approved mechanical power drawn seed drills. Hydro-seeding and hydro-mulching may be used on steep embankments, provided full coverage is obtained. Care shall be taken to adjust the seeder for seedings at the proper rate before seeding operations are started and to maintain their adjustment during seeding. Seed in hoppers shall be agitated to prevent segregation of the various seeds in a seeding mixture.
- D. Immediately after sowing, the seeds shall be covered and compacted to a depth of 1/8" to 3/8" by a cultipacker or suitable roller.
- E. Leguminous seeds shall be inoculated prior to seeding with an approved and compatible nitrogen-fixing inoculant in accordance with the manufacturer's mixing instructions.

3.5 SODDING

- A. All areas indicated on the drawings or directed by the Engineer shall be solid sodded with the same species as was removed.

- B. Areas which are to be planted with sod shall have all shaping and dressing performed prior to planting operations.
- C. The sod shall be placed with the edges in close contact. Acceptable loamy top soil shall be used to fill joints. The entire sodded area shall then be tamped in place and watered as necessary.

3.6 MULCHING

- A. All seeded areas shall be uniformly mulched in a continuous blanket immediately after seeding. The mulch shall be applied so as to permit some sunlight to penetrate and the air to circulate and at the same time shade the ground, reduce erosion, and conserve soil moisture. Approximately 25% of the ground shall be visible through the mulch blanket.
- B. One of the following mulches shall be spread evenly over the seeded areas at the following application rates:
 - 1. Wood Cellulose Fiber - 1,400 lbs/acre
 - 2. Straw - 4,000 lbs/acre
 - 3. Stalks - 4,000 lbs/acre
 - 4. These rates may be adjusted at the discretion of the Engineer at no additional cost to the Owner, depending on the texture and condition of the mulch material and the characteristics of the seeded area.
- C. Mulch on slopes greater than 3 to 1 ratio shall be held in place by the use of an approved mulch binder. Binder shall be thoroughly mixed and applied with the mulch. Emulsified asphalt or cutback asphalt shall be applied at the approximate rate of 5 gallons per 1,000 square feet as required to hold the mulch in place.
- D. The Contractor shall cover structures, poles, fence, and appurtenances if the mulch binder is applied in such a way that it would come in contact with or discolor the structures.
- E. Mulch and binder shall be applied by suitable blowing equipment at closely controlled application rates in a manner acceptable to the Engineer.

3.7 WATERING

- A. Contractor shall be responsible for maintaining the proper moisture content of the soil to insure adequate plant growth until a satisfactory stand is obtained. If necessary, watering shall be performed to maintain an adequate water content in the soil.
- B. Watering shall be accomplished by hoses, tank truck, or sprinklers in such a way to prevent erosion, excessive runoff, and overwatered spots.

3.8 MAINTENANCE

- A. Upon completion of seeding operations, the Contractor shall clear the area of all equipment, debris, and excess material and the premises shall be left in a neat and orderly condition.

- B. The Contractor shall maintain all grassed areas without additional payment until final acceptance of the work by the Owner. Seeding and/or sodding work shall be repeated on defective areas until a satisfactory uniform stand is accomplished. Damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, compacting, and repeating the seeding and/or sodding work at the Contractor's expense.

END OF SECTION 32 92 20.10

SECTION 33 00 01 - STANDARD SPECIFICATIONS FOR WATER MAINS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section contains information required to furnish and install water distribution lines, fittings, valves, hydrants, and accessories as well as making all connections, disinfection, and testing of the constructed lines.
- B. Related Work Specified Elsewhere:
 - 1. Section 31 00 01 - Earthwork
 - 2. Section 33 05 51 - Ductile Iron and Cast Iron Fittings

1.2 WORK INCLUDED

- A. All labor, equipment and material necessary to complete the work stipulated herein and indicated in the plans. The Contractor shall remove so much of the pavement as may be necessary; excavate the trenches and pits to the required dimensions; excavate the bell holes; construct and maintain all bridges required for traffic control; sheet, brace and support the adjoining ground or structures where necessary; handle all drainage or ground water; guard the site; unload, haul, distribute, lay and test the pipe, fittings, valves, hydrants, and accessories; rearrange the branch connections to main sewers, or rearrange other conduits, ducts or pipes where necessary; replace all damaged drains, sewers, or other structures; backfill the trench pits; restore the roadway surface unless otherwise stipulated; remove surplus excavated material; clean the site of the work; chlorinate the completed pipe line, and have samples checked and approved for bacteriological analysis by the State Board of Health; and maintain the surface over the trenches.

1.3 SUBMITTALS

- A. Submit product data sheets showing materials, operating characteristics, test reports and shop drawings for all proposed materials to be incorporated in the project in accordance with Section 01 33 00. Submit a pressure and bacteriological test schedule as required in the specifications at least 14 days prior to beginning of testing.

1.4 INSPECTION

- A. Material at Factory: At the discretion of the Engineer, all materials are subject to inspection and approval at the plant of the manufacturer. All materials shall meet the requirements hereinafter specified, and the Contractor shall have made by a Laboratory, approved by the Engineer, tests showing the material does meet the specifications. The records of the test shall be furnished prior to the pipe being laid. The cost of such test will be borne by the Contractor.

- B. Materials at Delivery Point: During the process of unloading, all pipe and accessories shall be inspected by the Contractor for loss or damage in transit. All pipe and accessories are subject to inspection at the point of delivery by the Engineer. The Engineer may perform tests as specified in the referenced Standards to ensure conformance with those standards.
- C. Field Inspection: All pipe and accessories shall be laid, jointed, tested for defects and for leakage with pressure and chlorinated in the manner herein specified in the presence of the Engineer or his authorized inspector, and subject to his approval.
- D. Disposition of Defective Material: All material found during the progress of the work to have cracks, flaws, or other defects will be rejected by the Engineer, and the Contractor shall promptly remove from the site of the work such defective material.

1.5 HANDLING PIPE AND ACCESSORIES

- A. General: All pipe, fittings, valves, hydrants, and other accessories shall, unless otherwise directed, be unloaded at the point of delivery, hauled to and distributed at the site of the project by the Contractor; they shall at all times be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoists or slid or rolled on skidway in such a manner as to avoid shock. Under no circumstances shall they be dropped. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground. Sensitive and easily damaged materials shall be stored at an indoor location. All openings in equipment and accessories shall be securely plugged or covered until the moment that connections are actually made.
- B. Unloading: In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench. Pipe shall be handled in such a manner that a minimum amount of damage to the coating will result. Damaged coating shall be repaired in a manner satisfactory to the Engineer. Pipe shall be placed on the site of the work parallel with the trench alignment and with bell ends facing the direction in which the work will proceed unless otherwise directed. The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign matter at all times.

PART 2 - PRODUCTS

2.1 POLYVINYL CHLORIDE (PVC) PIPE

- A. PVC pipe shall be supplied by a major manufacturer approved by the Engineer. Pipe shall be NSF approved for potable-water service.
- B. Joints shall be designed so that the pipe and fittings may be connected on the job without the use of solvent cement or any special equipment. Gaskets and other products used for joining pipe or other appurtenances shall not be made nor coated with materials which will support microbiological growth and shall be certified as meeting the specifications of the National Sanitation Foundation (NSF)/American National Standard Institute (ANSI) Standard 61.
- C. PVC or D.I. fittings may be used on PVC pipe with diameters smaller than 3". Ductile iron fittings shall be used on pipes 3" and larger. The bells and PVC fittings used on PVC pipe shall be

manufactured by the same company that manufactured the pipe. Solvent cement connectors shall not be allowed.

- D. C-900 (2" thru 12"): Polyvinyl Chloride Pipe, PVC pipe and couplings shall be PVC 1120 pressure pipe made from Class 12454-A or 12454-B material and conforming to the applicable portions of AWWA Standard C-900. The outside Diameter (OD) dimensions of cast-iron pipe (CI) shall be used with the minimum wall thicknesses of DR series 18 and pressure class rating of 235 psi.
- E. PSI Rated PVC Pipe (1½" thru 12"): Polyvinyl Chloride Pipe (PVC) for small diameters and PSI rated PVC pipe shall be Type I, Grade I, PVC meeting the requirements of ASTM D-1784 and applicable provisions of ASTM D-2241. Pipe shall be made of all virgin material and conform to Commercial Standard CS-256-63 and approved by NSF for potable water usage.
- F. PVC pipe used to convey potable water shall be blue in color.
- G. Tracer Wire: Tracer wire shall be a #10 AWG HS-CCS high-strength copper clad steel conductor (HS-CCS), insulated with a 30 mil, high-density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use at 30 volts. HDPE insulation shall be RoHS compliant and utilize virgin grade material. Insulation color shall meet the APWA color code standard for identification of buried utilities. Manufacturers supplying copper clad steel tracer wire must have available detailed performance data including 5 years of underground testing in terms of durability related to damage of protective insulation and effects of potential corrosion of the specific copper clad steel used. Origin of copper clad steel manufacturer is required and steel core must be manufactured in the United States. Tracer wire shall be Copperhead™ or approved equal and made in the USA. Wire shall be extended into all valve boxes and fire hydrants.

2.2 DUCTILE IRON PIPE (AWWA C151)

- A. Pipe shall be manufactured and tested in accordance with ANSI A21.51 and shall be designed in accordance with ANSI Specifications A-21-50 method of design using 60,000 psi minimum tensile strength and 42,000 psi minimum yield strength. Pipe shall be designed for a rated working pressure of 350 psi, 2 to 8 ft. cover, Type 2 laying condition.
- B. Ductile iron pipe shall be furnished and installed in accordance with these specifications.
- C. The pressure rating, metal thickness class, net weight of pipe without lining, length of pipe and name of manufacturer shall be clearly marked on each length of pipe.

2.3 GALVANIZED STEEL PIPE (Use Only for Connecting to Existing Galvanized Pipe)

- A. Steel pipe 2" and smaller shall be galvanized with screw joints, and shall conform to the requirements of Federal Specifications WW-P-406, Type 1, Class A.

2.4 JOINTS (AWWA C110 AND C111)

- A. Pipe shall be mechanical joint "Fastite", "Belltite", "Tyton", or approved equal per ANSI A21.11. Flanged joints shall be used above ground unless otherwise indicated.

- B. Mechanical joint to be furnished according to ANSI Specifications A21.11 and furnished with complete Mechanical Joint with accessories. The bolts and nuts to be alloy steel (Corten Type such as US Alloy or approved equal).

2.5 FITTINGS

- A. Fittings to be furnished in accordance with ANSI Specifications A21.10 where applicable with mechanical joints and cement lining in accordance with Section 33 05 51 of these specifications.

2.6 BOLTS AND NUTS

- A. All mechanical joints shall employ high strength corrosion resistant tee head bolts and hexagon nuts. Bolts for restrained joint shall be additional length in accordance with joint manufacturer's requirements. Mechanical joint studs shall be used for tapped bells. All flanged joints shall employ hex head machine bolts, bolt stud, or studs and hexagon nuts of low carbon steel conforming to ASTM A 307 Grade B and AWWA C110 and C115. Higher strength bolts shall not be used with grey cast iron flanges.

2.7 SERVICE TUBING

- A. Copper Service Tubing: Copper tubing from corporation stop to service point, unless otherwise shown, shall be Type K annealed copper. Copper tubing shall be made in the USA and shall bear record of origin on the tubing. Service tubing shall be joined by the use of flair or compression joints. All copper tubing 2" and greater, unless specified otherwise, shall be "stick" type. Rolled tubing, 2" and greater, is not acceptable.
- B. Polyethylene Service Pipe: Water service piping, other than copper, where shown on the Drawings and Bid Schedule, shall be crosslinked polyethylene manufactured using the high-pressure peroxide method of crosslinking (known as PEXa). Pipe shall conform and be third-party certified to AWWA C904, ASTM F876, CSA B137.5, NSF/ANSI 14 and NSF/ANSI 61.
 1. Pipe shall be rated for continuous operation at 200 psi gauge pressure at 73°F temperature (1378 kPa @ 23°C) when evaluated using a 0.63 design factor (see item 20 for details).
 2. Pipe shall be listed by PPI to standard TR-03 as Standard Grade.
 3. Pipe to be tested for resistance to hot chlorinated water in accordance with ASTM F2023. Pipe to have a minimum Class 3 chlorine resistance rating when evaluated to F876 and tested in accordance to F2023.
 4. PEXa pipe shall be listed with a material designation code of "3306" per the ASTM F876 standard and PPI TR-3.
 5. Pipe to have a co-extruded UV Shield made from UV-resistant polyethylene, color blue. Pipe to have minimum recommended UV exposure time of 12 months when tested in accordance with ASTM F2657 and evaluated in accordance with ASTM F876.
 6. Compression joint fittings shall be manufactured in accordance with AWWA C800. Fittings must meet the pressure requirements of the PEX pipe at 73°F (23°C) and utilize stainless steel or plastic inserts.
 7. Cold-expansion compression-sleeve fittings shall be in accordance with ASTM F2080.

8. Pipe shall carry the following markings every three (3) feet. Manufacturer's name and trademark, nominal size, material designation code, standard dimension ratio (SDR9), manufacturing data and footage mark.
9. The pipe manufacturer shall warrant the crosslinked polyethylene pipe to be free from defects in material and workmanship for a period of twenty-five (25) years.
10. The pipe shall be Municipex manufactured by Rehau Construction.

2.8 VALVES AND ACCESSORIES

- A. Valves larger than 2" shall have bell mechanical joint for below ground installation and be equipped with a 2" square operating nut. Above ground valves shall be flanged joint hand wheel operated.
- B. Double Disc (AWWA C500): All double disc valves, whether main line valves or auxiliary valves for fire hydrant leads, shall meet AWWA Specifications. Valves shall be iron body, bronze mounted, double disc, parallel seat, non-rising stem with "O" ring seals, 200 lbs. working pressure with 400 lbs. hydrostatic test for sizes 2" through 12", and 150 lbs. working pressure with 300 lbs., hydrostatic test for sizes 14" through 30".
- C. Resilient Seat (AWWA C-509): Resilient seat gate valves shall be single solid wedge disc type with a replaceable resilient rubber seat ring reinforced with stainless steel. The stem nut shall be integrally cast and the stem shall ride on an antifriction washer. The inside of the valve shall be epoxy coated. The valve shall be certified to provide zero leakage at 200 psi. Valve shall meet AWWA Specification C-509.
- D. Gate Valves 2" and Smaller: Valves shall be all brass or bronze construction, screwed type, with union bonnet, rising stem, suitable for 150 pounds working pressure. Valves shall be Nibco 135 or equal.
- E. Ball Valves (1/4" to 2"): Metal ball valves shall have a 2-piece brass body, with stainless steel ball and trim TFE bearing and packing, TFE teflon seats, zinc die cast handle with nickel finish and brass handle nut. Valves shall be similar to Niles James Bury Series 300.
 1. PVC ball valves shall be union type 2-piece body construction of Type I PVC with CPVC ball and stem, Teflon seats and viton stem seal.
- F. Tapping Valves and Sleeves: Tapping valves shall meet the requirements of AWWA C-500 gate valves indicated above and be designed for making taps to existing mains under pressure. Valves, sleeves, and boring equipment used shall be mutually compatible. Tapping sleeves unless otherwise indicated shall be constructed of ductile iron with non-corrosive accessories. All stainless steel fabricated sleeves may be used when indicated or directed by the Engineer. The sleeve, flange, and outlet shall be constructed of 18-8 Type 304 stainless steel, fully chemically passivated to ensure corrosion resistance. All nuts and bolts shall be non-corrosive and be compatible with fitting materials.
- G. Valve Boxes: Cast iron valve boxes shall be provided on all buried valves and shall consist of a bell base covering the operating nut and valve head, an adjustable vertical shaft at least 5 1/4" in diameter and a top section extending to a point even with the finished ground surface. The box shall be provided with a cast iron cover placed concentrically over the operating nut. Main line valve boxes shall have the word "WATER" cast in the cap. Valve boxes on all fire hydrant leads shall have the word "FIRE" cast in the cap.

- H. Gaskets, O-rings, and other products used for joining pipe, setting meters or valves, or other appurtenances shall not be made nor coated with materials which will support microbiological growth and shall be certified as meeting the specifications of the National Sanitation Foundation (NSF)/American National Standard Institute (ANSI) Standard 61.
 - 1. Gaskets for Ductile Iron pipe shall be field lok gaskets. Field lok gaskets shall be rated for the operation pressure of the pipe.

2.9 HYDRANTS

- A. All hydrants shall be dry barrel and installed with adequate crushed stone for drainage. All hydrants shall be restrained with adequately sized thrust blocks. Unless otherwise directed all hydrants shall be additionally restrained by two non-corrosive metal tie rods extending to the main line tee.
- B. Fire Hydrants: All hydrants shall be manufactured in accordance with the current edition of AWWA Standard C-502 and be traffic design with minimum pressure ratings of 175 psig working and 350 psig hydrostatic. The hydrant main valve shall be compression type that closes with the line water pressure. Unless specifically directed, all hydrants shall be 3-way, 5¼" valve with two (2) 2½" hose nozzles and one 4½" pumper nozzle. Hose threads shall be National Standard Threads. Hydrant shoes shall be 6" mechanical joint with or without restrainer ears as indicated. All hydrants shall receive one primary coat and two finishing coats of paint meeting Fed. Spec. TT-P-362 Type II Class A of the color directed.
 - 1. Fire hydrant barrels and shoe shall be constructed of cast iron or ductile iron with a minimum inside barrel diameter of 6". The shoe, lower barrel and upper barrel shall be assembled by bolted flanged connections. All working parts shall be bronze including operating nut, valve seat, and seat retainer.
 - 2. The seat retainer shall be securely held in place by flanges. A minimum of two (2) or more drains shall be utilized to drain to barrel. Hydrants shall be equipped with automatic self-lubricating system and reservoir that will lubricate the stem threads and bearing surfaces each time the hydrant is operated. The thread bearing surfaces and sleeve shall be enclosed in protective chambers sealed with O-rings or other suitable sealing system. Lubricant refill shall be accomplished without disassembly of the hydrant.
 - 3. Hydrant Extensions, when required, shall be manufactured by the same company as the supplied hydrants.
 - 4. Fire hydrants shall be American B-84B.

2.10 THRUST RESTRAINT

- A. General: Plugs, caps, tees bends deflecting 11¼° or more, and fire hydrants shall be provided with thrust blocking and/or retainer glands or metal tie rods per Section 33 05 51 of these specifications.

2.11 SERVICE VALVES AND ACCESSORIES

- A. All corporation stops, curb stops, backflow preventers and tapping saddles shall be constructed of AWWA Brass (ASTM B62 (85-5-5-5)).

- B. Corporation Stops: Corporation stops shall be of AWWA brass construction designed for insertion in cast iron, ductile iron, steel, or PVC water mains under pressure. Threads shall conform with AWWA C-800 Specification in the size indicated in the plans or $\frac{3}{4}$ " if not so indicated. Corporation stops shall be ball type and rated for 200 psi working pressure. Corporation stops shall be Mueller B-2500 Series, Ford F1000 Series or approved equal.
1. The outlet end shall be a conductive compression joint for copper or non-metallic service tubing. (Provide rigid metal liner for non-metallic tubing.)
- C. Curb Stops:
1. Ball Type: Ball type curb stops shall be AWWA Brass constructed designed for 300 psig maximum working pressure and conforming with ANSI/AWWA C 800. The ball shall be Teflon coated brass or TTFE coated with nitrile (BUNA N) rubber seals providing leak tight sealing in either direction. The stem shall be a blow out proof design and provide precision alignment in both open and closed position. Stems shall have double "O" ring seals. The stem connection shall be fabricated so that overtorquing the stem will not damage the remainder of the valve assembly. When specified the stem shall be lockable. The curb stop shall be a Mueller B2500 Series or Ford B41 Series or B71 Series with compression X Female Iron Pipe Threads.
- D. Service Backflow Preventers:
1. Dual Check Valve Backflow Preventers for Water Services: Dual check valve backflow preventer for water services $\frac{3}{4}$ " to $1\frac{1}{2}$ " shall be "no lead" in accordance with the requirements of ASSE 1024 standard and AWWA C506. The valve body shall be AWWA Brass, ASTM B62, with dual independently acting acetal plastic valves with natural rubber sealing gaskets, stainless steel springs and be designed for 175 psig working pressure. The valve shall have a female meter thread inlet connection, female NPT outlet and shall be loaded to close drip-tight whenever the supply pressure is 1 psi and outlet is atmospheric. The valves shall be Zurn Model 700XL or approved equal.
- E. Service Saddles: Service saddles shall be specifically sized for the O.D. of the pipe on which it is installed and be rated at a minimum of 250 psig. The body shall be equipped with a Buna-N rubber "O" ring gasket to produce a water tight seal against the main. The saddle body shall be constructed of AWWA Brass ASTM B62 or coated ductile iron with stainless steel or silicon bronze accessories. Service saddles for PVC pipe shall be double strap or double wide strap design. Saddles shall be JCM Industries Model 402 or Ford Model 202.
- F. Pressure Reducing Valves (Services): Where called for on the plans or directed by the Engineer a pressure reducing and regulating valve to convert a high, fluctuating inlet pressure to a lower constant outlet pressure shall be furnished and installed. A strainer shall also be installed at the inlet end of each regulator. The water service regulator shall be a Watts 25 AUB or equal.
- G. Meter Boxes: The water meter boxes shall be plastic body with solid overlapping cast iron lid. The lid of the meter box shall be marked "Water Meter". The meter box shall be of size sufficient to house the meter, backflow preventer, and allow operation of the curb stop. Unions or insulated unions shall be installed as necessary for removal of accessories and or to prevent electrolysis of dissimilar materials. Meter boxes shall be the water suppliers general standard if applicable.

- H. Irrigation Valve Box: The valve boxes shall be nominal 6" diameter, circular plastic body, injection molded of polyolefin material, with solid plastic overlapping lid. The lid shall be green in color. The box shall be suitable for housing a 1" pressure reducing valve and shall be an NDS D109-G or approved equal.
- I. Gaskets, O-rings, and other products used for joining pipe, setting meters or valves, or other appurtenances shall not be made nor coated with materials which will support microbiological growth and shall be certified as meeting the specifications of the National Sanitation Foundation (NSF)/American National Standard Institute (ANSI) Standard 61.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: The Contractor shall layout and mark construction routes in accordance with the plans and specifications in advance of the construction. No deviations shall be made from line grade and location shall be made except as directed by the Engineer. All materials for each run of pipe or service installation shall be on hand prior to beginning excavation.
- B. Sub-Surface Explorations: Whenever necessary to determine the location of the existing pipes, valves or other underground structures, the Contractor shall examine all available records and shall make all explorations and excavations for such purpose. Where existing mains are to be tied into, the Contractor shall excavate and examine the tie-in locations prior to ordering any valves or fittings for the tie-in. No additional compensation will be allowed for conditions different from shown on the plans, but the Contractor will be paid according to the unit price bid for materials actually required in the tie-in.
- C. Barricades, Guards, and Safety Provisions: To protect persons from injury, and to avoid property damage, adequate barricades, construction signs, torches, red lanterns and guards as required shall be placed and maintained during the progress of the construction work and until it is safe for traffic to use the trenched highways. Rules and regulations of the local, state, and federal authorities respecting safety provisions shall be observed.
- D. Traffic and Utility Controls: Excavation for pipe laying operations shall be conducted in a manner to cause the least interruption to traffic. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways. Hydrants under pressure, valve pit covers, valve boxes, curb stop boxes, fire or police call boxes, or other utility controls shall be left unobstructed and accessible during the construction period.
- E. Interruption of Water Service: No valve or other control on the existing system shall be operated for any purposes by the Contractor without approval of the Engineer, and all consumers affected by such operation shall be notified by the Contractor at least one hour before the operation and advised of the probable time when the service will be restored. In all cases all interrupted services will be restored before the end of the working day.
- F. Property Protection: Trees, fences, poles and all other property shall be protected unless their removal is authorized; and any property damaged shall be satisfactorily restored by the Contractor.

- G. Protection of Underground and Surface Structures: Temporary support, adequate protection and maintenance of all underground and surface utility structures, drains, sewers, and other obstructions encountered in the process of the work shall be furnished by the Contractor at his own expense.
- H. Flow of Drains and Sewers Maintained: Adequate provisions shall be made for the flow of sewers, drains, and water courses encountered during construction, and the structures which may have been disturbed shall be satisfactorily restored upon completion of the work. All sanitary sewer services will be restored to operation before the end of the work day.

3.2 EXCAVATION AND PREPARATION OF TRENCH

- A. Description: The trench shall be excavated to the alignment and depth required and only so far in advance of pipe laying as the Engineer shall permit. The trench shall be so braced and drained that workmen may work therein safely and efficiently. It is essential that the discharge from pumps lead to natural drainage channels, to drains, or to storm sewers. All excavations shall be in accordance with OSHA and any state or local safety requirements. The Contractor shall be responsible for insuring that these requirements are adhered to.
- B. Width: The trench width may vary with and depend upon the depth of trench and the nature of the excavated material encountered, but in any case shall be of ample width to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted properly. The minimum width of unsheeted trench shall be 18", and for pipe 10" or larger, at least 1' greater than the nominal diameter of the pipe.
- C. Pipe Foundation in Good Soil: The trench, unless otherwise specified, shall have a flat bottom, conforming to the grade to which the pipe is to be laid. The pipe shall be laid upon sound soil cut true and even so that the barrel of the pipe will have a bearing for its full length.
- D. Correcting Faulty Grade: Any part of the trench excavated below grade shall be corrected with approved material, thoroughly compacted.
- E. Removal of Debris: When excavation of rock, pieces of concrete or masonry or other debris or subterranean structures are encountered, all rock or debris shall be removed to provide a clearance of at least 6" below and on each side of all pipe, valves, or fittings. When excavation is completed, a bed of sand, crushed stone, or earth that is free from stones or large clods shall be placed on the bottom of the trench to the previously mentioned depths, leveled, and tamped.
- F. Bell Holes Required: Bell holes of ample dimensions shall be dug in each trenches at each joint to permit the jointing to be properly made.
- G. Braced and Sheeted Trenches: Wherever necessary to prevent caving, excavations in sand, gravel, sandy soil or other unstable material shall be adequately sheeted and braced. Where sheeting and bracing are used, the trench width shall be increased accordingly. Trench sheeting shall remain in place until the pipe has been laid, tested for defects, and repaired if necessary, and the earth around it compacted to a depth of 2' over the top of the pipe.
- H. Care of Surface Material for Re-Use: If local conditions permit their reuse, all surface materials suitable for reuse in restoring the surface shall be kept separate from the general excavation material.

- I. Manner of Piling Excavated Material: All excavated material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalk and driveways. Gutters shall be kept clear or other satisfactory provisions made for street drainage. Also storm drains shall be kept clear.
- J. Trenching by Machine or by Hand: The use of trench-digging machinery will be permitted except in places where operations of same will cause damage to trees, buildings or existing structures above or below ground; in which case hand methods shall be employed.
 - 1. Removing Pavement: The Contractor shall remove pavement as necessary for installing the new pipe line and appurtenances and for making connections to existing pipe lines. Pavement shall be cut back from the top edges of ditch lines on each side of the ditch to allow for solid bearing edges for pavement to be replaced.
 - 2. Marking: Before removing any pavement, the pavement shall be marked for cuts neatly paralleling pipe lines and existing street lines. Asphalt pavement shall be broken along the marked cuts by use of jack hammer or other suitable tool. Concrete pavement shall be scored to a depth of approximately 1½" along the marked cuts. Scoring shall be done by use of a rotary saw, after which the pavement may be broken below the scoring by use of jack hammer or other suitable tool.
 - 3. Machine Pulling: No pavement shall be machine pulled until completely broken and separated along the marked cuts.
 - 4. Damage to Adjacent Pavement: The pavement adjacent to pipe line trenches must not be disturbed or damaged due to any cause such as caving ditch banks, indiscriminate use of construction machinery, etc. The Contractor shall remove the damaged pavement and shall replace at his own expense.
 - 5. Remove and Replace Pavement: Pavement shall be destroyed only to the minimum width of trench as stated under specifications on excavation and restoration of pavement, but if damaged beyond these limits shall be replaced at the expense of the Contractor.

3.3 PIPE LAYING

- A. General: All pipe shall be laid and maintained to the required lines and grades; with fittings, valves and hydrants at the required locations; and with joints centered and spigots homed; and with all valve and hydrant stems plumb. All PVC water mains shall be buried with metallic detector tape. The tape shall be wrapped around all cast iron fittings, valves, valve boxes, etc. to facilitate location by detection devices.
- B. Depth of Pipe Cover: All pipe shall be laid to the depth shown on the plans, measured from the established or proposed street grade or other surface to the top of the barrels of the pipe.
 - 1. Unless otherwise shown the nominal cover for pipe under or along paved street will be 36". The nominal cover for pipe under or along unpaved streets will be 36". At paved streets, intersections or where the new pipe lines cross existing underground lines at the approximated same depth as the new line, the cover shall be increased and the new line laid below existing line or structures. Where the existing line or structures are of sufficient depth that the new lines when laid will have 6" of separating earth between them and other pipe or structure and 24" of cover, the new lines may be laid above the existing lines when

authorized by the Engineer. No extra payment will be allowed for extra depth laying of pipe where necessary to clear existing lines, pipes or structures.

- C. Permissible Deflection at Joints: Wherever necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, to avoid obstructions, the plumb stem, or where long radius curves are permitted, the degree of deflection shall be approved by the Engineer. In no case shall the manufacturers published maximum degree of deflection be exceeded.
- D. Manner of Handling Pipe and Accessories into Trench: Proper implements, tools and facilities shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, fittings, valves, and hydrants shall be carefully lowered into the trench, piece by piece, by means of a derrick, ropes, or other suitable tools and equipment, in such manner as to prevent damage to pipe or pipe coating. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.
- E. Inspection of Pipe: Before lowering and while suspended, the pipe shall be inspected for defects and rung with a light hammer to detect cracks. Any defective, damaged or unsound pipe shall be rejected.
- F. Pipe Kept Clean: All foreign matter or dirt shall be removed from the inside before it is lowered into its position in the trench, and it shall be kept clean by approved means during and after laying.
- G. Bell Ends to Face Direction of Laying: Unless otherwise directed, pipe shall be laid with bell end facing in the direction of the laying; and for lines on an appreciable slope, bells shall at the discretion of the Engineer, face upgrade.
- H. Laying the Pipe: The spigot shall be centered in the bell, the pipe shoved into position, and brought into the alignment; it shall be secured there with earth carefully tamped under and on each side of it, excepting at the bell holes. Care shall be taken to prevent dirt from entering the joint space.
- I. Unsuitable Conditions for Laying Pipe: No pipe shall be laid in water, or when the trench conditions or weather is unsuitable for such work.
- J. Preventing Trench Water from Entering Pipe: At time when pipe laying is not in progress, the open ends of pipe shall be plugged by approved means, and no trench water shall be permitted to enter the pipe.
- K. Cutting Pipe: Cutting of pipe for inserting valves, fittings, or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe.

3.4 JOINTING PIPE

- A. Mechanical Joints and Push On Joints: Shall be installed in strict accordance with the recommendations of the joint manufacturer and Section 3.4 of AWWA Specifications C600.

3.5 SETTING VALVES, VALVE BOXES, FITTINGS, AND BLOW OFFS

- A. Examination of Material: Prior to installation, valves shall be inspected for direction of opening, freedom of operation, tightness of pressure-containing bolting, cleanliness of valve ports and surfaces, handling damage and cracks.

- B. General: Gate valves and pipe fittings shall be set and jointed to new pipe in the manner heretofore specified for cleaning, laying, and jointing pipe.
- C. Valve Boxes: Cast iron valve boxes shall be firmly supported and maintained centered and plumb over the wrench nut of the gate valve, with box cover flush with the surface of the finished pavement or at such other level as may be directed. Unless otherwise directed, valve boxes set in unpaved areas shall be equipped with a 2' x 2' x 6" thick poured in place concrete slab reinforced with 6 x 6 x w1.4/w1.4 wwm. The top of slab shall be flush with finished grade and base shall be placed on a well compacted subgrade.
- D. Back Siphonage to be Prevented: Drainage branches or blow offs shall not be connected to any sewer or submerged in any stream or be installed in any other manner that will permit back siphonage into the distribution system.

3.6 SETTING HYDRANTS

- A. General Location: Hydrants shall be located in a manner to provide complete accessibility, and such manner that the possibility damage from vehicles or injury to pedestrians will be minimized.
- B. Position of Nozzles: All hydrants shall stand plumb, and shall conform to the established grade, with nozzles at least 12" above the ground and parallel to or at right angles to the curb with the pumper nozzle facing the curb except that hydrants have two (2) hose nozzles 90° apart shall be set with each nozzle facing the curb at the angle of 45°.
- C. Connection to Main: Each hydrant shall be connected to main pipe with a 6" ductile iron branch.
- D. Drainage at Hydrant: A drainage pit 2' in diameter and 2' deep shall be excavated below each hydrant and filled compactly with coarse gravel or broken stone mixed with course sand, under and around the bowl of the hydrant and to a level 6" above the waste opening. No hydrant drainage pit shall be connected to a sewer.
- E. Anchorage for Hydrant: The bowl of each hydrant shall be well braced against undisturbed soil at the end of the trench with concrete blocking and it shall be tied to the with metal tie rods. In no case shall the waste opening be obstructed from free drainage.
- F. Cleaning: Hydrants shall be thoroughly cleaned of dirt or foreign matter before setting.

3.7 PLUGGING DEAD ENDS

- A. Standard plugs shall be inserted into the bells of all dead ends of pipes, tees, or crosses, and spigot ends shall be capped. Plugs or caps shall be jointed to the pipe or fittings in the appropriate manner.

3.8 WET CONNECTIONS

- A. Where existing wet lines are to be tied on to new mains directed by the Engineer, the Contractor shall make necessary wet connections. This work shall be done to cause the least inconvenience.

3.9 SERVICES

- A. After the new distribution mains have been laid, tested, chlorinated and accepted as hereinbefore specified or prior to being laid as applicable, all house services shall be installed as directed by the Engineer. All abandoned service lines shall have the ends plugged in an approved manner to prevent water and dirt from entering the fitting or pipe.
- B. Service transfers and replacements shall be completed as detailed in the construction plans and may include saddle, corporation stop, and curb stop for each service installed, including tapping to the main, resetting the existing meter and meter box and tying in the service line to the customer.
- C. New services shall include tap, saddle, corporation stop, curb stop and meter box for each service installed. The curb stop shall terminate the service line inside the meter box.

3.10 BACKFILL

- A. Backfilling: Backfill material and operations shall be in accordance with Section 31 00 01 - Earthwork of these specifications.
- B. Deficiency of Backfill, by Whom Supplied: Any deficiency in the quantity of material for backfilling the trenches, or for filling depressions caused by settlement, shall be supplied by the Contractor at no cost to the Owner.

3.11 CLEAN-UP

- A. The job shall be kept clean at all times. Loose dirt shall not be allowed to clog ditches or cover sidewalks. Soft clay or other undesirable material removed from the trenches shall be removed from the streets, sidewalks, or ditches. The Engineer reserves the right to demand that the Contractor's forces be diverted to this clean-up at any time the Engineer rules that condition of streets, sidewalks, or private property warrants such diversion.

3.12 MAINTENANCE OF SURFACES

- A. The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the project. Maintenance shall include such dragging, reshaping, wetting, and rerolling as are necessary to prevent raveling of the road material, the preservation of seasonably smooth surfaces and repair of damaged or unsatisfactory surfaces to the satisfaction of the Engineer. Maintenance shall also include sprinkling as may be necessary to abate dust.
 - 1. All roadway cuts shall be tested for compaction and patched with asphalt or concrete within 30 days unless approved otherwise.

3.13 HYDROSTATIC TESTS

- A. Pressure During Test: After the pipe has been laid and partially backfilled as specified, all newly laid pipe, or any valved section of it, shall, unless otherwise specified, be subjected to hydrostatic pressure of 150% of the working pressure not to exceed maximum pressure ratings of pipe. Test pressure shall not vary by more than plus or minus 5 psi. Test pressures shall not be less than 150 psi.

- B. Duration of Pressure Test: The duration of each pressure test for exposed pipe and fittings shall be at least 2 hours or until the line has been completely inspected for visible leaks. The duration of each pressure test for partially backfilled pipelines shall be at least six (6) hours in duration.
- C. Procedure: Each section of pipe shall be slowly filled with water and the specified test pressure, measured at the lowest point of elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. The length of each test section shall be coordinated and approved by the Engineer. The pump, pipe connection, oil filled gauges and all necessary apparatus shall be furnished by the Contractor. A pressure chart recorder approved by the Engineer shall be also be provided and utilized during testing. Copies of all charts shall be provided to the Engineer, signed by the project superintendent with the date and test section noted on each chart.
- D. Expelling Air Before Test: Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at joints or highest elevation, and afterwards tightly plugged.
- E. Permissible Leakage: Suitable means shall be provided by the Contractor for determining the quantity of water lost by leakage. No pipe installation will be accepted until or unless this leakage (evaluated on a pressure basis of 150 psi) is less than 10 U. S. Gallons per 24 hours per mile of pipe per inch nominal diameter. All visible leaks are to be repaired regardless of quantity.
- F. Variation from Permissible Leakage: Should any test of combined sections of pipe laid disclosed leakage per mile of pipe greater than that specified, or if individual sections show leakage greater than the specified limit, the Contractor shall, at his own expense, locate and repair the defective joints until the leakage is within the specified allowance.
- G. Leakage Defined: Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section of it, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
- H. Time for Making Test: Pipe may be subjected to hydrostatic pressure, inspected, and tested for leakage at any convenient time after the lines are installed and when weather and site conditions are such that an adequate observation of the test can be made. The Contractor shall notify the Engineer and Owner at least 24 hours before testing is scheduled. **Testing is to be witnessed by the Engineer, Engineer's representative, or the Owner.**
 - 1. The Contractor shall pressure test and chlorinate sections of pipe as they are completed.
 - 2. The Engineer reserves the right to require pressure tests and chlorination at any stage of construction. Failure of the Contractor to satisfactorily complete these tests as requested by the Engineer shall be grounds for stopping these phases of construction until the testing is completed.

3.14 CHLORINATION OF COMPLETED PIPE LINE

- A. Before placing into service all new water distribution systems, or extensions to existing systems, or any valved section of such extension or any replacement in the existing water distribution system shall be chlorinated.
 - 1. Any of the following methods of procedure shall be followed, subject to the approval of the Engineer.

- a. Liquid Chlorine gas-water mixture
 - b. Direct Chlorine feed
 - c. Calcium Hypochlorite and water mixture
- B. Preliminary Flushing: Prior to chlorination, all dirt and foreign matter shall be removed by a thorough flushing through the hydrants, or by other approved means. Each valved section of newly laid pipe shall be flushed independently. This shall be done after the pressure test is completed. All water mains shall be flushed at a velocity greater than or equal to 2.5 feet per second.
- C. Liquid Chlorine: A chlorine gas-water mixture shall be applied by means of a solution- fed chlorinating device, or if approved by the Engineer, the gas shall be fed directly from a chlorine cylinder equipped with a proper device for regulating the rate of flow and effective diffusion of gas within the pipe. (Chlorination with the gas-water mixture is preferred to direct feed).
- D. Point of Application: The preferable point of application of the chlorination agent shall at the beginning of the pipe line extension, or any valved section of it, and through a corporation stop inserted in the horizontal axis of the newly laid pipe. The water injector for delivering the gas-water mixture into the pipe shall be supplied from a tap on the pressure side of the gate valve controlling the flow into the pipe line extension. In a new system, application may be at the pumping station, or the elevated tank, or the standpipe, or reservoir if available. If a supply of water is not available, the Contractor shall haul the water by tank or other approved means. All water used for testing of chlorinating shall be approved by the Engineer. No additional payment will be made to the Contractor for hauling water.
- E. Rate of Application: Water from the existing distribution system or other source of supply shall be controlled to flow very slowly into the newly laid pipe line during the application of chlorine. The rate of chlorine gas-water mixture flow shall be in such proportions to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall exceed 50 PPM.
- F. Back Pressure Prevented: Back pressure, causing a reversal of flow in the pipe being treated, shall be prevented.
- G. Retention Period: Treated water shall be retained in the pipe long enough to destroy all non-spore-forming bacterial. This period shall be at least 24 hours and preferably longer as may be directed. After the chlorine treated water has been retained for the required time, the chlorine residual at pipe extremities and at other representative points shall be at least 25 PPM.
- H. Chlorination Valves and Hydrants: In the process of chlorinating newly laid water pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.
- I. Final Flushing and Test: Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe line at its extremities until the replacement water throughout its length shall, upon test, both chemically and bacteriologically, be proved to have zero coliform growth and approved by the Public Health Authority having jurisdiction. The test locations shall be coordinated and approved by the Engineer. Certified test reports of chemical and bacteriological analysis shall be provided to the Engineer and proper authorities of the Owner with specific test sections noted.
- J. Repetition of Procedure: Should the initial treatment, in the opinion of the Engineer, prove ineffective, the chlorination procedure shall be repeated until a confirmed test shows that water sampled from the newly laid pipe conforms to the requirements of these specifications.
- K. Alternate Chlorination:

1. Calcium Hypochlorite: On approval of the Engineer, a mixture of calcium hypochlorite ("HTH", "Perchloron", and "Mexochlor") of known chlorine content and water may be substituted as an alternative for liquid chlorine.
 2. Proportions of Calcium Hypochlorite and Water Mixtures: A 5% of powder to 95% of water by weight.
 3. Application: This calcium hypochlorite and water mixture, first made into a paste and then thinned to a slurry, shall be injected or pumped into the newly laid pipe under conditions heretofore specified for liquid chlorine application, after preliminary flushing.
 4. Approval: Provisions for final flushing, testing, and approval under this alternative shall be the same as those described above.
- L. Procedure When Cutting into Existing Pipe Lines: Unless the Engineer shall direct otherwise, cuts made in existing pipe lines for the insertion of valves, fittings, repairs, or for any other purpose shall be chlorinated by shaking a quantity of the powder, predetermined by the Engineer, into the pipe on each side of the cut-in. After slowly filling the section and reversing the flow, the chlorinated water shall be retained for several hours, then flushed until no odor of chlorine can be detected in the waste water, or preferable until a check shall have been made for residual chlorine as provided for herein.
- M. Resumption of Service: After satisfactory chlorination by any of these alternative procedures, the consumers may be served from the newly laid pipe line or the services may be resumed on existing pipe lines upon obtaining approval from State Health Department.

END OF SECTION 33 00 01.

SECTION 33 05 23.16 - UTILITY PIPE JACKING AND BORING

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, materials, service, and equipment required to properly complete water main construction under highways, county roads and city streets as described herein and/or as shown on the Drawings. All work to be performed shall meet the Utility Manual of the respective Highway Department in effect at the time of the construction.

1.2 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete engineering data and product information shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.3 STORAGE AND DELIVERY

- A. All materials shall be stored and protected with strict conformance to the manufacturer's recommendations and as approved by the Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel casing pipe shall be straight seam welded steel pipe conforming to ASTM A 139 Grade B of the latest standard specifications. Minimum pipe wall thickness shall be as follows:

<u>Casing Outside Diameter (in.)</u>	<u>Min. Wall Thickness (in.)</u>
16	0.25

PART 3 - EXECUTION

3.1 GENERAL

- A. Any solidification of embankments, boring headings, or tunnel headings or sides shall be the Contractor's responsibility and shall be done at his own expense.
- B. Bored installations shall have a bored-hole diameter essentially the same as the outside diameter of the casing pipe to be installed. Smooth wall new steel pipe meeting the required material standards shall be installed with suitable equipment providing a mechanically augered bore followed immediately by the casing pipe, without the use of water at any time during the work.

- C. The casing pipe shall be jacked into the boring as soon as possible after the boring is made. Lengths of casing pipe as long as practical shall be used. Joints between sections shall be completely welded as recommended for joining the particular type of pipe. Casing pipe installed shall be guided by a jacking frame and rails to maintain line and grade. Not more than 6 inches of excavation ahead of the casing pipe will be allowed during installation.
- D. Once the jacking procedure has begun, it should be continued without stopping until completed subject to weather and conditions beyond the control of the Contractor. Voids outside the jacked casing shall be filled with pumped cement grout, applied at a pressure of not less than 40 psi where an annular space between the casing and earth is established.
- E. Any replacement of carrier pipe in an existing casing shall be considered a new installation, subject to the applicable requirements of these Specifications.
- F. Care shall be taken to ensure that casing pipe installed by boring and jacking will be at the proper alignment and grade.
- G. The Contractor shall maintain and operate pumps, well points, and drainage system equipment to keep work dewatered at all times.
- H. Adequate sheeting, shoring, and bracing for embankments, operating pits, and other appurtenances shall be placed and maintained to ensure that work proceeds safely and expeditiously. Upon completion of the required work, the sheeting, shoring, and bracing shall be left in place, cut off, or removed, as designated by the Engineer.
- I. Trench excavation; all classes and types of excavation; the removal of rock, muck, debris; the excavation of all working pits; and backfill requirements of the section entitled "Earthwork" are included under this section.
- J. Carrier pipe installed in casing shall be as specified in the detailed plans or as required in the bid proposal.
- K. After the casing pipe is installed, the carrier pipe shall be installed exercising care at all times to protect the interior of the casing pipe and to maintain tight, full-seated joints in the carrier pipe. The carrier pipe shall be installed at the proper line and grade without any sags or high spots.
- L. The carrier pipe shall be held concentric with the casing pipe by the use of manufactured casing spacers spaced radially around the pipe and secured firmly in place. The spacing of spacers longitudinally in the casing pipe shall be as detailed in plans and in accordance with the manufacturers recommendations.
- M. Casing pipe shall be sealed at the ends with an approved flexible boot to prevent flowing water and debris from entering the annular space between the casing and the carrier pipe.
- N. Contractor shall be held responsible and accountable for the coordinating and scheduling of all construction work within the right-of-ways.
- O. Work along or across the right-of-way shall be under the supervision of the Engineer, state highway department engineer and the county engineer.

- P. All lines shall have a minimum cover as shown on the Drawings, but in no case shall the minimum cover be less than that required by the regulations of the agency involved.
- Q. All installations shall be done to leave free flows in drainage ditches, pipes, culverts, or other surface drainage facilities of the highway, street, or its connections.
- R. All surplus materials shall be removed from the right-of-way and the excavation finished flush with surrounding ground.
- S. Grout backfill shall be used for unused holes or abandoned pipes.
- T. Boring, jacking, or driving of carrier or casing pipes shall be accomplished without jetting, sluicing, or wet boring.
- U. No excavated material or equipment shall be placed on the pavement or shoulders of the roadway without approval.
- V. In no instance will the Contractor be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight. Construction materials to be installed which are placed on the right-of-way in advance of construction shall be placed in such a manner as not to interfere with the safe operation of the highway.

END OF SECTION 33 05 23.16

SECTION 33 05 51 - DUCTILE IRON & CAST IRON FITTINGS

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, equipment, and materials required to furnish, install, and test ductile iron fittings, sleeves, couplings, toppings, anchor blocks, and accessories, as specified herein and/or shown on the Drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 33 00 01 – Standard Specifications for Water Mains

1.3 QUALITY ASSURANCE

- A. Each ductile iron fitting and cast iron fitting shall be clearly marked with the pressure rating, metal thickness class, heat mark, net weight (excluding lining or coating) and name of manufacturer.
- B. All materials furnished shall meet NSF/ANSI 61 Standards.

1.4 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete shop drawings and engineering data on all piping and accessories shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.5 STORAGE AND PROTECTION

- A. Piping and accessories shall be stored and protected in accordance with the requirements of the section entitled "Storage and Protection" of these Specifications.

PART 2 - PRODUCTS

2.1 CAST IRON AND DUCTILE IRON FITTINGS

- A. All fittings 2 inch through 48 inch shall conform in every respect to ANSI A21.10 or A21.53 or AWWA C153 or C110.
- B. Unless otherwise shown on the Drawings, directed or specified, all fittings shall have a minimum pressure rating of 350 psi.

- C. In general, fittings shall be any ANSI pattern. Long radius elbows shall be used where shown on the drawings. Special fittings and cast iron and ductile iron wall pipes and sleeves shall conform to the dimensions and details shown on the Drawings. Unless otherwise shown on the Drawings, directed or specified, all fittings shall be for a pressure rating of 350 psi.

2.2 JOINTS FOR DUCTILE IRON PIPE AND FITTINGS AND CAST IRON FITTINGS

A. General

1. Joints for ductile iron pipe and fittings and cast iron fittings shall be mechanical joints, flanged joints, or push-on joints, as shown on the Drawings or specified herein.
2. Unless otherwise shown on the Drawings, specified or directed, all ductile iron pipe laid underground shall be joined using mechanical joints or push-on type joints.
3. All Gaskets, O-rings, and other products used for joining pipe, setting meters or valves, or other appurtenances shall not be made nor coated with materials which will support microbiological growth and shall be certified as meeting the specifications of the National Sanitation Foundation (NSF)/American National Standard Institute (ANSI) Standard 61.

B. Mechanical Joints

1. Mechanical joints shall consist of a bolt joint of the stuffing box type as detailed in ANSI A21.10 and described in ANSI A21.11.
2. Mechanical joints shall be thoroughly bolted in accordance with the manufacturer's recommendations with Tee Head Bolts and bolts of high strength, heat treated cast iron containing 0.50 copper or high strength low-alloy steel having a minimum yield point strength of 40,000 pounds per square inch and an ultimate tensile strength of 70,000 pounds per square inch.
3. Glands shall be of high strength cast iron.

C. Flanged Joints

1. Flanged joints shall conform to ANSI B 16.1, Class 125, and in accordance with Table 10.23 of ANSI A21.10.
2. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolts and nuts shall conform in dimensions to the American Standard heavy series. Nuts shall be hexagonal, cold pressed. Bolts and nuts shall be cadmium plated, cold pressed, steel machine bolts, conforming to ASTM A 307, Grade B. Cadmium plating shall be by an approved process and shall be between 0.003- to 0.0005-inch thick. After each joint has been made, all bolts, heads, and nuts shall be coated with two coats of heavy asphaltum or other approved coating.
3. Flanged ductile iron pipe approximately 12 inches or less in length shall have flanges cast solidly to the pipe barrel. Flanges on ductile iron pipe longer than 12 inches may be of the screw type. Pipe threads shall be of such length that the flanges screwed home, the end of the pipe shall project beyond the face line of the flange. Flange and pipe shall then be machined to give a flush finish to the pipe and the flange and surface shall be normal to the axis of the pipe. Ductile iron flanges shall be of such design that the flange neck completely covers the threaded portion of the pipe to protect same against corrosion. Flange faces on cast iron fittings shall be coated with white lead immediately after they have been faced and drilled. All pipe with screw type flanges shall be assembled, faced, and drilled at the point of manufacture, unless otherwise approved by the Engineer.
4. Where tap or stud bolts are required, flanges shall be drilled and tapped accordingly.

D. Push-On Joints

1. Push-on joints shall conform to ANSI 21.10 and ANSI 21.11 or AWWA C110 and AWWA C111. Push-On fittings shall conform to ANSI 21.10 or ANSI 21.53 or AWWA C110 or AWWA C153. Details of the joint design shall be in accordance with the manufacturer's standard practice such as "Fastite," "Bell-Tite," or "Tyton" joints.

2.3 COATING AND LINING

- A. Lining for Water: Interior of pipe and fittings to receive a cement mortar lining of standard thickness in accordance with ANSI A21.4.
- B. Coating: Coat exterior of pipe and fittings to be buried with an asphaltic material approximately 1 mil thick in accordance with AWWA C151/ANSI A21.51, AWWA C110/ANSIA 21.10, and AWWA C153/ANSI A 21.53. Coat exterior of all exposed ductile iron pipe and fittings with a primer as specified in paragraph 3.6.
- C. Color Identification: Pipe shall have four (4) each, 2-inch wide stripes painted at 90-degree angles around the pipe exterior. Color of stripes shall be blue for water.

2.4 PIPE COUPLINGS

- A. Pipe couplings shall be installed where shown on the Drawings, required for installation, or directed by the Engineer.

PART 3 - EXECUTION

3.1 LAYING

- A. Proper and suitable tools and appliances for safe and convenient handling fittings shall be used. Great care shall be taken to prevent the fitting's coating from being damaged, particularly cement linings on the inside of the fittings. Any damage shall be remedied as directed by the Engineer.
- B. All fittings shall be carefully examined by the Contractor for defects just before laying and no fitting shall be laid which is defective. If any defective fitting is discovered after having been laid, it shall be removed and replaced in a satisfactory manner with a sound fitting by the Contractor at his own expense.
- C. All fittings shall be thoroughly cleaned before they are laid and shall be kept clean until they are used in the completed work. Open ends of pipe shall be kept plugged with a bulkhead during construction.
- D. All bends, tees, branches, crosses, plugs, caps, fire hydrants, and reducers in pressure piping systems shall be adequately restrained against thrust. Underground pressure piping containing unharnessed push-on or mechanical joints or expansion joints shall be restrained by thrust blocks. Thrust blocks shall consist of concrete having a minimum 28-day compressive strength of 3,000 psi and shall be of the size and shape as shown on the Drawings. The Contractor may

use forms or earth walls to mold the thrust blocks. When earth walls are used, they shall be cut true to shape and all excess earth removed. The work shall be conducted so that no loose earth will become mixed with the concrete. At the end of 24 hours, damp earth may be placed over the concrete to retain moisture.

- E. Wall pipe and wall sleeves shall be accurately located and securely fastened in place before concrete is poured. All wall pipe and wall sleeves shall have wall collars properly located to be in the center of the wall where the respective pipes are to be installed.
- F. Wall pipe and wall sleeves shall be installed when the wall or slab is constructed. Blocking out or breaking of the wall for later insertion shall not be permitted.
- G. Cutting or weakening of structural members to facilitate pipe installation shall not be permitted. All piping shall be installed in place without springing or forcing.
- H. Sufficient couplings and flanged joints shall be provided to facilitate equipment installation and removal.

3.2 JOINING

A. Mechanical Joints

1. The successful operation of the mechanical joint specified requires that the spigot be centrally located in the bell and that adequate anchorage shall be provided where abrupt changes in direction and dead ends occur.
2. The surfaces with which the rubber gasket comes in contact shall be brushed thoroughly with a wire brush just prior to assembly to remove all loose rust or foreign material which may be present and to provide clean surfaces which shall be brushed with a liberal amount of soapy water or other approved lubricant just prior to slipping the gasket over the spigot end and into the bell. Lubricant shall be brushed over the gasket prior to installation to remove loose dirt and lubricate the gasket as it is forced into its retaining space.
3. Joint bolts shall be tightened by the use of approved wrenches and to a tension recommended by the pipe manufacturer. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side and last, the remaining bolts. This cycle shall be repeated until all bolts are within the range of acceptable torques. If effective sealing is not attained at the maximum torque indicated above, the joint shall be disassembled and reassembled after thorough cleaning. Overstressing of bolts to compensate for poor installation shall not be permitted.
4. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

B. Flanged Joints

1. All flanges shall be true and perpendicular to the axis of the pipe. Flanges shall be cleaned of all burrs, deformations, or other imperfections before joining. Flanged joints shall be installed so as to ensure uniform gasket compression. All bolting shall be pulled up to the specified torque by crossover sequence. Where screwed flanges are used, the

finished pipe edge shall not extend beyond the face of the flange, and the flange neck shall completely cover the threaded portion of the pipe.

2. Connections to equipment shall be made in such a way that no strain is placed on the equipment flanges. Connecting flanges must be in proper position and alignment and no external force may be used to bring them together properly.
3. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

C. Push-On Joints

1. The inside of the bell and the outside of the pipe from the plain end to the guide stripe must be wiped clean immediately before assembling the pipe joint. Then the rubber gasket shall be inserted into a groove or shaped recess in the bell. Both the bell and spigot ends to be jointed shall be wiped again to ensure they are thoroughly clean. A liberal coating of special lubricant furnished by the pipe manufacturer shall be applied to the outside of the pipe from the plain end to the yellow guide stripe and to the inside of the gasket. The plain end shall be centered in the bell and the spigot pushed home. Wherever possible the pipe shall be socketed by hand; however, jacking may be required to push the spigot in place on the larger sizes of pipe. The completed joint shall be permanently sealed and watertight.
2. Whenever the pipe is cut in the field, the cut end shall be conditioned so it can be used in making up a joint by filing or grinding the cut end to remove burrs or sharp edges that might damage the gasket.

D. Permissible Deflection of Joints

1. Deflection of ductile iron pipe at joints for long radius curves or for avoiding obstacles shall be permitted only upon approval of the Engineer.
2. Where deflection of joints is permitted, such deflection shall be made in accordance with and shall not exceed limits provided in Section 9b.5 and Section 9c.4 as applicable, of the AWWA C600.

E. Joints of Dissimilar Metals

1. When a flanged joint consists of a ductile iron flange mated to a steel or alloy flange, the steel flanges shall be flat faced and furnished with full-faced gaskets, insulating bushings, and stainless steel bolts.

3.3 THRUST RESTRAINT

- A. General: Plugs, caps, tees bends deflecting $11\frac{1}{4}$ or more, and fire hydrants shall be provided with thrust blocking and/or retainer glands or metal tie rods as directed. Valves shall be security anchored or provided with thrust blocking to prevent movement.
- B. Concrete Thrust Blocks: Concrete having a minimum 28 day strength of 3,000 psi shall be placed between the fitting and undisturbed ground. The thrust and bearing sides of the blocks shall be poured directly against the fitting and undisturbed earth. The sides of the blocking not subject to thrust may be poured against form. Blocking shall be placed so that the fitting will be accessible for repair. The minimum area of bearing shall be as shown however actual area of bearing shall be increased to provide sufficient bearing area when low strength soils are encountered.

- C. Retainer Gland: Retainer glands shall be used on ductile iron pipe only and be designed and manufactured in accordance with DIPRA-01. The gland shall be rated for 350 psig by Underwriters Laboratories. Restraining shall be accomplished by wedge acting lugs tightened by bolts with break-away heads to provide uniform pressure.
- D. Metal Tie Rods: Tie rod joints shall consist of threaded tie rods connected to joints with eye bolts or lugs or lugged fittings. All rods, eyebolts, couplings and nuts shall be ¾-inch high strength ASTM A242-81 (CorTen) corrosion resistant steel. The minimum number of rods used on 4 inch and 6 inch joints shall be two (2), three (3) rods for 8 inch pipe, four (4) for 10 inch pipe and six (6) rods for 12 inch pipes.
- E. Megalug Joint Restraint: Mechanical joint restraint shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Gland body, wedges, and wedge actuating components shall be manufactured of ductile iron conforming to ASTM A536-84. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
 - 1. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum of safety factor of 2:1 and shall be EBAA Iron, Inc. MEGALUG or equal.

3.4 FIELD TESTING

- A. Inspection and testing of ductile iron fittings used for pressure applications shall be carried out in accordance with procedures established in Section 33 00 01 of these specifications.

END OF SECTION 33 05 51