

**AMENDMENT NO. 1:  
REVISIONS TO THE WARTBURG, TN SEWER SYSTEM REHABILITATION DESIGN  
DOCUMENTS**

**BID DATE:** June 27, 2024  
**BID TIME:** 11:00 A.M., Local Time.



**MAJOR AMENDMENTS INCLUDE:**

1. Ownership: Plateau Utility District has assumed operations of the Wartburg Sewer System and is responsible for decisions associated with the execution of the Project.
2. Bidding and Construction Administration Services will be performed by Civil & Environmental Consultants, Inc. The Design Engineer, Hethcoat & Davis, Inc., remains unchanged.
3. Project funding is through the TDEC American Recovery Program. USDA Rural Development is no longer funding the project.
4. Certain work has been eliminated from the original design. It has been noted on the Design Documents and noted below.
5. Specific Amendment details to the Specifications are listed below.

**AMENDMENTS TO SPECIFICATIONS:**

1. Delete all of Division 1: Bidding and Contract Requirements and replace with Division 0 attached (See item 5 below).
2. Delete Division 8: Doors and Windows
3. Delete Division 11: Pumps, Gates and Valves
4. Delete Division 26: Electrical
5. Updated Division 0: Bidding and Contract Requirements include the following:
  - a. C-111 Advertisement for Bids (2 pages)
  - b. C-200 Instruction to Bidders for Construction Contract (9 pages)
  - c. C-410 Bid Form (7 pages)
  - d. C-430 Bid Bond (2 pages)
  - e. Drug Free Workplace Affidavit (1 page)
  - f. Statement of Compliance Certificate Illegal Immigrants (1 page)
  - g. State of Tennessee Certification Regarding Debarment, Suspension and Other Responsibility Matters (1 page)
  - h. State of Tennessee Iran Divestment Act Certification (1 page)
  - i. State of Tennessee Non-Boycott of Israel Certification (1 page)
  - j. State of Tennessee Byrd Anti-Lobbying Amendment Certification (2 pages)
  - k. State Water Infrastructure Grants – Identification Sign (1 page)
  - l. C-510 Notice of Award (1 page)
  - m. C-520 Agreement Between Owner and Contractor (6 pages)
  - n. C-550 Notice to Proceed (1 page)
  - o. C-610 Performance Bond (3 pages)
  - p. C-615 Payment Bond (3 pages)
  - q. Certificate of Owner’s Attorney (1 page)
  - r. C-620 Contractor’s Application for Payment (3 pages)

- s. C-625 Certificate of Substantial Completion (1 page)
  - t. C-700 Standard General Conditions of the Construction Contract (65 pages)
  - u. C-800 Supplementary Conditions of the Construction Contract (13 pages)
  - v. C-941 Change Order
6. Section 01010 – Project Summary: Delete Paragraphs 1.02.A.5, 1.02.A.6 and 1.02.A.7.
7. Section 01026 – Measurement and Payment:
- a. Delete Paragraph 1.02.G.1 and replace with the following:
    - i. 1. Demolition is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which demolition is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.
  - b. Delete Paragraph 1.02.J.4.
  - c. Delete Paragraph 1.02.L.4.
  - d. Delete Paragraph 1.02.R.
  - e. Delete Paragraph 1.02.S.
  - f. Delete Paragraph 1.02.T.
  - g. Delete Paragraph 1.02.U.
  - h. Delete Paragraph 1.03

**AMENDMENTS TO DRAWINGS:**

- 8. Delete Sheet C-8: Pump Station & Gravity Sewer Modifications
- 9. Delete Sheet MP-1: Pump Station & Gravity Sewer Modifications
- 10. Delete Sheet E-1: Plan, Section, Details and Notes
- 11. Delete Sheet E-2: Plan. Section, Details and Notes
- 12. Sheet G-1: Delete the line related to work on Line 3-8 to 3-2.
- 13. Sheet C-5: Delete the work related to Line 3-8 to 3-2.

**Plateau Utility District  
Wartburg, TN  
SEWER SYSTEM REHABILITATION**

ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of the **Sewer System Rehabilitation Project** will be received, by **Plateau Utility District** at the office of the **Plateau Utility District – Administrative Office located at 407 Eliza Street, Wartburg, TN 37887** until **11:00 am**, local time on **Thursday, June 27, 2024** at which time the Bids received will be **publicly** opened and read.

The Project consists of the following work:

**Approximately 11,500 linear feet of sanitary sewer rehabilitation by method of pipe bursting with 8” pipe. The reconnection of approximately 130 sewer services. And the rehabilitation of approximately 32 sewer manholes.**

Bids will be received for a single prime Contract. Bids shall be on a unit price basis, with deductive alternate bid items as indicated in the Bid Form.

The Issuing Office for the Bidding Documents is: **Civil & Environmental Consultants, Inc. 117 Seaboard Lane, Suite E100, Franklin, TN 37067, (615)333-7797, Stacey Cox, P.E., [scox@cecinc.com](mailto:scox@cecinc.com)**. Prospective Bidders may examine the Bidding Documents at the Issuing Office on Mondays through Fridays between the hours of **8:00-5:00** and may obtain copies of the Bidding Documents from the Issuing Office as described below.

Information and Bidding Documents for the Project can be found at the following designated website:

<https://www.cecinc.com/projects-for-bid/>

Bidding documents may be downloaded from the designated website. Prospective Bidders are urged to register with the designated website as a plan holder, even if Bidding Documents are obtained from a plan room or source other than the designated website in either electronic or paper format. The designated website will be updated periodically with addenda, list of registered plan holders, reports, and other information relevant to submitting a Bid for the Project. All official notifications, addenda, and other Bidding Documents will be offered only through the designated website. Neither Owner nor Engineer will be responsible for Bidding Documents, including addenda, if any, obtained from source other than the designated website.

Bidding Documents also may be examined at the following Viewing Offices:

Plateau Utility District, 407 Eliza Street, Wartburg, TN 37027

Civil & Environmental Consultants, Inc. 117 Seaboard Lane, Suite E100, Franklin, TN 37067

Builders Exchange of Tennessee

Prospective Bidders may examine the Bidding Documents at the Viewing Office on Monday through Friday between the hours of 9 am – 4 pm. 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.

An electronic copy of the CONTRACT BID DOCUMENTS may be obtained at the office of **Civil & Environmental Consultants, Inc.** at 117 Seaboard Lane, Suite E100, Franklin, TN 37067 upon a **NON-REFUNDABLE PAYMENT OF \$50.00** (Please reference CEC Project 325-818)

Paper copies of the Plans and Specifications may be obtained from **Civil & Environmental Consultants, Inc.** at 117 Seaboard Lane, Suite E100, Franklin, TN 37067 upon a **NON-REFUNDABLE PAYMENT OF \$500.00** per each set. (Please reference CEC Project 325-818)

There will not be a Pre-Bid Conference for this project.

This project is being supported with Treasury, Coronavirus State and Local Recovery Fund grant funding. Therefore, certain restrictions and other federal requirements attach to this opportunity.

The Plateau Utility District hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award. The Plateau Utility District is an Equal Opportunity Employer. Any contract that uses federal funds to pay for construction work is a "federally assisted construction contract" and must include the equal opportunity clause found in 2 C.F.R. Part 200, unless otherwise stated in 41 C.F.R. Part 60. We encourage all small and minority owned forms and women's business enterprises to participate. No bidder may withdraw his bid within sixty (60) days after the actual date of the opening thereof.

A bid bond or certified check for five percent (5%) of the total bid amount must accompany each bid. The successful bidder will be required to furnish a performance bond in the amount of his bid and shall, before entering on the work of said contract, be licensed as a contractor of the Plateau Utility District.

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

This Advertisement is Issued by:

Owner: **Plateau Utility District**

By: **John M Davis II**

Title: **President**

Date:

+ + END OF ADVERTISEMENT FOR BIDS + +



# INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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## **ARTICLE 1 – DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

## **ARTICLE 2 – COPIES OF BIDDING DOCUMENTS**

2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.

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

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

2.04 There is an established Bidding Documents Website as indicated in the Advertisement of Invitation to bid. Owner recommends that Bidder registers as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.

## **ARTICLE 3 – QUALIFICATIONS OF BIDDERS**

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within **10** days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:

A. 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.

B. Bidder's state or other contractor license number, if applicable.

C. Subcontractor and Supplier qualification information.

D. 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.

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

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

### **4.01 *Site and Other Areas***

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

### **4.02 *Existing Site Conditions***

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
  - 1. The Supplementary Conditions identify:
    - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
    - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
    - 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: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

### **4.03 *Site Visit and Testing by Bidders***

- A. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- B. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

- C. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- D. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

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

4.05 *Other Work at the Site*

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

**ARTICLE 5 – BIDDER'S REPRESENTATIONS**

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

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; and the Bidding Documents effect on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- E. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- F. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- G. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

- H. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### **ARTICLE 6 – PRE-BID CONFERENCE**

- 6.01 A pre-Bid conference will not be held for this Project.

#### **ARTICLE 7 – INTERPRETATIONS AND ADDENDA**

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. **Send all questions by email to Stacey Cox at [scox@cecinc.com](mailto:scox@cecinc.com).** Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

#### **ARTICLE 8 – BID SECURITY**

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

- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

#### **ARTICLE 9 – CONTRACT TIMES**

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

## **ARTICLE 10 – LIQUIDATED DAMAGES**

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

## **ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS**

- 11.01 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 at least 15 days prior to the date for receipt of Bids. Each such request shall comply with the requirements of Paragraphs 7.04 and 7.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

## **ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 12.01 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for portions of the Work.

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

## **ARTICLE 13 – PREPARATION OF BID**

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each 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.”
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
  - 13.03 A Bid by a partnership shall 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 partnership’s address for receiving notices shall be shown.
  - 13.04 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the firm’s address for receiving notices shall be shown.
  - 13.05 A Bid by an individual shall show the Bidder’s name and address for receiving notices.
  - 13.06 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture’s address for receiving notices shall be shown.
  - 13.07 All names shall be printed in ink below the signatures.
  - 13.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
  - 13.09 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
  - 13.10 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

#### **ARTICLE 14 – BASIS OF BID**

##### **14.01 *Unit Price***

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- 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.

## **ARTICLE 15 – SUBMITTAL OF BID**

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the location designated in the Advertisement.
- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.
- 15.04 Sealed Bid Envelopes shall be completed in accordance with the TN Contractors Rules and Regulations. Failure to complete the envelope properly will result in the envelope not being opened.

## **ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID**

- 16.01 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.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

## **ARTICLE 17 – OPENING OF BIDS**

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

## **ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.



## **ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT**

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 19.03 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.
- 19.04 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.05 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
  - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
  - 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.
- 19.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

## **ARTICLE 20 – BONDS AND INSURANCE**

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

## **ARTICLE 21 – SIGNING OF AGREEMENT**

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

## **ARTICLE 22 – SALES AND USE TAXES**

22.01 Contractor is responsible for determining Taxes as may be necessary for Public Sewer System Work in accordance with Tennessee Regulations. Said taxes must be included in the Bid.

## **ARTICLE 23 – CONTRACTS TO BE ASSIGNED**

23.01 Not Applicable

**BID FORM**

Sewer System Rehabilitation  
Plateau Utility District, Wartburg, TN

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**ARTICLE 1 – BID RECIPIENT**

1.01 This Bid is submitted to:

***Plateau Utility District, 407 Eliza Street, Wartburg, TN 37887***

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS**

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**ARTICLE 3 – BIDDER’S REPRESENTATIONS**

3.01 In submitting this Bid, Bidder represents that:

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

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

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

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

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

E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

- F. 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.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### **ARTICLE 4 – BIDDER’S CERTIFICATION**

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
  - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
  - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### **ARTICLE 5 – BASIS OF BID**

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following unit price(s):

<b>BASE BID</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Bid Unit Price</b>	<b>Bid Price</b>
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	11500	\$ _____	\$ _____
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	80	\$ _____	\$ _____
3	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with cast iron traffic rated cleanout box at property line and up to 30 lf of 6-inch service line	EA	50	\$ _____	\$ _____
4	Install new 4' diameter manhole, traffic grade frame and cover, pipe connecting seals, survey grade GPS coordinates, and all other components for complete in place, tested and accepted manhole	EA	2	\$ _____	\$ _____
5	Install new 4' diameter manhole, water tight frame and cover, pipe connecting seals, survey grade GPS coordinates, and all other components for complete in place, tested and accepted manhole	EA	2	\$ _____	\$ _____
6	Manhole Rehabilitation (Calcium Aluminate Cement) – any depth	VF	305	\$ _____	\$ _____
7	Raise Existing Manhole Casting – Up to 6-Inches	EA	6	\$ _____	\$ _____
8	Reconnection of existing service to manhole, complete and in place, including installation of cleanout with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	10	\$ _____	\$ _____
9	Additional 6" SDR 26 PVC service line, complete in place	LF	200	\$ _____	\$ _____

10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	1,600	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	11	\$ _____	\$ _____
12	Mobilization and Bonds	LS	1	\$ _____	\$ _____
<b>TOTAL OF ALL UNIT PRICE BID ITEMS</b>					\$ _____

**DEDUCTIVE ALTERNATE #1**

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	465	\$ _____	\$ _____
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	25	\$ _____	\$ _____
<b>Total Deductive Alternate #1</b>					\$ _____

**DEDUCTIVE ALTERNATE #2**

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	650	\$ _____	\$ _____
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____

10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	40	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	1	\$ _____	\$ _____
<b>Total Deductive Alternate #2</b>					\$ _____
<b>DEDUCTIVE ALTERNATE #3</b>					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	40	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	3	\$ _____	\$ _____
<b>Total Deductive Alternate #3</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 Bid items will be based on actual quantities, determined as provided in the Contract Documents.

#### **ARTICLE 6 – TIME OF COMPLETION**

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

#### **ARTICLE 7 – ATTACHMENTS TO THIS BID**

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. Contractor's License Number or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
  - C. State Of TN – Certificate Regarding Debarment, Suspension and Other Responsibility Matters



- D. Drug-Free Workplace Affidavit;
- E. Statement of Compliance Certificate – Illegal Immigrants
- F. Iran Divestment Act Certification
- G. Non-Boycott Israel Certification

**ARTICLE 8 – DEFINED TERMS**

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

**ARTICLE 9 – BID SUBMITTAL**

BIDDER:

\_\_\_\_\_  
 By:  
*[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_  
 (If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:  
*[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_

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

Submittal Date: \_\_\_\_\_

Address for giving notices:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Contact Name and e-mail address: \_\_\_\_\_  
 \_\_\_\_\_

Bidder's License No.: \_\_\_\_\_

---

## BID BOND

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

---

BIDDER (*Name and Address*):

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

OWNER (*Name and Address*):

Plateau Utility District  
407 Eliza Street  
Wartburg, TN 37887

BID

Bid Due Date:

Description (*Project Name— Include Location*): Sewer System Rehabilitation

BOND

Bond Number:

Date:

Penal sum

\$

(Words)

(Figures)

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

**BIDDER**

**SURETY**

(Seal)

(Seal)

\_\_\_\_\_  
Bidder's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By:

\_\_\_\_\_  
Signature

By:

\_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest:

\_\_\_\_\_  
Signature

Attest:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

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

**DRUG FREE WORKPLACE AFFIDAVIT**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The undersigned, principal officer of \_\_\_\_\_, the Contractor, an employer of five or more employees contracting with \_\_\_\_\_, the Owner, to provide construction services, hereby states under oath as follows:

- 1. The undersigned is a principal officer of the Contractor and is duly authorized to execute this Affidavit on behalf of the Contractor.
- 2. The Contractor submits this Affidavit pursuant to Tennessee Code Annotated (TCA) § 50-9-113, which requires each employer with five or more employees receiving pay who contracts with the state to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with TCA Title 50, Chapter 9.
- 3. The Company is in compliance with TCA § 50-9-113.

Further affiant stateth not.

\_\_\_\_\_  
Principal Officer

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

END OF AFFIDAVIT

**STATEMENT OF COMPLIANCE CERTIFICATE  
ILLEGAL IMMIGRANTS**

EACH CONTRACTOR BIDDING SHALL FILL IN AND SIGN THE FOLLOWING

The is to certify that \_\_\_\_\_  
have fully complied with all the requirements of Chapter No. 878 (House Bill No. 111 and Senate Bill No. 411) which serves to amend Tennessee Code Annotated Title 12, Chapter 4, Part I, attached herein for reference.

- All Bidders for construction services on this project shall be required to submit an affidavit (by executing this compliance document) as part of their bid, that attests that such Bidder shall comply with requirements of Chapter No. 878.

Signed: \_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Personally appeared before me, \_\_\_\_\_ the undersigned Notary Public, \_\_\_\_\_, the within named bargainor, with whom I am personally acquainted, and known to me to be the President / Owner / Partner (as applicable) of the \_\_\_\_\_, Corporation, Partnership, Sole Proprietorship (as applicable) and acknowledged to me that he executed the foregoing document for the purposes recited therein.

Witness my hand, at office, this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_



**STATE OF TENNESSEE**  
**CERTIFICATION REGARDING DEBARMENT, SUSPENSION**  
**AND OTHER RESPONSIBILITY MATTERS**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- Have not within a three-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

<b>Signature of Authorized Representative</b>	<b>Date</b>
<b>Printed Name</b>	<b>Phone Number / Email Address</b>

I am unable to certify to the above statements. Explanation is attached.



**STATE OF TENNESSEE**  
**IRAN DIVESTMENT ACT CERTIFICATION**

<b>SUBJECT CONTRACT NUMBER(S):</b>	
<b>CONTRACTOR LEGAL ENTITY NAME:</b>	
<b>EDISON SUPPLIER IDENTIFICATION NUMBER:</b>	

The Iran Divestment Act, Tenn. Code Ann. § 12-12-101 et. seq. requires a person that attempts to contract with the state, including a contract renewal or assumption, to certify at the time the bid is submitted or the contract is entered into, renewed, or assigned, that the person or the assignee is not identified on a list created pursuant to § 12-12-106.

Currently, the list is available online at the following website: <https://www.tn.gov/generalservices/procurement/central-procurement-office--cpo-/library-/public-information-library.html>

The Contractor, identified above, certifies by signature below that it is not included on the list of persons created pursuant to Tenn. Code Ann. § 12-12-106 of the Iran Divestment Act.

---

**CONTRACTOR SIGNATURE**

NOTICE: This certification MUST be signed by an individual with legal capacity to contractually bind the Contractor.

---

**PRINTED NAME AND TITLE OF SIGNATORY**

---

**DATE**





**STATE OF TENNESSEE**  
**NON-BOYCOTT OF ISRAEL CERTIFICATION**

The Bidder certifies that it is not currently engaged in, and will not for the duration of the contract engage in, a boycott of Israel as defined by Tenn. Code Ann. § 12-4-119. This provision shall not apply to contracts with a total value of less than two hundred fifty thousand dollars (\$250,000) or to contractors with less than ten (10) employees.

According to the law, a boycott of Israel means engaging in refusals to deal, terminating business activities, or other commercial actions that are intended to limit commercial relations with Israel, or companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel to do business, or persons or entities doing business in Israel, when such actions are taken:

- 1) In compliance with, or adherence to, calls for a boycott of Israel, or
- 2) In a manner that discriminates on the basis of nationality, national origin, religion, or other unreasonable basis, and is not based on a valid business reason. Tenn. Code Ann. § 12-4-119.

<b>Signature of Authorized Representative</b>	<b>Date</b>
<b>Printed Name</b>	<b>Phone Number / Email Address</b>



## STATE OF TENNESSEE

### BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352.

Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

#### **APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING – REQUIRED FOR CONTRACTS OVER \$100,000** *Certification for Contracts, Grants, Loans, and Cooperative Agreements*

The undersigned certifies, to the best of his or her knowledge and belief, that:

- No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

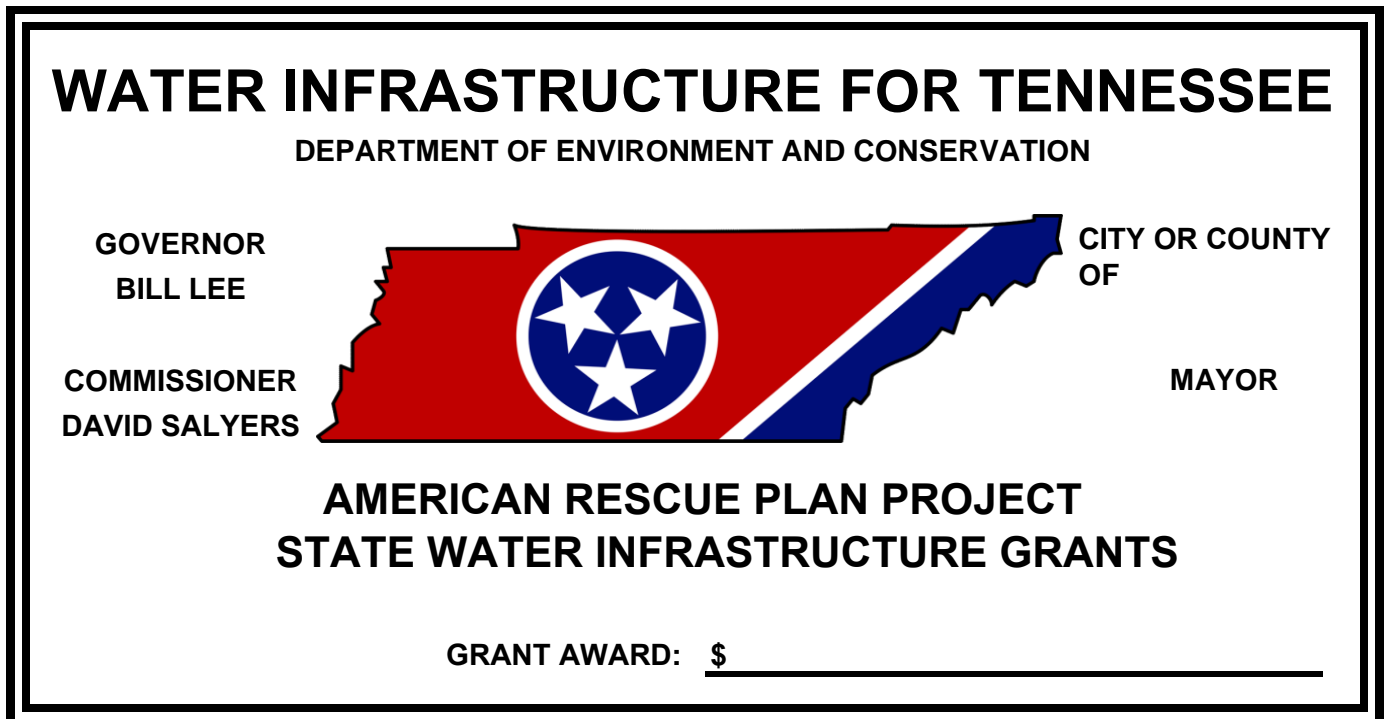
<b>Signature of Authorized Representative</b>	<b>Date</b>
<b>Printed Name and Title</b>	<b>Phone Number / Email Address</b>

# STATE WATER INFRASTRUCTURE GRANTS

## IDENTIFICATION SIGN

All plans and specifications for each project approved shall contain provisions for requiring the general contractor to provide identification signs. The signs shall conform to the following basic features:

1. The following diagram shall be used as a design:



2. The sign shall be a 4'0" X 8'0" sheet of exterior grade plywood and shall be built so as to remain erected during the entire construction phase of the project.
3. The background of both sides shall be white. The lettering shall be black and shall be large enough to take advantage of the full size of the plywood. The stars shall be white set on a blue field and surrounded by a white ring placed inside a state map in red with a stripe of white and blue on the right side. The sign shall be bordered by a one-inch blue stripe.

## NOTICE OF AWARD

---

Date of Issuance:

Owner: Plateau Utility District                      Owner's Contract No.:

Engineer: Civil & Environmental Consultants, Inc.      Engineer's Project No.: 325-818

Project: Sewer System Rehabilitation                      Contract Name: Sewer System Rehabilitation

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: \$ \_\_\_\_\_ *[note if subject to unit prices, or cost-plus]*

[ 4 ] 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. *[revise if multiple copies accompany the Notice of Award]*

a set of the 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 [\_\_\_\_\_] counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., performance and payment bonds]* and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

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

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

---

Owner:

Authorized Signature

By:

Title:

Copy: Engineer

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

THIS AGREEMENT is by and between Plateau Utility District (“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:

**ARTICLE 2 – THE PROJECT**

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Sewer System Rehabilitation

**ARTICLE 3 – ENGINEER**

3.01 The part of the Project that pertains to the Work has been designed by Hethcoat & Davis, Inc.

3.02 The Owner has retained Civil & Environmental Consultants, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

**ARTICLE 4 – CONTRACT TIMES**

4.01 *Contract Times: Days*

A. The Work will be substantially completed within 270 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 300 days after the date when the Contract Times commence to run.

4.02 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$ 700 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

## ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

## ARTICLE 6 – PAYMENT PROCEDURES

### 6.01 *Submittal and Processing of Payments*

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

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
  - a. 95 percent of Work completed (with the balance being 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 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

### 6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

## ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 18 percent per annum.

## ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has 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; with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor’s safety precautions and programs.
- E. 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.
- F. 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.
- G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- I. 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.

## ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
  - 1. This Agreement (pages 1 to     , inclusive).
  - 2. Performance bond (pages      to     , inclusive).
  - 3. Payment bond (pages      to     , inclusive).



4. General Conditions (pages █ to █, inclusive).
  5. Supplementary Conditions (pages █ to █, inclusive).
  6. Specifications as listed in the table of contents of the Project Manual.
  7. Drawings (not attached but incorporated by reference) consisting of █ sheets with each sheet bearing the following general title: █
  8. Addenda (numbers █ to █, inclusive).
  9. Exhibits to this Agreement (enumerated as follows):
    - a. Contractor's Bid (pages █ to █, inclusive).
  10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    - a. Notice to Proceed.
    - b. Work Change Directives.
    - c. Change Orders.
    - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

## **ARTICLE 10 – MISCELLANEOUS**

### **10.01 Terms**

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

### **10.02 Assignment of Contract**

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

### **10.03 Successors and Assigns**

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

### **10.04 Severability**

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue

to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

#### 10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### 10.06 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, 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:

CONTRACTOR:

\_\_\_\_\_

\_\_\_\_\_

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

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

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

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

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

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

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

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

Address for giving notices:

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

License No.: \_\_\_\_\_

*(where applicable)*

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

**NOTE TO USER:** Use in those states or other jurisdictions where applicable or required.

**NOTICE TO PROCEED**

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Owner: Plateau Utility District Owner's Contract No.:  
Contractor: Contractor's Project No.:  
Engineer: Civil & Environmental Consultants, Inc. Engineer's Project No.: 325-818  
Project: Sewer System Rehabilitation Contract Name:  
Effective Date of Contract:

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**TO CONTRACTOR:**

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [REDACTED], 20[REDACTED]. *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is \_\_\_\_\_ ( 270 days), and the date of readiness for final payment is \_\_\_\_\_ (300 days).

Before starting any Work at the Site, Contractor must comply with the following:  
*[Note any access limitations, security procedures, or other restrictions]*

---

Owner:

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer

**PERFORMANCE BOND**

CONTRACTOR *(name and address):*

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

OWNER *(name and address):*

Plateau Utility District  
 407 Eliza Street  
 Wartburg, TN 37887

**CONSTRUCTION CONTRACT**

Effective Date of the Agreement:

Amount:

Description *(name and location):* Sewer System Rehabilitation

**BOND**

Bond Number:

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

Amount:

Modifications to this Bond Form:  None  See Paragraph 16

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

**CONTRACTOR AS PRINCIPAL**

**SURETY**

\_\_\_\_\_  
 Contractor's Name and Corporate Seal *(seal)*

\_\_\_\_\_  
 Surety's Name and Corporate Seal *(seal)*

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

By: \_\_\_\_\_  
 Signature *(attach power of attorney)*

\_\_\_\_\_  
 Print Name

\_\_\_\_\_  
 Print Name

\_\_\_\_\_  
 Title

\_\_\_\_\_  
 Title

Attest: \_\_\_\_\_  
 Signature

Attest: \_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Title

\_\_\_\_\_  
 Title

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

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### 14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

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

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

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

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

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

16. Modifications to this Bond are as follows:

## PAYMENT BOND

CONTRACTOR *(name and address)*:

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

OWNER *(name and address)*:

Plateau Utility District  
407 Eliza Street  
Wartburg, TN 37887

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*: Sewer System Rehabilitation

### BOND

Bond Number:

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

Amount:

Modifications to this Bond Form:  None  See Paragraph 18

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

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_ *(seal)*

Contractor's Name and Corporate Seal

\_\_\_\_\_ *(seal)*

Surety's Name and Corporate Seal

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

Signature

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

Signature *(attach power of attorney)*

\_\_\_\_\_

Print Name

\_\_\_\_\_

Print Name

\_\_\_\_\_

Title

\_\_\_\_\_

Title

Attest: \_\_\_\_\_

Signature

Attest: \_\_\_\_\_

Signature

\_\_\_\_\_

Title

\_\_\_\_\_

Title

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



1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is 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 shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
  - 5.1 Claimants who do not have a direct contract with the Contractor,
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
  - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    4. A brief description of the labor, materials, or equipment furnished;
    5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    7. The total amount of previous payments received by the Claimant; and
  - 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
  - 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
  - 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
  - 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

**CERTIFICATE OF OWNER'S ATTORNEY**

I, the undersigned, \_\_\_\_\_, the duly authorized and acting legal representative of \_\_\_\_\_ do hereby certify as follows:

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

Date: \_\_\_\_\_



**Contractor's Application for Payment No.**

	Application Period:	Application Date:
To Plateau Utility District (Owner):	From (Contractor):	Via (Engineer): Civil & Environmental Consultants, Inc.
Project: Sanitary Sewer Rehabilitation	Contract: Sanitary Sewer Rehabilitation	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.: 325-818

**Application For Payment  
Change Order Summary**

Approved Change Orders	Number	Additions	Deductions			
				<b>1. ORIGINAL CONTRACT PRICE</b> .....	\$	_____
				<b>2. Net change by Change Orders</b> .....	\$	_____
				<b>3. Current Contract Price (Line 1 ± 2)</b> .....	\$	_____
				<b>4. TOTAL COMPLETED AND STORED TO DATE</b> (Column F total on Progress Estimates).....	\$	<b>#REF!</b>
				<b>5. RETAINAGE:</b>		
				a. X <u>      #REF!      </u> Work Completed.....	\$	<b>#REF!</b>
				b. X <u>      #REF!      </u> Stored Material.....	\$	<b>#REF!</b>
				c. Total Retainage (Line 5.a + Line 5.b).....	\$	<b>#REF!</b>
				<b>6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c)</b> .....	\$	<b>#REF!</b>
				<b>7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)</b> .....	\$	_____
				<b>8. AMOUNT DUE THIS APPLICATION</b> .....	\$	<b>#REF!</b>
				<b>9. BALANCE TO FINISH, PLUS RETAINAGE</b> (Column G total on Progress Estimates + Line 5.c above).....	\$	<b>#REF!</b>
<b>TOTALS</b>						
				<b>NET CHANGE BY CHANGE ORDERS</b>		

**Contractor's Certification**

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

---

**Contractor Signature**

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

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of the other amount)

is recommended by: \_\_\_\_\_ (Engineer) \_\_\_\_\_ (Date)

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of the other amount)

is approved by: \_\_\_\_\_ (Owner) \_\_\_\_\_ (Date)

Approved by: \_\_\_\_\_ (Date)  
Funding or Financing Entity (if applicable)





**CERTIFICATE OF SUBSTANTIAL COMPLETION**

Owner: Plateau Utility District	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Civil & Environmental Consultants, Inc.	Engineer's Project No.: 325-818
Project: Sewer System Rehabilitation Project	Contract Name:

**This [preliminary] [final] Certificate of Substantial Completion applies to:**

All Work  The following specified portions of the Work:

**Date of Substantial Completion**

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

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

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

Amendments to Owner's responsibilities:  None  
 As follows

Amendments to Contractor's responsibilities:  None  
 As follows:

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

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

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

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



Endorsed by



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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§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*

- 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*

- 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 – CLAIMS**

#### 12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
  - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
  - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

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

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

### 13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
  1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.



- B. *Cash Allowances*: Contractor agrees that:
  - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

### 13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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

### 14.01 *Access to Work*

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

### 14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

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

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require 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 TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
  2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. the Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. the Contract Price has been reduced by Change Orders;
  - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

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

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.



- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
  - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

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

#### 15.06 *Final Payment*

- A. *Application for Payment:*
  - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

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

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

**C. *Completion of Work:*** The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

**D. *Payment Becomes Due:*** Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

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

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

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

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

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

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17 – FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

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

## **ARTICLE 18 – MISCELLANEOUS**

### **18.01 *Giving Notice***

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

### **18.02 *Computation of Times***

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

### **18.03 *Cumulative Remedies***

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

18.04 *Limitation of Damages*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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

## SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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.

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### ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### ARTICLE 2 – PRELIMINARY MATTERS

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

- SC-2.01** Delete Paragraphs 2.01 B. and C. in their entirety and insert the following in their place:
- B. Evidence of Contractor's Insurance:** When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies of insurance (including all endorsements, and identification of applicable self-insured retentions and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
  - C. Evidence of Owner's Insurance:** After receipt from Contractor of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner under Article 6 (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

#### *SC-2.02 Copies of Documents*

- SC-2.02** Delete Paragraph 2.02.A in its entirety and insert the following new paragraph in its place:
- A. Owner shall furnish to Contractor 4 copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.**



## ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

### SC-3.01 *Intent*

**SC-3.01** Delete Paragraph 3.01.C in its entirety

## ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

### SC-4.01 *Commencement of Contract Times; Notice to Proceed*

**SC-4.01.A** Delete the last sentence of the paragraph.

### SC-4.05 *Delays in Contractor's Progress*

**SC-4.05** Amend Paragraph 4.05.C by adding the following subparagraphs:

#### **5. Weather – Related Delays**

- a. If “abnormal weather conditions” as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis of a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the work as scheduled.
- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
  1. Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Specification Section 01450 Weather Delays.
  2. In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Specification 01450 Weather Delays will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor's then-current Progress Schedule's critical path for the Project.

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

### SC-5.03 *Subsurface and Physical 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-5.06 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-6.01 Performance, Payment, and Other Bonds

SC 6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

- A. Required Performance Bond Form: The performance bond that Contractor furnishes will be in the form of EJCDC C-610, Performance Bond
- B. Required Payment Bond Form: The payment bond that Contractor furnishes will be in the form of EJCDC C-615, Payment Bond.

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, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State: Statutory

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

Jones Act coverage, if applicable:

Bodily injury by accident, each accident \$ NA

Bodily injury by disease, aggregate \$ NA

Employer’s Liability:

Bodily injury, each accident \$ 500,000

Bodily injury by disease, each employee \$ NA

Bodily injury/disease aggregate	\$	<u>NA</u>
For work performed in monopolistic states, stop-gap liability coverage shall be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	\$	<u>NA</u>
Foreign voluntary worker compensation		<u>Statutory</u>
<b>2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:</b>		
General Aggregate	\$	<u>2,000,000</u>
Products - Completed Operations Aggregate	\$	<u>1,000,000</u>
Personal and Advertising Injury	\$	<u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$	<u>1,000,000</u>
<b>3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:</b>		
<b>Bodily Injury:</b>		
Each person	\$	<u>1,000,000</u>
Each accident	\$	<u>1,000,000</u>
<b>Property Damage:</b>		
Each accident	\$	<u>1,000,000</u>
<i>[or]</i>		
Combined Single Limit of	\$	<u>1,000,000</u>
<b>4. Excess or Umbrella Liability:</b>		
Per Occurrence	\$	<u>5,000,000</u>
General Aggregate	\$	<u>5,000,000</u>
<b>5. Contractor's Pollution Liability:</b>		
Each Occurrence	\$	<u>NA</u>
General Aggregate	\$	<u>NA</u>



If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following: *None*

7. Contractor's Professional Liability:

Each Claim	\$	<u>NA</u>
Annual Aggregate	\$	<u>NA</u>

[

**ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

*SC-7.02 Labor; Working Hours*

**SC-7.02.B. Add the following new subparagraphs immediately after Paragraph 7.02.B:**

1. Regular working hours will be between 7:00 am and 6:00 pm on weekdays. Special requests need to be submitted to the Owner for work outside of these hours or on weekends.
2. Owner's legal holidays are all Federal holidays.

**SC-702 Add the following paragraph following 7.02.B:**

**C. Compliance with the Contract Work Hours and Safety Standards Act.**

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of 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 C.1 of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph C.1 of this section, in the amount of \$27 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 C.1 of this Section.

3. **Withholding for unpaid wages and liquidated damages.** The Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph C.2 of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph C.1 to C.4 of this section and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by an subcontractor or lower tier subcontractor with the clauses set forth in paragraphs C.1 to C.4 of this section.

*SC-7.09 Taxes*

**SC 7.09** Add a new paragraph immediately after Paragraph 7.09.A:

- B. **Owner may be exempt from payment of sales and compensating use taxes of the State of Tennessee and of cities and counties thereof on all materials to be incorporated into the Work. It is the Contractor's responsibility for determining Taxes as may be necessary in accordance with Tennessee Regulations. If tax exemption does apply:**
  1. **Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.**
  2. **Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.**

**ARTICLE 8 – OTHER WORK AT THE SITE**

**ARTICLE 9 – OWNER'S RESPONSIBILITIES**

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

*SC-10.03 Project Representative*

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

- B. **On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.**

## ARTICLE 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 and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
1. if the extended price of a particular item of Unit Price Work amounts to 25 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
  2. if there is no corresponding adjustment with respect to any other item of Work; and
  3. if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.

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

### 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.

## ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

### SC-17.02 Arbitration

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with Construction Industry Arbitration Rules (subject to the conditions and limitations of this paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy will

be sent to Engineer for information. The demand for arbitration will be made within the specific time required in this Article, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.

- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgement against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
  - 1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration;
  - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings;
  - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration;
  - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include a concise breakdown of the award, and a

written explanation of the award specifically citing the Contract provisions deemed applicable and relied on in making the award.

- I. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- J. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.
- K. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

*SC-17.03 Attorneys' Fees*

**SC-17.03** Add the following new paragraph immediately after Paragraph 17.02.

**SC-17.03 Attorneys' Fees:** For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

**ARTICLE 18 – MISCELLANEOUS**

**ARTICLE SC – 19 – ADD THE FOLLOWING NEW ARTICLE 19 IMMEDIATELY AFTER ARTICLE 18**

**ARTICLE 19 – FEDERAL REQUIREMENTS**

*SC-19.01 Equal Employment Opportunity*

**SC-19.01** During the performance of this contract, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for



employment, notices to provided setting forth the provisions of this non discrimination clause.

- B. The contractor will, in all solicitations or advertisements for employees placed by on or behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- C. The contractor will not discharge or in any other manner discriminate against employee of applicant for employee because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- D. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- E. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- F. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- G. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by the law.
- H. The Contractor will include the portion of the sentence immediately preceding paragraph A and the provisions or paragraphs A through G in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September

24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

*SC-19.02 Clean Air Act*

**SC-19.02 Clean Air Act**

- A. The contractor agrees to comply with all applicable standards, order or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §7401 et seq
- B. The contractor agrees to report each violation to the Owner and understands and agrees that the Owner will, in turn, report each violation as required to assure notification to treasury, and the appropriate Environmental Protection Agency Regional Office.
- C. The contractor agrees to include these requirements in each subcontract exceeding \$150,000.

*SC-19.03 Federal Water Pollution Control Act*

**SC-19.03 Federal Water Pollution Control Act**

- A. The contractor agrees to comply with all applicable standards, order or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq
- B. The contractor agrees to report each violation to the Owner and understands and agrees that the Owner will, in turn, report each violation as required to assure notification to treasury, and the appropriate Environmental Protection Agency Regional Office.
- C. The contractor agrees to include these requirements in each subcontract exceeding \$150,000.

*SC-19.04 Debarment and Suspension*

**SC-19.03 Debarment and Suspension**

- A. This contract is a covered transaction for purpose of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. §180.995) or its affiliates (defined at 2 C.F.R. §180.905) are excluded (defined at 2 C.F.R. §180.940) or disqualified (defined at 2 C.F.R. §180.935).
- B. The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R., pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into to.
- C. This certification is a material representation of fact relied upon by the Owner. If it later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart

C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Owner, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

- D. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

*SC-19.05 Byrd Anti-Lobbying Amendment*

**SC-19.05 Byrd Anti-Lobbying Amendment**

- A. Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee if any agency, a Member of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. §1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

*SC-19.06 Procurement of Recovered Materials*

**SC-19.06 Procurement of Recovered Materials**

- A. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired competitively within a timeframe providing for compliance with the contract performance schedule; meeting contract performance requirements; or at a reasonable price.
- B. Information about this requirement along with the list of EPA – designated items, is available at EA’s Comprehensive Procurement Guidelines webpage.
- C. The contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

*SC-19.07 Domestic Preference for Procurement*

**SC-19.07 Domestic Preference for Procurement**

- A. As appropriate, and the extent consistent with the law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.
- B. For the purpose of this contract, produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Manufactured

products means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

*SC-19.08 Access to Records*

**SC-19.08 Access to Records – The following access to records requirements apply to this contract.**

- A. The Contractor agrees to provide the Owner, State of TN, Treasury, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purpose of making audits, examinations, excerpts, and transcriptions.**
- B. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.**
- C. The Contractor agrees to provide the Treasury or authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.**

*SC-19.09 Compliance with Federal Law, Regulations and Executive Order*

**SC-19.09 This is an acknowledgement that Treasury ARP SLRF financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, Treasury policies, and directives.**

*SC-19.10 Program Fraud and False or Fraudulent Statements or Related Acts*

**SC-19.10 The contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.**

Date of Issuance:	Effective Date:
Owner: Plateau Utility District	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Civil & Environmental Consultants, Inc.	Engineer's Project No.: 325-818
Project: Sewer System Rehabilitation Project	Contract Name:

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

Description:

Attachments: *[List documents supporting change]*

<b>CHANGE IN CONTRACT PRICE</b>	<b>CHANGE IN CONTRACT TIMES</b> <i>[note changes in Milestones if applicable]</i>
Original Contract Price:  \$ _____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[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: _____ days
Contract Price prior to this Change Order:  \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] of this Change Order:  \$ _____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
Contract Price incorporating this Change Order:  \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ days or dates

<b>RECOMMENDED:</b>	<b>ACCEPTED:</b>	<b>ACCEPTED:</b>
By: _____ Engineer (if required)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable)

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_

# PROJECT MANUAL

## 2016 RD Sewer System Rehabilitation

City of Wartburg, TN

April 2021



278 Franklin Road, Suite 200  
Brentwood, Tennessee 37027  
615-577-4300



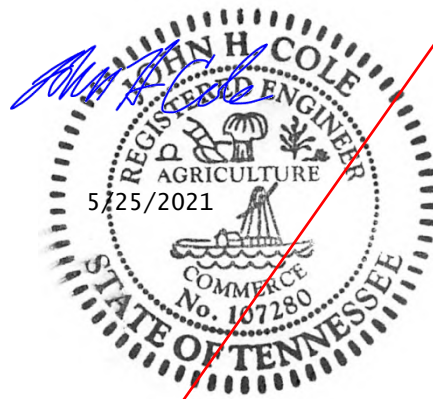
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Division 26 - Electrical

John H. Cole, P.E.

EasternEngineering.us







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<del>00620</del>	<del>Application for Payment</del>	<del>4</del>
<del>00625</del>	<del>Certification of Substantial Completion</del>	<del>1</del>
<del>00700</del>	<del>General Conditions</del>	<del>77</del>
<del>00800</del>	<del>RUS Bulletin 1780-26, Attachment H – Supplementary Conditions</del>	<del>34</del>
<del>00815</del>	<del>EJCDC Supplemental General Conditions</del>	<del>2</del>
<del>00941</del>	<del>Change Order</del>	<del>1</del>
<del>-----</del>	<del>USDA Rural Development Project Sign</del>	<del>1</del>
<del>-----</del>	<del>Certificate of Owner’s Attorney</del>	<del>1</del>
<del>-----</del>	<del>Engineer’s Certification of Final Plans and Specifications</del>	<del>1</del>

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01026	Measurement and Payment	8
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01050	Field Engineering	1
01320	Construction Progress Documentation	3
01340	Shop Drawings	4

01410	Testing Lab Services	3
01450	Weather Delays	3
01500	Temporary Facilities	3
01610	Transportation and Handling	2
01620	Storage and Protection	1
01630	Substitutions	3
01631	Substitution Request Form	3
01700	Contract Closeout	3
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02221	Trenching, Backfilling and Compaction for Utilities	5
02222	Unclassified Excavation	9
02260	Finish Grading	2
02410	Demolition	4
02485	Seeding	3
02575	Pavement Repair	4
02600	Manholes and Wetwells	7
02650	Sanitary Sewer Manhole Rehabilitation	7
02722	Sanitary Sewers (Gravity)	10
02762	Sanitary Sewer Line and Manhole Cleaning	5
02764	Sanitary Sewer TV Inspection	7
02766	Sewer Flow Control	8
02768	Pipe Bursting	6

### **DIVISION 3: CONCRETE**

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### **~~DIVISION 8: DOORS AND WINDOWS~~**

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### **~~DIVISION 11: PUMPS, GATES AND VALVES~~**

<del>11200</del>	<del>Sewage Valves</del>	<del>3</del>
<del>11395</del>	<del>Submersible Sewage Grinder Pump</del>	<del>5</del>

### **~~DIVISION 26: ELECTRICAL~~**

<del>260500</del>	<del>Common Work Results for Electrical</del>	<del>9</del>
<del>260519</del>	<del>Low Voltage electrical Power Conductors and Cables</del>	<del>3</del>
<del>260526</del>	<del>Grounding and Bonding for Electrical Systems</del>	<del>8</del>

<del>260529</del>	<del>Hangers and Supports for Electrical Systems</del>	<del>2</del>
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<del>262816.16</del>	<del>Enclosed Switches</del>	<del>2</del>
<del>262913.16</del>	<del>Reduced Voltage Motor Controllers (RVMC)</del>	<del>2</del>
<del>264313</del>	<del>Surge Protective Devices for Low Voltage Electrical Power Circuits</del>	<del>4</del>

Appendix A: Sanitary Sewer CCTV Reports

Appendix B: Manhole Reports



**ADVERTISEMENT FOR BIDS**

**City of Wartburg  
407 Eliza Street, Wartburg, TN 37887  
2016 RD Sewer System Rehabilitation**

**General Notice**

**The City of Wartburg** (Owner) is requesting Bids for the construction of the following Project:

**2016 RD Sewer System Rehabilitation**

Bids for the construction of the Project will be received at the **Wartburg City Hall** located at **407 Eliza Street, Wartburg, TN 37887** until **Xxxx, Month X, 2021** at **XX:XX**, local time. At that time the Bids received will be **publicly** opened and read.

The Project includes the following Work:

**Approximately 11,750 linear feet of sanitary sewer rehabilitation by method of pipe bursting with 8" pipe. The reconnection of approximately 130 services. And the rehabilitation of approximately 32 sewer manholes. The project also includes the installation of approximately 400 linear feet of new gravity sewer line and the construction of a new sanitary sewer pumping station, including demolition of the existing station.**

Bids are requested for the following Contract: **2016 RD Sewer System Rehabilitation**

The Project has an expected duration of **270** days to substantial completion and 300 days to final completion.

**Obtaining the Bidding Documents**

The Issuing Office for the Bidding Documents is:

**Hethcoat & Davis, Inc  
278 Franklin Road, Suite 200  
Brentwood, TN 37027**

Prospective Bidders may obtain or examine the Bidding Documents at the Issuing Office on Monday through Friday between the hours of **8 am – 4 pm** and may obtain copies of the Bidding Documents from the Issuing Office as described below. 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.

Bidding Documents may be purchased from the Issuing Office during the hours indicated above. Bidding Documents are available on compact disk (as portable document format (PDF) files) for a non-refundable charge of \$50.00.

Bidding documents may also be examined at:

Wartburg City Hall  
407 Eliza Street  
Wartburg, TN 37887

All bidders must be licensed General Contractors as required by the Contractor's Licensing Act of 1994 of the General Assembly of the State of Tennessee, and qualified for the type of construction being bid upon.

#### **Pre-bid Conference**

A pre-bid conference for the Project will not be held.

#### **Instructions to Bidders.**

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.

#### **American Iron and Steel**

**Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference applies an American Iron and Steel requirement to this project. All iron and steel products used in this project must be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials.**

**The following waivers apply to this Contract:**

***De Minimis,***

**Minor Components,**

**Pig iron and direct reduced iron, and**

**This Advertisement is issued by:**

Owner: **City of Wartburg**

By: **Jonathan Dagley**

Title: **Mayor**

Date: **[Date of initial publication of advertisement]**

# INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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## ARTICLE 1—DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

Hethcoat & Davis, Inc  
278 Franklin Road, Suite 200  
Brentwood, TN 37027  
(615)577-4300

## ARTICLE 2—BIDDING DOCUMENTS

2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.

2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.

2.03 ~~Owner has established a Bidding Documents Website 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 7 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 will provide or direct the Engineer to provide for the use of the Contractor documents that were developed by Engineer as part of the Project design process, as Electronic Documents in native file formats.~~
  - 1. ~~Electronic Documents that are available in native file format include:~~
    - a. ~~[List documents that will be made available to Contractor]~~
  - 2. ~~Release of such documents will be solely for the convenience of the Contractor. No such document is a Contract Document.~~
  - 3. ~~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.~~
  - 4. ~~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 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within 7 days of Owner's request, Bidder must submit the following information:
- 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 ~~Prospective Bidders must submit required information regarding their qualifications by **[insert deadline for prequalification submittals]**. Owner will review the submitted information to determine which contractors are qualified to bid on the Work. Owner will issue an Addendum listing those contractors that Owner has determined to be qualified to construct the project. Bids will only be accepted from listed contractors. The information that each prospective Bidder must submit to seek prequalification includes the following:~~
- ~~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. Prospective Bidder's state or other contractor license number, if applicable.~~
  - ~~D. Subcontractor and Supplier qualification information.~~
  - ~~E. Other required information regarding qualifications.~~
- Deleted**
- 3.03 ~~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.~~

- 3.04 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.05 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 not be conducted for this Project.
- 4.02 A non-mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.
- 4.03 A mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Proposals will not be accepted from Bidders who do not attend the conference. It is each Bidder's responsibility to sign in at the pre-bid conference to verify its participation. Bidders must sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the pre-bid conference and are eligible to submit a Bid for this Project will be issued in an Addendum.
- 4.04 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

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

##### 5.01 *Site and Other Areas*

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

##### 5.02 *Existing Site Conditions*

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

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.

**4. No subsurface investigation was performed for this project.**

~~5. *Geotechnical Baseline Report/Geotechnical Data Report:* The Bidding Documents contain a Geotechnical Baseline Report (GBR) and Geotechnical Data Report (GDR).~~

~~a. As set forth in the Supplementary Conditions, the GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations (“Baseline Conditions”). The GBR is a Contract Document.~~

~~b. The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.~~

~~c. Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.~~

~~d. As set forth in the Supplementary Conditions, the GDR is a Contract Document containing data prepared by or for the Owner in support of the GBR.~~

~~B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.~~

~~5.03 *Other Site-related Documents*~~

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

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

~~B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.~~

~~C. The other Site-related documents are not part of the Contract Documents.~~

~~D. Bidders are encouraged to review the other Site-related documents, but Bidders will not be held accountable for any data or information in such documents. The requirement to review and take responsibility for documentary Site information is limited to information in (1) the Contract Documents and (2) the Technical Data.~~

~~E. No other Site-related documents are available.~~

5.04 *Site Visit and Testing by Bidders*

A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.

~~B. A Site visit is scheduled following the pre-bid conference. Maps to the Site will be available at the pre-Bid conference.~~

~~C. A Site visit is scheduled for [designate, date, time and location]. Maps to the Site will be made available upon request.~~

D. Bidders visiting the Site are required to arrange their own transportation to the Site.

E. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner or Engineer contact for visiting the Site: **City of Wartburg or Hethcoat & Davis, Inc.** Bidder must conduct the required Site visit during normal working hours.

F. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

G. 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.

H. 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.

I. 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. **Stacey Cox, PE**  
**Hethcoat & Davis, Inc**  
**278 Franklin Road, Suite 200**  
**Brentwood, TN 37027**  
**(615)577-4300**  
**Stacey.cox@hdengr.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 **at least five (5) percent** of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and 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. **Bid security must be at least 5% of the Bidder's maximum Bid price.**
- 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 ~~Bidder must set forth in the Bid the time by which Bidder must achieve Substantial Completion, subject to the restrictions established in Paragraph 13.07 of these Instructions. The Owner will take Bidder's time commitment regarding Substantial Completion into consideration during the evaluation of Bids, and it will be necessary for the apparent Successful Bidder to satisfy Owner that it will be able to achieve Substantial Completion within the time such Bidder has designated in the Bid. [If applicable include the following: Bidder must also set forth in the Bid its commitments regarding the achievement of Milestones and readiness for final payment.] The Successful Bidder's time commitments will be entered into the Agreement or incorporated in the Agreement by reference to the specific terms of the Bid.~~
- Deleted**
- 9.03 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.



## ARTICLE 10—SUBSTITUTE AND “OR EQUAL” ITEMS

10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

**Deleted**

10.02 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those “or-equal” or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an “or-equal” or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer 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. **Each such request shall include the Manufacturer’s Certification for Compliance with AIS. Refer to the Manufacturer’s Certification form provided in these construction Contract Documents.** 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. **Substitutes and “or-equal” materials and equipment may be proposed by Contractor in accordance with Paragraphs 7.05 and 7.06 of the General Conditions after the Effective Date of the Contract. Each such request shall include Manufacturer’s Certification letter to document compliance with AIS requirements of Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference, if applicable. Refer to Manufacturer’s Certification Letter provided in these Contract Documents.**

10.03 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

## ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.

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11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening:

**A. Comply with requirements of TN Contractor's Licensing Board naming critical Subcontractors on the Bid Envelope.**

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.

**11.05 – The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 7.07A.**

**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 as set forth in the Bid Form.~~

#### **13.02 *Base Bid with Alternates***

- A. Bidders must submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.
- B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form.

#### **13.03 *Sectional Bids***

- ~~A. Bidders may submit a Bid on any individual section or any combination of sections, as set forth in the Bid Form.~~
- ~~B. Submission of a Bid on any section signifies Bidder's willingness to enter into a Contract for that section alone at the price offered.~~

- ~~C. If Bidder submits Bids on individual sections and a Bid based on a combination of those sections, such combined Bid need not be the sum of the Bids on the individual sections.~~
- ~~D. Bidders offering a Bid on one or more sections must be capable of completing the Work covered by those sections within the time period stated in the Agreement.~~

~~13.04 *Cost-Plus-Fee Bids*~~

- ~~A. Bidders must submit a Bid on the Contractor's fee, which must be in addition to compensation for Cost of the Work. Such fee must be either (1) a fixed fee, (2) percentages of specified categories of costs, or (3) a percentage applicable to the Cost of the Work as a whole, as set forth in the Bid Form.~~
- ~~B. If the Contractor's fee, as set forth in the Bid Form, is to be based on percentages of categories of cost, or on a percentage applicable to the Cost of the Work as a whole, then Bidders must enter a maximum amount limiting the total fee if required by the Bid Form to do so.~~
- ~~C. Bidders must submit a Bid on the Guaranteed Maximum Price, setting a maximum amount on the compensable Cost of the Work plus Contractor's fee, if required by the Bid Form to do so.~~

~~**Deleted**~~

~~13.05 *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.~~

~~13.06 *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.~~

~~13.07 *Price-Plus-Time Bids*~~

- ~~A. The Owner will consider the time of Substantial Completion commitment made by the Bidder in the comparison of Bids.~~
- ~~B. Bidder must designate the number of days required to achieve Substantial Completion of the Work and enter that number in the Bid Form as the total number of calendar days to substantially complete the Work.~~

- ~~C. The total number of calendar days for Substantial Completion designated by Bidder must be less than or equal to a maximum of [number], but not less than the minimum of [number]. If Bidder purports to designate a time for Substantial Completion that is less than the allowed minimum, or greater than the allowed maximum, Owner will reject the Bid as nonresponsive.~~
- ~~D. The Agreement as executed will contain the Substantial Completion time designated in Successful Bidder's Bid, and the Contractor will be assessed liquidated damages at the rate stated in the Agreement for failure to attain Substantial Completion within that time.~~
- ~~E. Bidder must also designate the time in which it will achieve Milestones, and achieve readiness for final payment. Such time commitments must be consistent with the "Time of Substantial Completion" to which Bidder commits. The Agreement as executed will contain, as binding Contract Times, Successful Bidder's time commitments regarding Milestones, as applicable, and readiness for final payment.~~

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**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 location designated in the Advertisement.
- 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.

16.02 ~~Bids will be opened privately.~~

#### **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 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

18.05 *Evaluation of Bids*

A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. ~~To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.~~



- C. For determination of the apparent low Bidder(s) when sectional bids are submitted, Bids will be compared on the basis of the aggregate of the Bids for separate sections and the Bids for combined sections that result in the lowest total amount for all of the Work.
- D. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- E. For the determination of the apparent low Bidder when cost plus fee bids are submitted, Bids will be compared on the basis of the Guaranteed Maximum Price set forth by Bidder on the Bid Form.

#### **Deleted**

- F. Bid prices will be compared after adjusting for differences in time of Substantial Completion (total number of calendar days to substantially complete the Work) designated by Bidders. The adjusting amount will be determined at the rate set forth in the Agreement for liquidated damages for failing to achieve Substantial Completion, or such other amount that Owner has designated in the Bid Form.
1. The method for calculating the lowest bid for comparison will be the summation of the Bid price shown in the Bid Form plus the product of the Bidder specified time of Substantial Completion in calendar days times the rate for liquidated damages **[or other Owner designated daily rate]** in dollars per day.
  2. This procedure is only used to determine the lowest bid for comparison and contractor selection purposes. The Contract Price for compensation and payment purposes remains the Bid price shown in the Bid Form.

#### **Deleted**

- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

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

- 19.01 Article 6 of the General Conditions, 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—SALES AND USE TAXES**

21.01 Owner is exempt from **Tennessee** state sales and use taxes on materials and equipment to be incorporated in the Work. (Exemption No. \_\_\_\_\_). Said taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

**ARTICLE 22—CONTRACTS TO BE ASSIGNED**

**NOT USED**

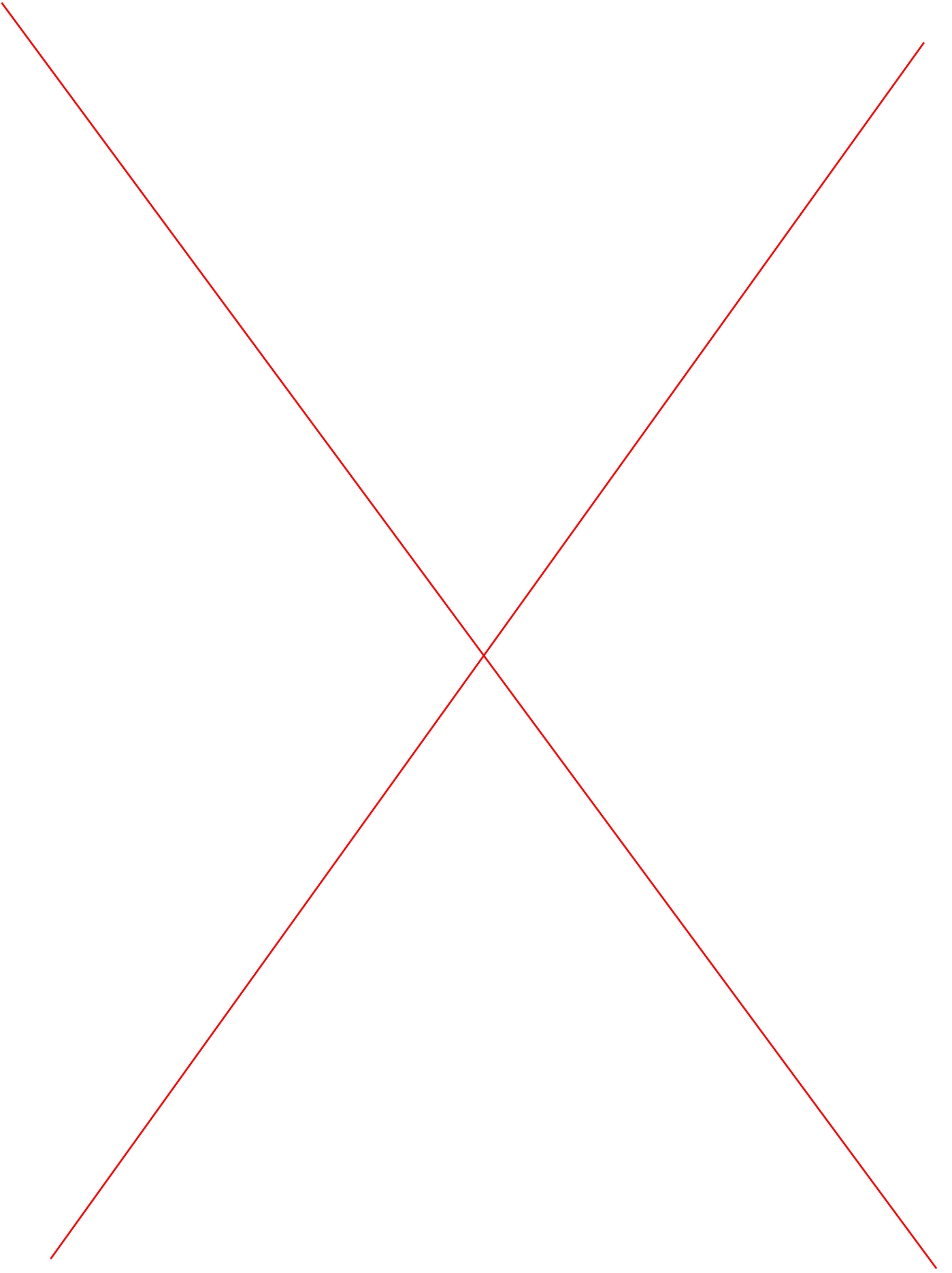
**ARTICLE 23 – FEDERAL REQUIREMENTS**

**23.01 If the contract price is in excess of \$100,000, provisions of the Contract Work Hours and Safety Standards Act at 29 CFR 5.5(b) apply.**

**23.02 Federal requirements at Article 19 of the Supplementary Conditions apply to this Contract.**

**23.03 American Iron and Steel requirements apply to this project.**

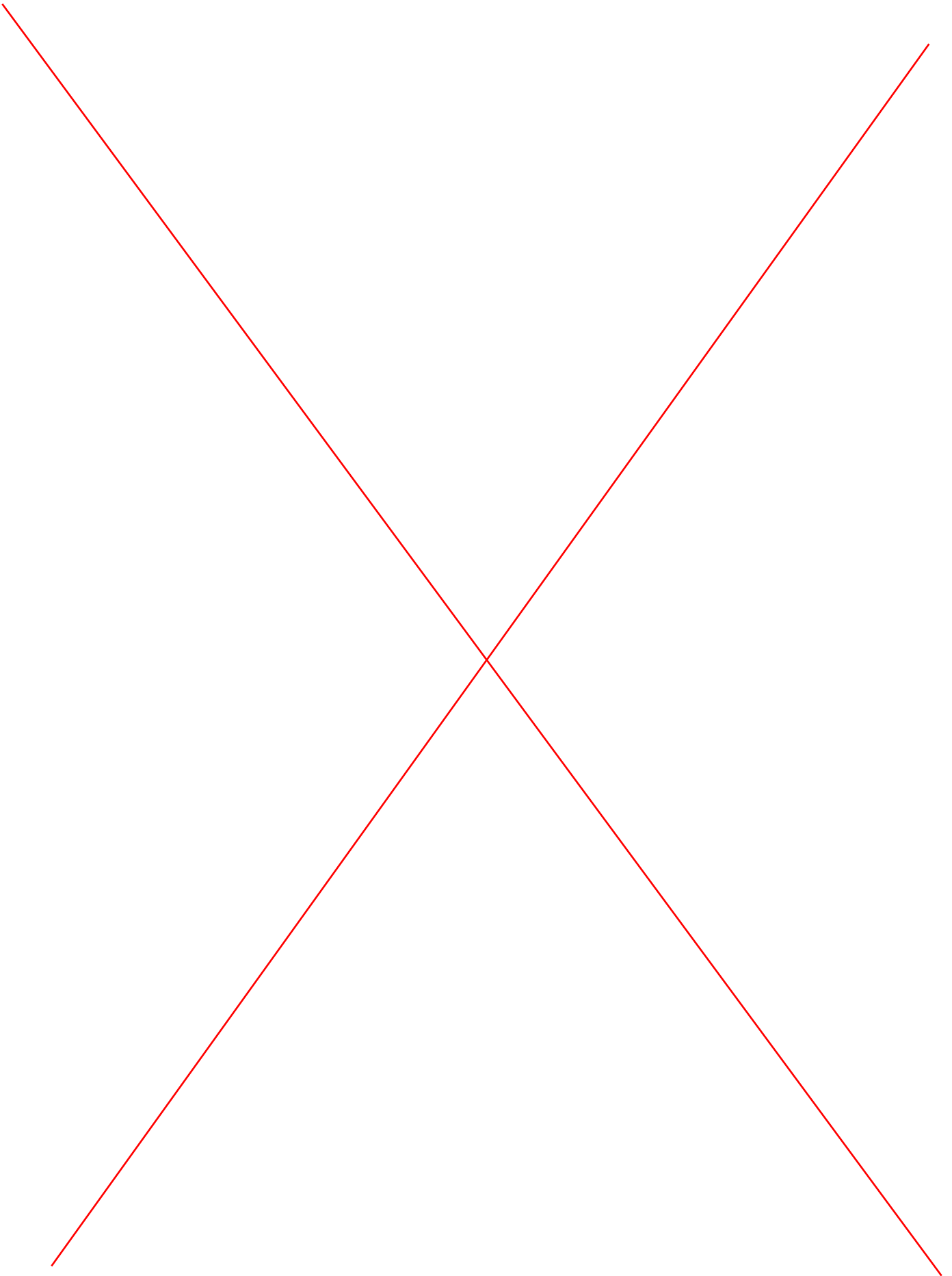




## CONTRACTOR'S IDENTIFICATION

This form or the information contained herein on this form shall be included on the cover of the sealed envelope containing the Bid. Failure to provide this information completely on the sealed envelope will be considered a non-responsive Bid.

Sealed Bid Submitted To: <b><u>The City of Wartburg, TN</u></b>	
Project: <b>2016 RD Sewer System Rehabilitation</b>	
Date and Time of Bid Opening: <b><u>Xxxxday, Month XX, 2021 at 11:00 am, local time</u></b>	
<b><u>BIDDER:</u></b>  Name: _____ Address: _____ _____ TN License No.: _____ Expiration Date: _____ Monetary Limit: _____ Classification: _____	<p style="text-align: center;"><b><u>Complete the following for all applicable Electrical, Plumbing, HVAC, and Masonry Subcontractors:</u></b></p> <hr/> <p style="text-align: center;"><b><u>Plumbing</u></b></p> Subcontractor: _____ TN License No.: _____ Expiration Date: _____ Classification: _____
<p style="text-align: center;"><b><u>Subcontractors to be used on this Project: (or Bidder, if Bidder is to perform the work)</u></b></p> <ul style="list-style-type: none"> <li>• <i>If any work, regardless of dollar value, is required for subcontractor category, list that subcontractor that will perform that work. Or, if Bidder will perform work in a category with Bidder's own forces, fill in Bidder's name as subcontractor.</i></li> <li>• <i>If no work is required in a subcontractor category, write "N/R" (None Required) or "N/A" (Not Applicable)</i></li> <li>• <i>.If the monetary amount of a subcontractor's work is such that no license is required, "N/A" may be written in the license number row, but still write in the name.</i></li> </ul>	<hr/> <p style="text-align: center;"><b><u>HVAC</u></b></p> Subcontractor: _____ TN License No.: _____ Expiration Date: _____ Classification: _____
	<hr/> <p style="text-align: center;"><b><u>Electrical</u></b></p> Subcontractor: _____ TN License No.: _____ Expiration Date: _____ Classification: _____
	<hr/> <p style="text-align: center;"><b><u>Masonry</u></b></p> Subcontractor: _____ TN License No.: _____ Expiration Date: _____ Classification: _____



# BID FORM FOR CONSTRUCTION CONTRACT

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

## ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

**The City of Wartburg, TN**

**407 Eliza Street**

**Wartburg, TN 37887**

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. List of Proposed Subcontractors;
- ~~C. List of Proposed Suppliers;~~
- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- E. 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;
- ~~F. Required Bidder Qualification Statement with supporting data; and~~
- ~~G. [List other documents and edit above as pertinent].~~
- G. If Bid amount exceeds \$10,000, signed Compliance Statement (RD 400-6). Refer to specific equal opportunity requirements set forth in the Supplementary Conditions of the Construction Contract (EJCDC C-800);
- H. If Bid amount exceeds \$25,000, signed Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions (AD-1048);
- I. If Bid amount exceeds \$100,000, signed RD Instruction 1940-Q Exhibit A-1, Certification for Contracts, Grants, and Loans.
- J. [List other documents and edit above as pertinent].

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

**3.01 Unit Price Bids**

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

<b>BASE BID</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Bid Unit Price</b>	<b>Bid Amount</b>
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	11450	\$ _____	\$ _____
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	80	\$ _____	\$ _____
3	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with cast iron traffic rated cleanout box at property line and up to 30 lf of 6-inch service line	EA	50	\$ _____	\$ _____
4	Install new 4' diameter manhole, traffic grade frame and cover, pipe connecting seals, survey grade GPS coordinates, and all other components for complete in place, tested and accepted manhole	EA	2	\$ _____	\$ _____
5	Install new 4' diameter manhole, water tight frame and cover, pipe connecting seals, survey grade GPS coordinates, and all other components for complete in place, tested and accepted manhole	EA	2	\$ _____	\$ _____
6	Manhole Rehabilitation (Calcium Aluminate Cement) – any depth	VF	305	\$ _____	\$ _____
7	Raise Existing Manhole Casting – Up to 6-Inches	EA	6	\$ _____	\$ _____

8	Reconnection of existing service to manhole, complete and in place, including installation of cleanout with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	10	\$ _____	\$ _____
9	Additional 6" SDR 26 PVC service line, complete in place	LF	200	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	1,600	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	11	\$ _____	\$ _____
12	8" SDR 26 Gravity Sewer, Open Cut Installation including "pump around" provisions, testing and post construction CCTV	LF	400	\$ _____	\$ _____
13	Demolition of Existing Pump Station, complete	LS	1	\$ _____	\$ _____
14	Service reconnection to new 8" SDR 26 Gravity Sewer, complete and in place, including installation of clean out with cast iron traffic rated cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
15	Cut and Cap Existing Sanitary Sewer Line	EA	4	\$ _____	\$ _____
16	Sewer Pumping Station complete and operable, including bypass pumping, precast concrete wetwell, internal piping, yard piping, pumps, concrete vault, bypass connection, valves, connection to gravity sewers, connection to existing force main, electrical, testing, unclassified excavation, site work, site restoration, permits, fees and all other items necessary for construction as shown or described in the construction documents	LS	1	\$ _____	\$ _____
17	Mobilization and Bonds	LS	1	\$ _____	\$ _____

<b>Total of All Unit Price Bid Items</b>					\$ _____
<b>DEDUCTIVE ALTERNATE #1</b>					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	465	\$ _____	\$ _____
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	25	\$ _____	\$ _____
<b>Total Deductive Alternate #1</b>					\$ _____
<b>DEDUCTIVE ALTERNATE #2</b>					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Pipe Burst 8" host pipe with 8" HDPE (DIPS) DR 17, complete and in place, without deduction for "pump around" provisions and testing following service reconnections and post construction CCTV	LF	650	\$ _____	\$ _____

2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	40	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	1	\$ _____	\$ _____
<b>Total Deductive Alternate #2</b>					\$ _____
<b>DEDUCTIVE ALTERNATE #3</b>					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
2	Service Reconnections to new 8" HDPE, complete and in place, including installation of clean out with copolymer cleanout box at property line and up to 30 lf of 6-inch service line	EA	2	\$ _____	\$ _____
10	Asphalt Pavement Repair (2" Binder TDOT 307 B-Modified/ 2" Surface TDOT 411 E)	SY	40	\$ _____	\$ _____
11	8" Diameter Sewer Line Point Repair by Excavation, 0 to 10 feet in length, any depth	EA	3	\$ _____	\$ _____
<b>Total Deductive Alternate #3</b>					\$ _____

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.

**ARTICLE 4 — BASIS OF BID — COST PLUS FEE**

4.01 The Contract Price will be the Cost of the Work, determined as provided in Paragraph 13.01 of the General Conditions, together with the following fee, and subject to the Guaranteed Maximum Price.

4.02 *Contractor's Fee*

A. Contractor's fee will be **[number]** percent of the Cost of the Work. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions.

1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed **[\$[insert cap amount]]**, subject to increases or decreases for changes in the Work.

B. Contractor's fee will be determined by applying the following percentages to the various portions of the Cost of the Work as defined in Article 13 of the General Conditions. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions:

Costs	Percent
Payroll costs (See Paragraph 13.01.B.1, General Conditions)	
Materials and Installed Equipment cost (GC 13.01.B.2)	
Amounts to be paid to Subcontractors (GC 13.01.B.3)	
Amount to be paid to special consultants (GC 13.01.B.4)	
Other costs (GC 13.01.B.5)	

1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed **[\$[insert cap amount]]**, subject to increases or decreases for changes in the Work.

C. Contractor's fee will be the fixed sum of **[\$[number]]**.

4.03 *Guaranteed Maximum Price*

A. The Guaranteed Maximum Price to Owner of the Cost of the Work including Contractor's Fee will not exceed **[\$[Bidder fill in GMP]]**.

Deleted

**ARTICLE 5 — PRICE PLUS TIME BID**

5.01 *Price Plus Time Contract Award (Stipulated Price Contract)*

A. The Bidder to which an award of the Contract will be made will be determined in part on the basis of the Total Bid Price and the total number of calendar days to substantially complete the Work, in accordance with the following:

	Description		Amount
A	1. Total Bid Price		\${number}
	2. Total number of calendar days to substantially complete the Work	{number} days	
	3. Liquidated Damages Rate (from Agreement)	\${number}/day	
B	4. Adjustment Amount (2 x 3)		\${number}
A+B	5. Amount for Comparison of Bids		\${number}

~~B. The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is the Total Bid Price.~~

~~C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

~~5.02 *Price Plus Time Contract Award (Cost Plus Fee with Guaranteed Maximum Price Contract)*~~

~~A. The Bidder to which an award of Contract will be made will be determined in part on the basis of the Guaranteed Maximum Price and the total number of calendar days to substantially complete the Work, in accordance with the following:~~

	Description		Amount
A	1. Guaranteed Maximum Price		\${number}
	2. Total number of calendar days to substantially complete the Work	{number} days	
	3. Liquidated Damages Rate (from Agreement)	\${number}/day	
B	4. Adjustment Amount (2 x 3)		\${number}
A+B	5. Amount for Comparison of Bids		\${number}

~~B. The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is based on the cost of the Work, plus a fee, subject to a guaranteed maximum price, as set forth in the Agreement.~~

~~C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

~~Deleted~~

~~ARTICLE 6—TIME OF COMPLETION~~

~~6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.~~

~~6.02 Bidder agrees that the Work will be substantially complete on or before [Bidder inserts date], and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before [Bidder inserts date].~~

~~Deleted~~

6.03 Bidder agrees that the Work will be substantially complete within ~~[Bidder inserts number]~~ calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within ~~[Bidder inserts number]~~ calendar days after the date when the Contract Times commence to run.

~~Deleted~~

6.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

**ARTICLE 7—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**

7.01 *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.

7.02 *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.

7.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

**ARTICLE 8—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS**

8.01 *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, **including all American Iron and Steel requirements.**
  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.

#### 8.02 *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 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

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EJCDC® C-410, Bid Form for Construction Contract.

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Modified to include RD edits from RUS Bulletin 1780-26 (6/16/2020).

- 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:

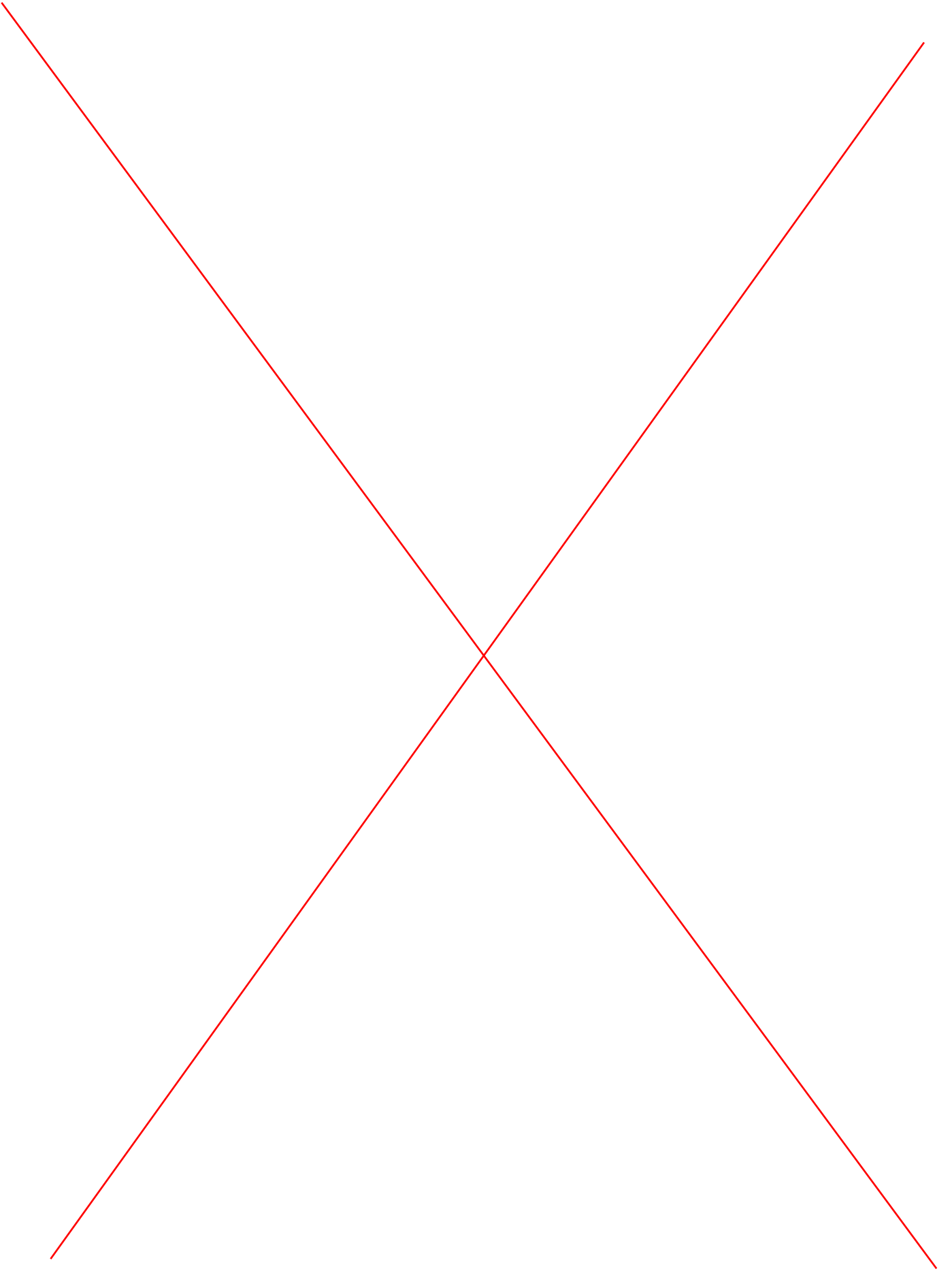
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Bidder's Contractor License No.: (if applicable)

\_\_\_\_\_



## BID BOND (PENAL SUM FORM)

<b>Bidder</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: <b>City of Wartburg</b> Address <i>(principal place of business)</i> : <b>407 Eliza Street</b> <b>Wartburg, TN 37887</b>	<b>Bid</b> Project <i>(name and location)</i> : <b>2016 RD Sewer System Rehabilitation</b>  Bid Due Date:
<b>Bond</b> Penal Sum: Date of Bond:	
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.	
Bidder _____ <i>(Full formal name of Bidder)</i>	Surety _____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____	By: _____ <i>(Signature) (Attach Power of Attorney)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____
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.	



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.

# QUALIFICATIONS STATEMENT

**The Information supplied in this document is confidential to the extent permitted by laws and regulations.**

## 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: \_\_\_\_\_



**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	Email
Owner					
Designer					
Construction Manager					
<hr/>					
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					
<hr/>					
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	Email
Owner					
Designer					
Construction Manager					
<hr/>					
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					
<hr/>					
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 C—Key Individuals**

<b>Project Manager</b>			
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	
<b>Project Superintendent</b>			
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	

<b>Safety Manager</b>			
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	
<b>Quality Control Manager</b>			
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	

# DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF Tennessee

COUNTY OF \_\_\_\_\_

The undersigned, principal officer of \_\_\_\_\_,  
an employer of five (5) or more employees contracting with \_\_\_\_\_  
government to provide construction services, hereby states under oath as  
follows:

1. The undersigned is a principal officer of \_\_\_\_\_  
(hereinafter referred to as the "Company"), and is duly authorized to execute this  
Affidavit on behalf of the Company.

2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which  
requires each employer with no less than five (5) employees receiving pay who  
contracts with the state or any local government to provide construction services  
to submit an affidavit stating that such employer has a drug-free workplace  
program that complies with Title 50, Chapter 9, of the *Tennessee Code  
Annotated*.

3. The Company is in compliance with T.C.A. § 50-9-113.

Further affiant saith not.

\_\_\_\_\_  
Principal Officer

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me personally appeared \_\_\_\_\_, with  
whom I am personally acquainted (or proved to me on the basis of satisfactory  
evidence), and who acknowledged that such person executed the foregoing  
affidavit for the purposes therein contained. Witness my hand and seal at office  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_



**CERTIFICATION OF COMPLIANCE WITH  
THE IRAN DIVESTMENT ACT**

Effective July 1, 2016, this form must be submitted for any contract that is subject to the Iran Divestment Act, Tenn. Code Ann. § 12-12-101, et seq., ("Act"). This form must be submitted with any bid or proposal regardless of where the principal place of business is located.

Pursuant to the Act, this certification must be completed by any corporation, general partnership, limited partnership, limited liability partnership, joint venture, nonprofit organization, or other business organization that is contracting with a political subdivision of the State of Tennessee.

**Certification Requirements.**

No state agency or local government shall enter into any contract subject to the Act, or amend or renew any such contract with any bidder/contractor who is found ineligible under the Act.

Complete all sections of this certification and sign and date it, under oath, in the presence of a Notary Public or a person authorized to take an oath in another state.

**CERTIFICATION:**

I, the undersigned, certify that by submission of this bid, each bidder and each person signing on behalf of any Respondent certifies, and in the case of a joint bid or contract each party thereto certifies, as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to Tenn. Code Ann. § 12-12-106.

Respondent represents it has the full power, knowledge, and authority to make this Certification and that the signatory signing this Certification on behalf of bidder/contractor has been duly authorized to do so on behalf of the bidder/contractor.

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

\_\_\_\_\_  
Printed Respondent Name Printed Name of Authorized Official

\_\_\_\_\_  
Signature of Authorized Official

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

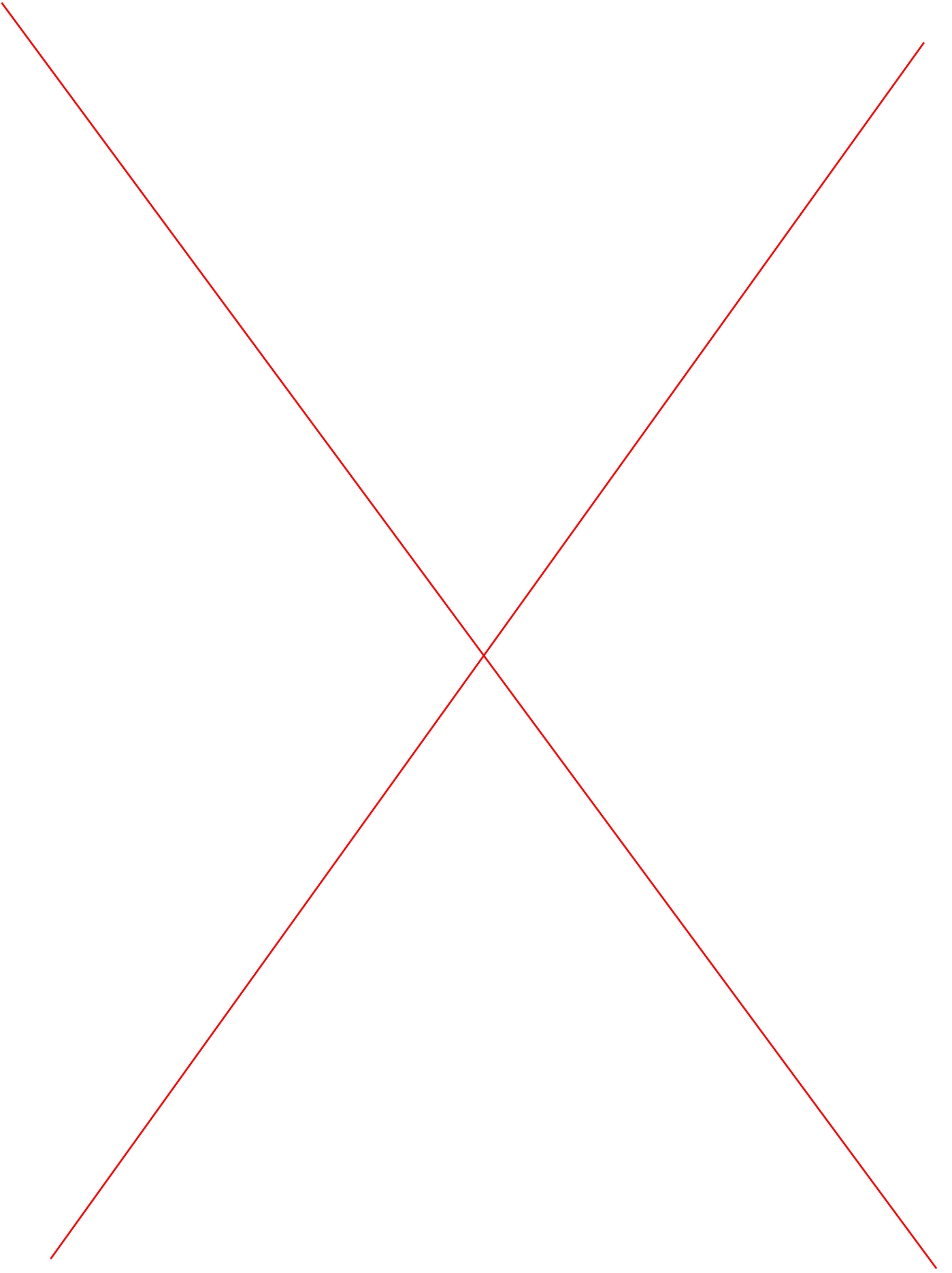
Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_





COMPLIANCE STATEMENT

This statement relates to a proposed contract with \_\_\_\_\_

\_\_\_\_\_  
(Name of borrower or grantee)

who expects to finance the contract with assistance from either the Rural Housing Service (RHS), Rural Business-Cooperative Service (RBS), or the Rural Utilities Service (RUS) or their successor agencies, United States Department of Agriculture (whether by a loan, grant, loan insurance, guarantee, or other form of financial assistance). I am the undersigned bidder or prospective contractor, I represent that:

1. I  have,  have not, participated in a previous contract or subcontract subject to Executive Order 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.
2. If I have participated in such a contract or subcontract, I  have,  have not, filed all compliance reports that have been required to file in connection with the contract or subcontract.  
 If the proposed contract is for \$50,000 or more: or  If the proposed nonconstruction contract is for \$50,000 or more and I have 50 or more employees, I also represent that:
3. I  have,  have not previously had contracts subject to the written affirmative action programs requirements of the Secretary of Labor.
4. If I have participated in such a contract or subcontract,  I have,  have not developed and placed on file at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to either the RHS, RBS or RUS, or to the office where the reports are required to be filed.

I also certify that I do not maintain or provide for my employees any segregated facilities at any of my establishments, and that I do not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I certify further that I will not maintain or provide for my employees any segregated facilities at any of my establishments, and that I will not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I agree that a breach of this certification is a violation of the Equal Opportunity clause in my contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. I further agree that (except where I have obtained identical certifications for proposed subcontractors for specific time periods) I will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that I will retain such certifications in my files; and that I will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays the valid OMB control number. The valid OMB control number for this information collection is 0575-0018. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR  
CERTIFICATIONS OF NON-SEGREGATED FACILITIES**

A certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32F.R. 7439, may 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$ 10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

DATE \_\_\_\_\_

\_\_\_\_\_  
*(Signature of Bidder or Prospective Contractor)*

\_\_\_\_\_  
*Address (including Zip Code)*

Submitted:

Name:

Conf Nbr:



**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion  
Lower Tier Covered Transactions**

**AD-1048**

The following statement is made in accordance with the Privacy Act of 1974 (5 U.S.C. § 552a, as amended). This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, and 2 C.F.R. §§ 180.300, 180.335, Participants' responsibilities. The regulations were amended and published on August 31, 2005, in 70 Fed. Reg. 51865-51880. Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

According to the Paperwork Reduction Act of 1995 an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0505-0027. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The provisions of appropriate criminal and civil fraud privacy, and other statutes may be applicable to the information provided.

**(Read instructions on page two before completing certification.)**

- A. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency;
- B. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ORGANIZATION NAME	PR/AWARD NUMBER OR PROJECT NAME
NAME(S) AND TITLE(S) OF AUTHORIZED REPRESENTATIVE(S)	
SIGNATURE(S)	DATE

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint (<https://www.ascr.usda.gov/filing-program-discrimination-complaint-usda-customer>) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442.

### *Instructions for Certification*

- (1) By signing and submitting this form, the prospective lower tier participant is providing the certification set out on page 1 in accordance with these instructions.
- (2) The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.
- (3) The prospective lower tier participant shall provide immediate written notice to the person(s) to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- (4) The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549, at 2 C.F.R. Parts 180 and 417. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
- (5) The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- (6) The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- (7) A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the System for Award Management (SAM) database.
- (8) Nothing contained in the foregoing shall be construed to require establishment of a system of records to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- (9) Except for transactions authorized under paragraph (5) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

CERTIFICATION FOR CONTRACTS, GRANTS AND LOANS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant or Federal loan, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant or loan.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant or loan, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including contracts, subcontracts, and subgrants under grants and loans) and that all subrecipients shall certify and disclose accordingly.

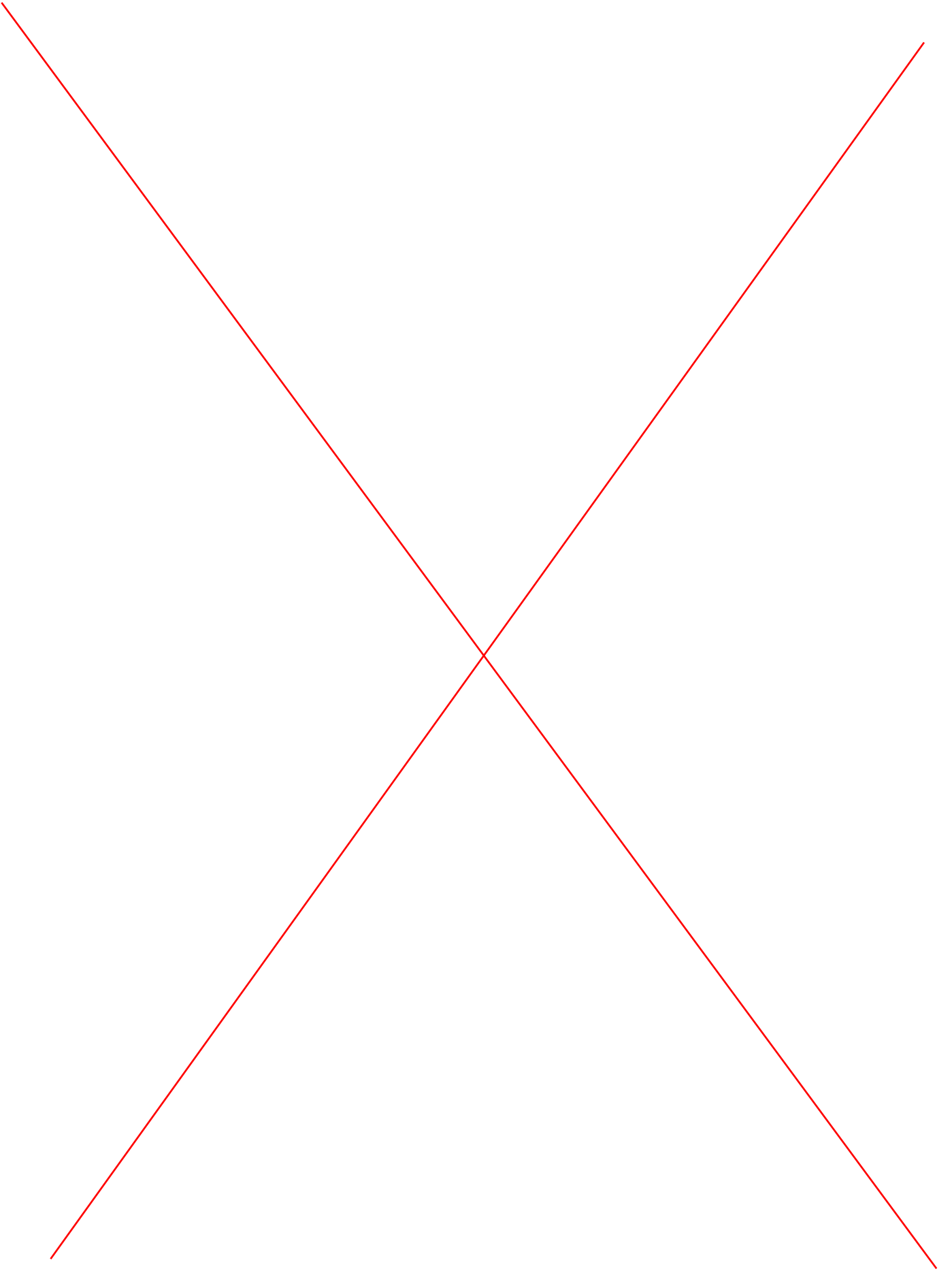
This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

\_\_\_\_\_  
(name)

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(title)

oOo

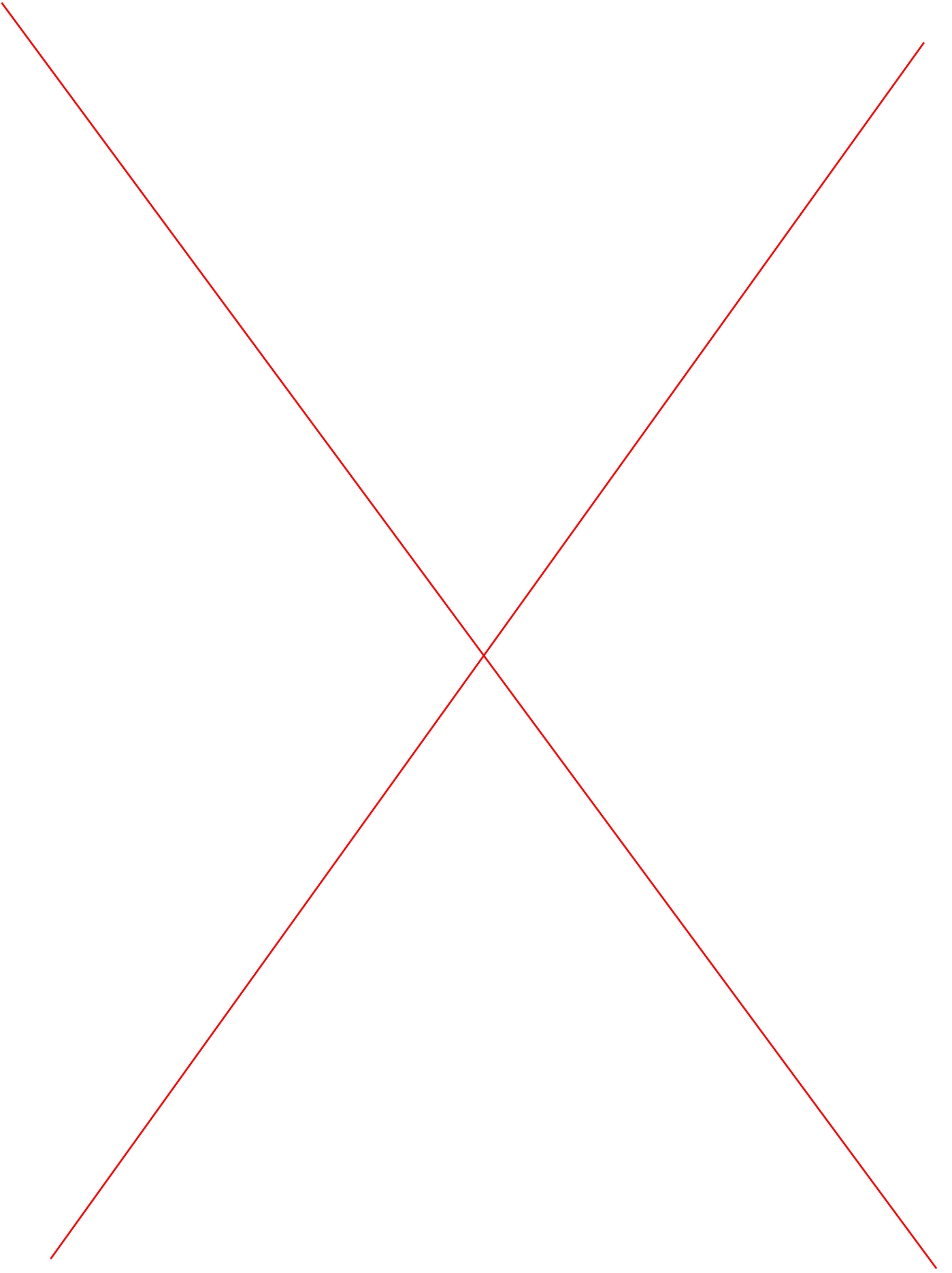


AMERICAN IRON & STEEL COMPLIANCE STATEMENT

“Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference applies an American Iron and Steel requirement to this project.

All parties are required to comply with these requirements and to ensure that all iron and steel products used in this project must be produced in the United States. The term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.”





GENERAL (PRIME) CONTRACTOR'S CERTIFICATION OF COMPLIANCE WITH PROVISIONS OF THE AMERICAN IRON AND STEEL REQUIREMENTS OF SECTION 746 OF TITLE VII OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2017 (DIVISION A - AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS ACT, 2017) AND SUBSEQUENT STATUTES MANDATING DOMESTIC PREFERENCE

DATE:

**RE: PROJECT NAME  
APPLICANT  
CONTRACT NUMBER**

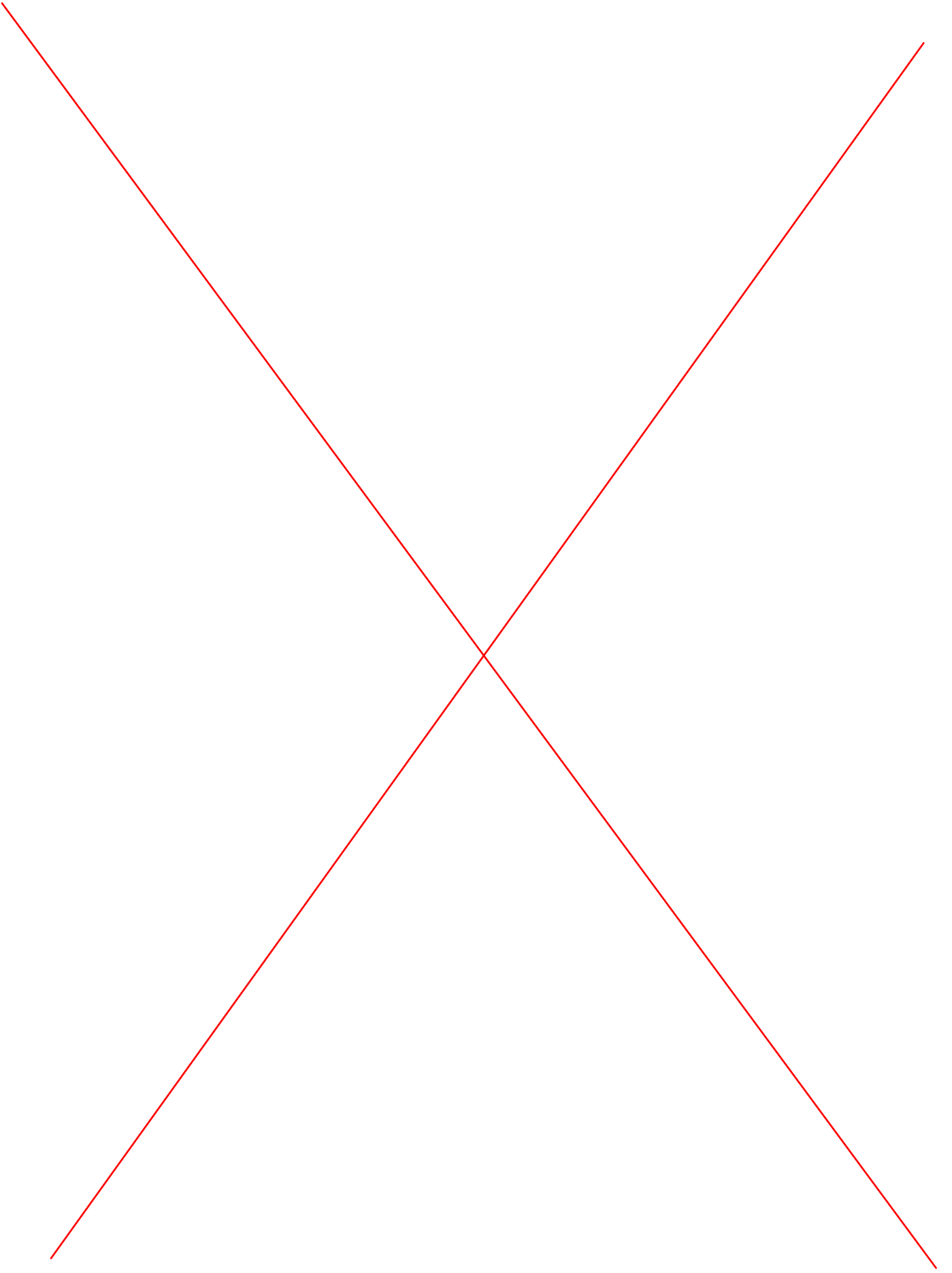
I hereby certify that to the best of my knowledge and belief all iron and steel products installed for this project by my company and by any and all subcontractors and manufacturers my company has contracted with for this project comply with Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference or are the subject of a waiver approved by the Secretary of Agriculture or designee.

This certification is to be submitted upon completion of the project to the project engineer.

\_\_\_\_\_  
Name of Construction Company (PRINT)

\_\_\_\_\_  
By Authorized Representative (SIGNATURE)

\_\_\_\_\_  
Title



**EXAMPLE OF A MANUFACTURER'S CERTIFICATION LETTER OF COMPLIANCE WITH PROVISIONS OF THE AMERICAN IRON AND STEEL (AIS) REQUIREMENTS OF SECTION 746 OF TITLE VII OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2017 (DIVISION A - AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS ACT, 2017) AND SUBSEQUENT STATUTES MANDATING DOMESTIC PREFERENCE**

Date:

Company Name:

Company Address:

Subject: AIS Step Certification for Project (X), Owner's Name, and Contract Number

I, (company representative), certify that the (melting, bending, galvanizing, cutting, etc.) processes for (manufacturing or fabricating) the following products and/or material shipped or provided for the subject project is in full compliance with the AIS requirement as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

Item, Products and/or Materials, and location of delivery (City, State):

- 1.
- 2.

Such processes for AIS took place at the following location:

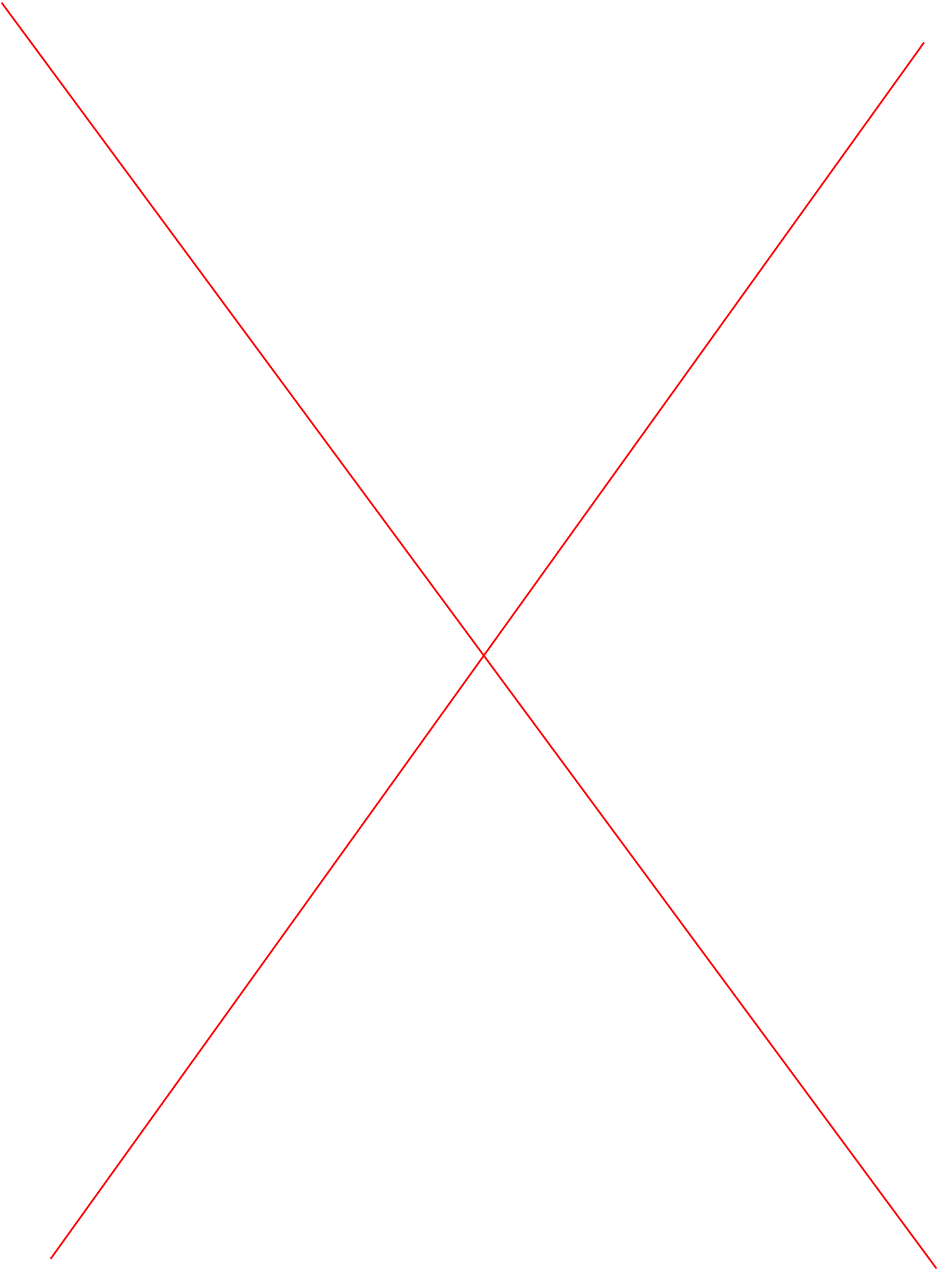
\_\_\_\_\_  
(City, State)

This certification is to be submitted upon request to interested parties (e.g. municipalities, consulting engineers, general contractors, etc.)

If any of the above compliance statements change while providing materials to this project, please immediately notify the person(s) who is requesting to use your product(s).

\_\_\_\_\_  
Authorized Company Representative Signature

(Note: *Authorized signature shall be manufacturer's representative not the material distributor or supplier*)



**NOTICE OF AWARD**

Date of Issuance:

Owner: City of Wartburg

Owner's Project No.:

Engineer: Hethcoat & Davis, Inc

Engineer's Project No.: 1067-07

Project: 2016 RD Sewer System Rehabilitation

Contract Name: 2016 RD Sewer System Rehabilitation

Bidder:

Bidder's Address:

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

**2016 RD Sewer System Rehabilitation**

The Contract Price of the awarded Contract is \$**[Contract Price]**. 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.

**Five (5)** 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 **Five (5)** 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 in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

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 10 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.

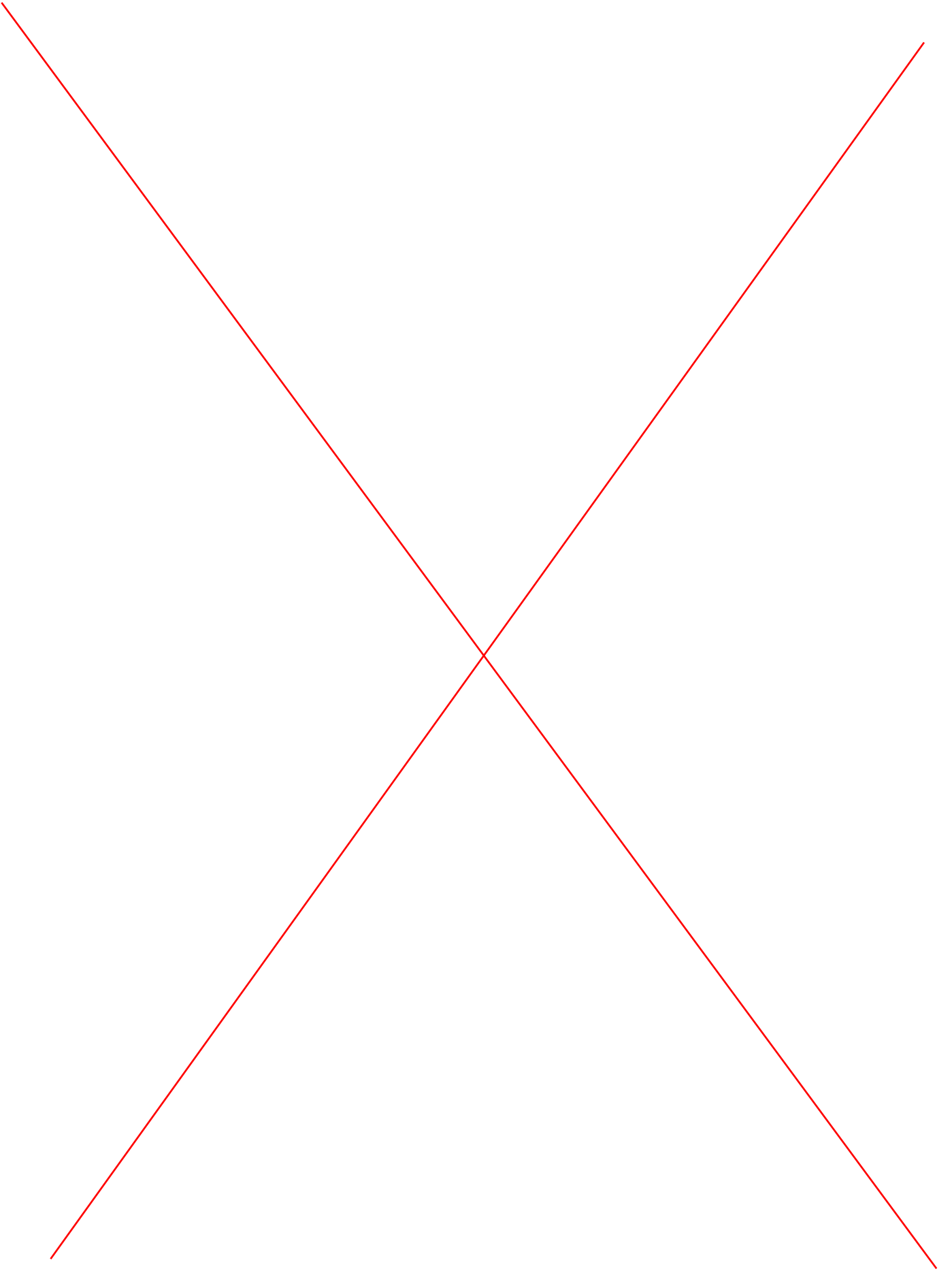
Owner: **City of Wartburg**

By (signature): \_\_\_\_\_

Name (printed): \_\_\_\_\_

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

Copy: Engineer



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

This Agreement is by and between **the City of Wartburg** ("Owner") and \_\_\_\_\_ ("Contractor").

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

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: **2016 RD Sewer System Rehabilitation**

## ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Approximately 11,750 linear feet of sanitary sewer rehabilitation by method of pipe bursting with 8" pipe. The reconnection of approximately 130 services. And the rehabilitation of approximately 32 manholes. The project also includes the installation of approximately 400 linear feet of new gravity sewer line and the construction of a new sanitary sewer pumping station, including the demolition of the existing station.**

## ARTICLE 3—ENGINEER

3.01 The Owner has retained **Hethcoat & Davis, 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: Dates*~~

~~A. The Work will be substantially complete on or before **[date]**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **[date]**.~~

4.03 *Contract Times: Days*

A. The Work will be substantially complete within **270** 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 **300** days after the date when the Contract Times commence to run.

~~4.04 Milestones~~

~~A. Parts of the Work must be substantially completed on or before the following Milestone(s):~~

- ~~1. Milestone 1 [event & date/days]~~
- ~~2. Milestone 2 [event & date/days]~~
- ~~3. Milestone 3 [event & date/days]~~

4.05 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion:* Contractor shall pay Owner **\$600** 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 **\$600** for each day that expires after such time until the Work is completed and ready for final payment.
- ~~3. *Milestones:* Contractor shall pay Owner **[\$number]** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved, or until the time specified for Substantial Completion is reached, at which time the rate indicated in Paragraph 4.05.A.1 will apply, rather than the Milestone rate.~~
4. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

C. ~~*Bonus:* Contractor and Owner further recognize the Owner will realize financial and other benefits if the Work is completed prior to the time specified for Substantial Completion. Accordingly, Owner and Contractor agree that as a bonus for early completion, Owner shall pay Contractor **[\$number]** for each day prior to the time specified above for Substantial Completion (as duly adjusted pursuant to the Contract) that the Work is substantially complete. The maximum value of the bonus will be limited to **[\$number]**.~~

**Deleted**

---

EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).  
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and American Society of Civil Engineers. All rights reserved.

Modified to include RD edits from RUS Bulletin 1780-26 (6/16/2020).

4.06 ~~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, a lump sum of **[\$number]**.  
All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.~~
- ~~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).~~

<b>Unit Price Work</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Unit Price</b>	<b>Extended Price</b>
				\$	\$
				\$	\$
				\$	\$
				\$	\$
				\$	\$
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					\$

~~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. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) **\$(number)**.~~

~~D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.~~

## **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 **25<sup>th</sup>** 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 **50** percent or more of the Work has been 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~~

~~**Deleted**~~

~~b. **95** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).~~

~~B. Upon Substantial Completion **of the entire construction to be provided under the construction Contract Documents**, Owner shall pay an amount sufficient to increase total payments to Contractor to **100** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **100** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.~~

### *6.03 Final Payment*

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

6.04 *Consent of Surety*

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

6.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of **18** percent per annum.

**ARTICLE 7—CONTRACT DOCUMENTS**

7.01 *Contents*

- A. The Contract Documents consist of all of the following:
1. This Agreement.
  2. Bonds:
    - a. Performance bond (together with power of attorney).
    - b. Payment bond (together with power of attorney).
  3. General Conditions.
  4. Supplementary Conditions.
  5. Specifications as listed in the table of contents of the project manual (copy of list attached).
  6. Drawings (not attached but incorporated by reference) consisting of **12** sheets with each sheet bearing the following general title: **2016 RD – Sanitary Sewer Rehabilitation**
  - ~~7. Drawings listed on the attached sheet index.~~
  8. Addenda (numbers \_\_ to \_\_\_\_ inclusive).
  9. Exhibits to this Agreement (enumerated as follows):
    - a. **Contractor's Bid**
    - b. Documentation submitted by Contractor prior to Notice of Award
  10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    - a. Notice to Proceed.
    - b. Work Change Directives.
    - c. Change Orders.
    - d. Field Orders.
    - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.

- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

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

### **8.01 Contractor's Representations**

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
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: City of Wartburg, TN

Contractor:

\_\_\_\_\_  
*(typed or printed name of organization)*

\_\_\_\_\_  
*(typed or printed name of organization)*

By: \_\_\_\_\_  
*(individual's signature)*

By: \_\_\_\_\_  
*(individual's signature)*

Date: \_\_\_\_\_  
*(date signed)*

Date: \_\_\_\_\_  
*(date signed)*

Name: \_\_\_\_\_  
*(typed or printed)*

Name: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(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)*

Attest: \_\_\_\_\_  
*(individual's signature)*

Title: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Designated Representative:

Designated Representative:

Name: \_\_\_\_\_  
*(typed or printed)*

Name: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Address:

Address:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

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.)*

License No.: \_\_\_\_\_  
*(where applicable)*

State: \_\_\_\_\_

## NOTICE TO PROCEED

Owner: City of Wartburg Owner's Project No.: \_\_\_\_\_  
Engineer: Hethcoat & Davis, Inc Engineer's Project No.: 1067-07  
Contractor: \_\_\_\_\_ Contractor's Project No.: \_\_\_\_\_  
Project: 2016 RD Sewer System Rehabilitation  
Contract Name: 2016 RD Sewer System Rehabilitation  
Effective Date of Contract: \_\_\_\_\_

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on \_\_\_\_\_ 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.

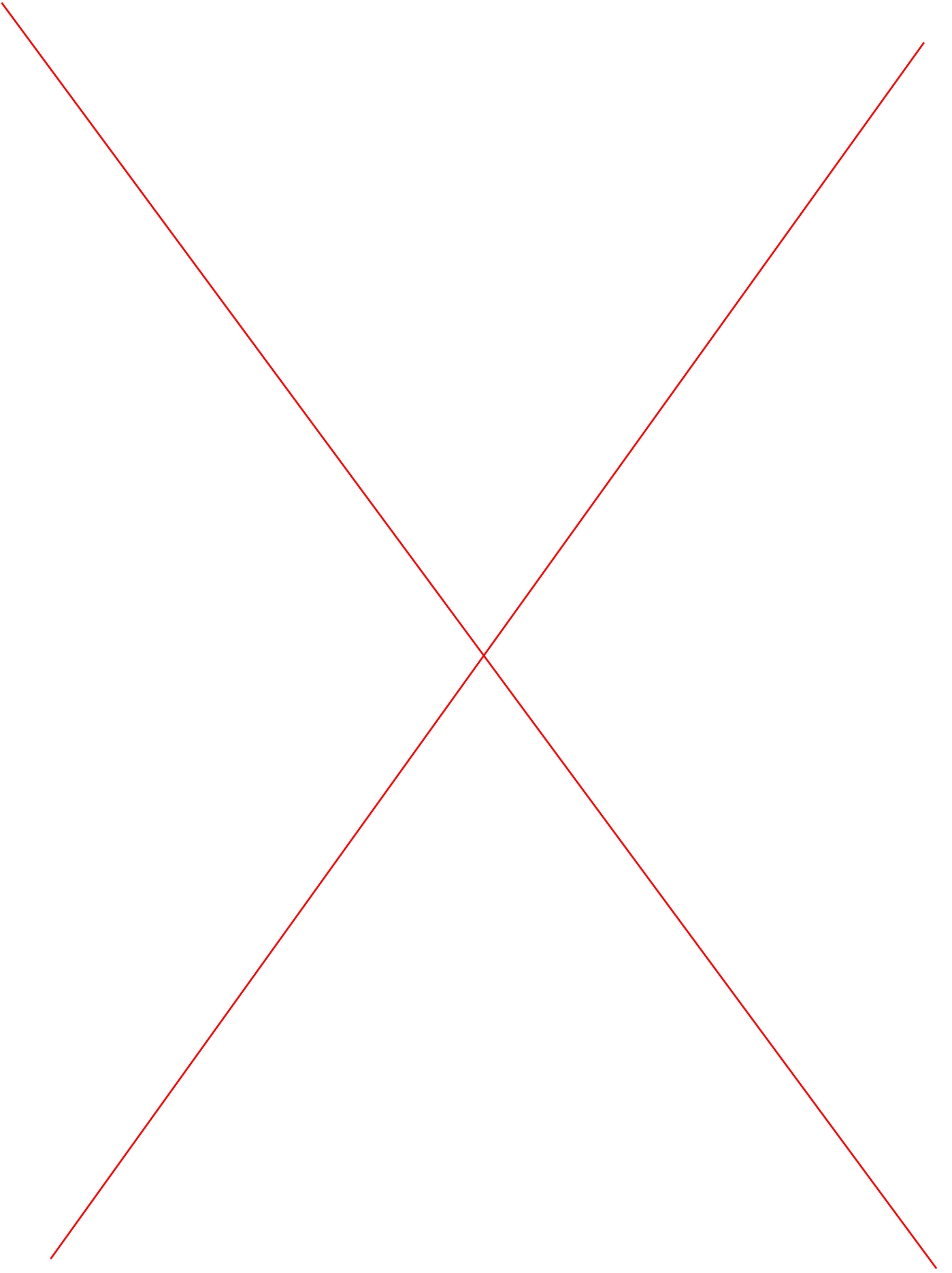
In accordance with the Agreement:

The number of days to achieve Substantial Completion is 270 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 300 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: N/A

Owner: City of Wartburg  
By (signature): \_\_\_\_\_  
Name (printed): \_\_\_\_\_  
Title: \_\_\_\_\_  
Date Issued: \_\_\_\_\_  
Copy: Engineer





## PERFORMANCE BOND

<p><b>Contractor</b></p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>	<p><b>Surety</b></p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>
<p><b>Owner</b></p> <p>Name: <b>City of Wartburg</b></p> <p>Mailing address (<i>principal place of business</i>):</p> <p><b>407 Eliza Street</b></p> <p><b>Wartburg, TN 37887</b></p>	<p><b>Contract</b></p> <p>Description (<i>name and location</i>):</p> <p><b>2016 RD Sewer System Rehabilitation</b></p> <p>Contract Price: _____</p> <p>Effective Date of Contract: _____</p>
<p><b>Bond</b></p> <p>Bond Amount: _____</p> <p>Date of Bond: _____</p> <p><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form:</p> <p><input 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
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(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 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: **[Describe modification or enter "None"]**

## PAYMENT BOND

<p><b>Contractor</b>                  Name: _____                  Address (<i>principal place of business</i>): _____</p>	<p><b>Surety</b>                  Name: _____                  Address (<i>principal place of business</i>): _____</p>
<p><b>Owner</b>                  Name: <b>City of Wartburg</b>                  Mailing address (<i>principal place of business</i>):  <b>407 Eliza Street</b>  <b>Wartburg, TN 37887</b></p>	<p><b>Contract</b>                  Description (<i>name and location</i>):  <b>2016 RD Sewer System Rehabilitation</b>                   Contract Price: _____                  Effective Date of Contract: _____</p>
<p><b>Bond</b>                  Bond Amount: _____                  Date of Bond: _____                  (<i>Date of Bond cannot be earlier than Effective Date of Contract</i>)                  Modifications to this Bond form:  <input 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
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(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**

**Contractor's Application for Payment**

<b>Owner:</b> _____	<b>Owner's Project No.:</b> _____
<b>Engineer:</b> _____	<b>Engineer's Project No.:</b> _____
<b>Contractor:</b> _____	<b>Contractor's Project No.:</b> _____
<b>Project:</b> _____	
<b>Contract:</b> _____	
<b>Application No.:</b> _____	<b>Application Date:</b> _____
<b>Application Period:</b> From _____ to _____	

1. Original Contract Price	\$	-
2. Net change by Change Orders	\$	-
3. Current Contract Price (Line 1 + Line 2)	\$	-
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-
5. Retainage		
a. _____ X \$ _____ - Work Completed	\$	-
b. _____ X \$ _____ - Stored Materials	\$	-
c. Total Retainage (Line 5.a + Line 5.b)	\$	-
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-
7. Less previous payments (Line 6 from prior application)		
8. Amount due this application	\$	-
9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-

**Contractor's Certification**

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

**Contractor:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

<b>Recommended by Engineer</b>	<b>Approved by Owner</b>
<b>By:</b> _____	<b>By:</b> _____
<b>Title:</b> _____	<b>Title:</b> _____
<b>Date:</b> _____	<b>Date:</b> _____
<b>Approved by Funding Agency</b>	
<b>By:</b> _____	<b>By:</b> _____
<b>Title:</b> _____	<b>Title:</b> _____
<b>Date:</b> _____	<b>Date:</b> _____

**Progress Estimate - Unit Price Work**

**Contractor's Application for Payment**

Owner: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 Project: \_\_\_\_\_  
 Contract: \_\_\_\_\_

Owner's Project No.: \_\_\_\_\_  
 Engineer's Project No.: \_\_\_\_\_  
 Contractor's Project No.: \_\_\_\_\_

Application No.: \_\_\_\_\_ Application Period: From \_\_\_\_\_ to \_\_\_\_\_ Application Date: \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J	K	L	
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)	
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)					
<b>Original Contract</b>												
					-		-		-		-	
					-		-		-		-	
					-		-		-		-	
					-		-		-		-	
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					-		-		-		-	
					-		-		-		-	
					-		-		-		-	
<b>Original Contract Totals</b>					\$	-	\$	-	\$	-	\$	-

**Progress Estimate - Unit Price Work**

**Contractor's Application for Payment**

Owner: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 Project: \_\_\_\_\_  
 Contract: \_\_\_\_\_

Owner's Project No.: \_\_\_\_\_  
 Engineer's Project No.: \_\_\_\_\_  
 Contractor's Project No.: \_\_\_\_\_

Application No.: \_\_\_\_\_ Application Period: From \_\_\_\_\_ to \_\_\_\_\_ Application Date: \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
<b>Change Orders</b>											
					-		-		-		-
					-		-		-		-
					-		-		-		-
					-		-		-		-
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					-		-		-		-
					-		-		-		-
					-		-		-		-
<b>Change Order Totals</b>					\$ -		\$ -	\$ -	\$ -		\$ -
<b>Original Contract and Change Orders</b>											
<b>Project Totals</b>					\$ -		\$ -	\$ -	\$ -		\$ -



# CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: City of Wartburg

Owner's Project No.:

Engineer: Hethcoat & Davis, Inc

Engineer's Project No.:

Contractor:

1076-06

Project: 2016 RD Sewer System Rehabilitation

Contractor's Project No.:

Contract Name: 2016 RD Sewer System  
Rehabilitation

This  Preliminary  Final Certificate of Substantial Completion applies to:

All Work  The following specified portions of the Work:

\_\_\_\_\_

Date of Substantial Completion: \_\_\_\_\_

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

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

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities:  None  As follows:

Amendments to Contractor's Responsibilities:  None  As follows:

The following documents are attached to and made a part of this Certificate:

\_\_\_\_\_

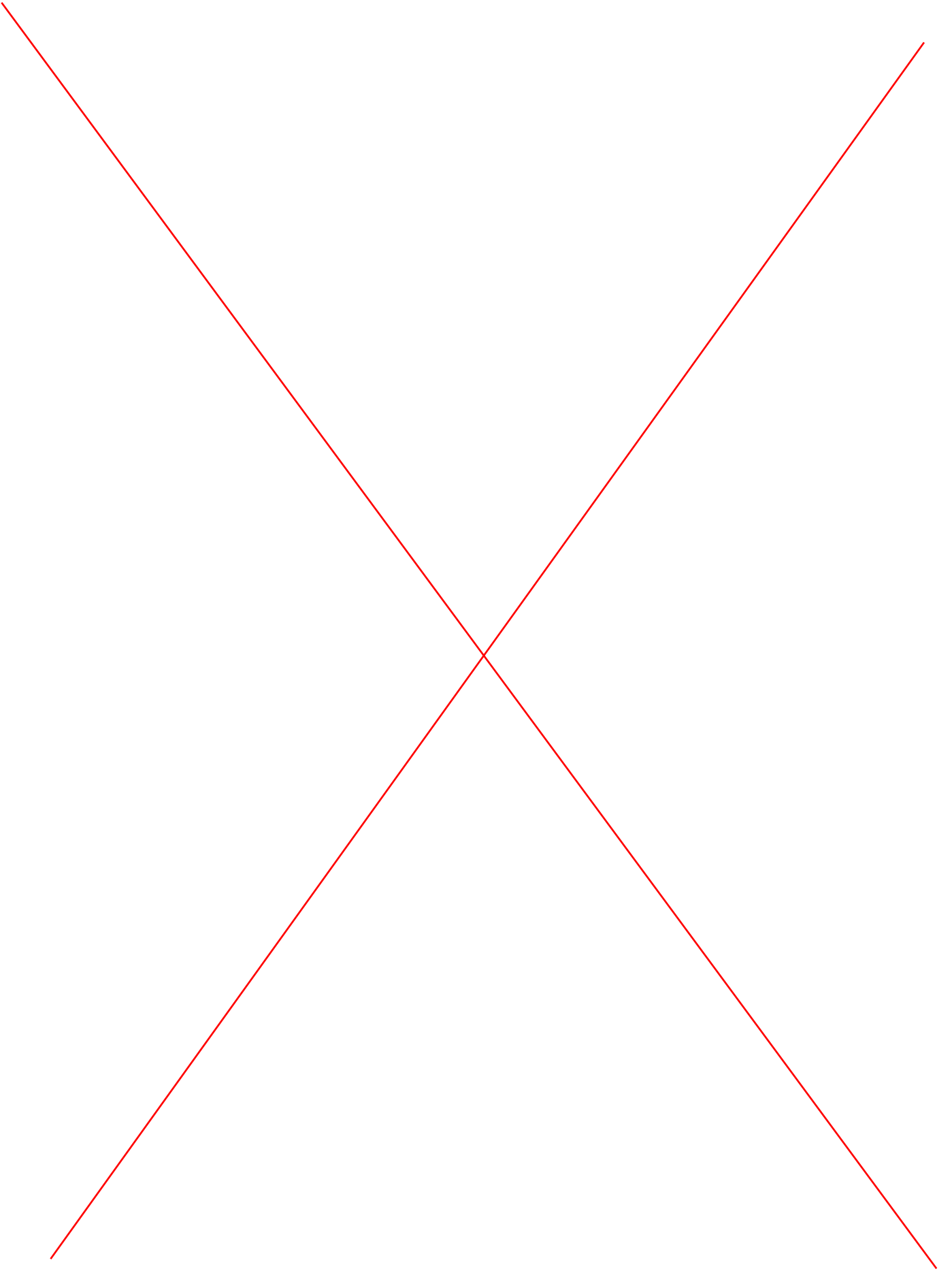
This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By *(signature)*: \_\_\_\_\_

Name *(printed)*: \_\_\_\_\_

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



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

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By





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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

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

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requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

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



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

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

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

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

## 1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
1. does not conform to the Contract Documents;
  2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2—PRELIMINARY MATTERS**

### **2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance***

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

### **2.02 *Copies of Documents***

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

### **2.03 *Before Starting Construction***

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

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
  - 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.
  - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

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



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

### 3.01 *Intent*

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

### 3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
  - 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, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

#### B. *Resolving Discrepancies*

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

### 3.04 *Requirements of the Contract Documents*

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



B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

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 versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

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

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

A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

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

### 4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 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 must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

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

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
  2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

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

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

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

5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
  - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

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

5.03 *Subsurface and Physical Conditions*

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  2. is of such a nature as to require a change in the Drawings or Specifications;
  3. differs materially from that shown or indicated in the Contract Documents; or
  4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in



Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
  - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
  - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
- a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
  - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

#### 5.05 *Underground Facilities*

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

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
  4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
  4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown



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

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

5.06 *Hazardous Environmental Conditions at Site*

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

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6—BONDS AND INSURANCE**

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

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

- Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
  - E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
  - F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
  - G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
  - H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

#### 6.02 *Insurance—General Provisions*

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

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

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

#### 6.03 Contractor's Insurance

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



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

6.04 *Builder's Risk and Other Property Insurance*

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

6.05 *Property Losses; Subrogation*

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

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

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
  2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.



6.06 *Receipt and Application of Property Insurance Proceeds*

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

**ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

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

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

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

7.04 *Services, Materials, and Equipment*

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

7.05 *"Or Equals"*

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

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

#### 7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
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 equipment or material from anyone other than Contractor.
  2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
- a. will certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design;
    - 2) be similar in substance to the item specified; and
    - 3) be suited to the same use as the item specified.
  - b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
    - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from the item specified; and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

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

7.07 *Concerning Subcontractors and Suppliers*

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

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

7.08 *Patent Fees and Royalties*

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



7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

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

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

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

### 7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.



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

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

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

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
    - a. Contractor shall submit the number of copies required in the Specifications.
    - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
  2. *Samples*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
  3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
  2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

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

*D. Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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

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

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

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
  1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
  1. Observations by Engineer;
  2. Recommendation by Engineer or payment by Owner of any progress or final payment;
  3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  4. Use or occupancy of the Work or any part thereof by Owner;
  5. Any review and approval of a Shop Drawing or Sample submittal;
  6. The issuance of a notice of acceptability by Engineer;
  7. The end of the correction period established in Paragraph 15.08;
  8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.

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

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

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

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

## **ARTICLE 8—OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.



- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

#### 8.02 *Coordination*

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

#### 8.03 *Legal Relationships*

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

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

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

### **9.01 *Communications to Contractor***

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

### **9.02 *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

### **9.03 *Furnish Data***

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

### **9.04 *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.



9.05 *Lands and Easements; Reports, Tests, and Drawings*

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

9.06 *Insurance*

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

9.07 *Change Orders*

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

9.08 *Inspections, Tests, and Approvals*

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

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

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

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

## ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

### 10.01 *Owner's Representative*

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

### 10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

### 10.03 *Resident Project Representative*

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

### 10.04 *Engineer's Authority*

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

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

10.05 *Determinations for Unit Price Work*

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

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

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

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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

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

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

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

## ARTICLE 11—CHANGES TO THE CONTRACT

### 11.01 *Amending and Supplementing the Contract*

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

### 11.02 *Change Orders*

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

### 11.03 *Work Change Directives*

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

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

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

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



11.08 *Change of Contract Times*

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

11.09 *Change Proposals*

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

B. *Change Proposal Procedures*

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

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

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

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

#### 11.10 *Notification to Surety*

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

### ARTICLE 12—CLAIMS

#### 12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge



and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

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

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

### **13.01 *Cost of the Work***

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

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
  2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
  3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
  4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
  5. Other costs consisting of the following:
    - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
    - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

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

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, 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. The cost of purchasing, renting, or furnishing small tools and hand tools.
- 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 6. Expenses incurred in preparing and advancing Claims.
- 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

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

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

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

### 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:* Contractor agrees that:
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 for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance:* Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

### 13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

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

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

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.



- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

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

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

#### 14.04 *Acceptance of Defective Work*

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

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,



or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

**14.07** *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

**15.01** *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
  - 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.
  - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

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

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

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;
    - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
    - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
    - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
    - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
  5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
  6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
    - a. the Work is defective, requiring correction or replacement;
    - b. the Contract Price has been reduced by Change Orders;
    - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
    - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
    - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due*
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
    - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

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

#### 15.02 *Contractor's Warranty of Title*

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

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

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

#### 15.04 *Partial Use or Occupancy*

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

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

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 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

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

#### 15.06 *Final Payment*

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

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



- d. a list of all duly pending Change Proposals and Claims; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

#### 15.07 *Waiver of Claims*

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

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

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

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such adjacent areas;
  - 2. correct such defective Work;
  - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.



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

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

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
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) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 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 for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

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

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17—FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

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

## **ARTICLE 18—MISCELLANEOUS**

### **18.01 *Giving Notice***

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

### **18.02 *Computation of Times***

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

18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Assignment of Contract*

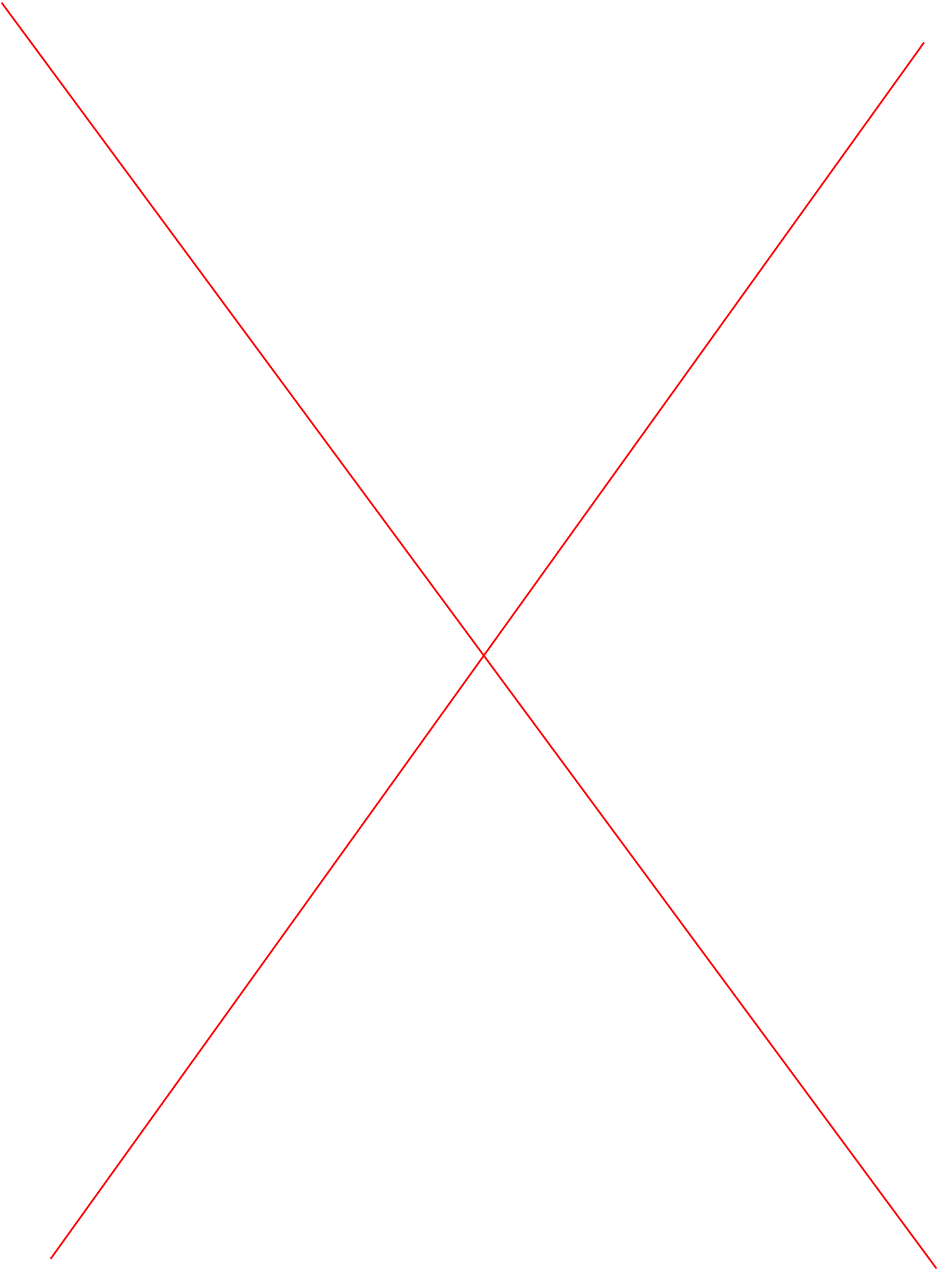
- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may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

18.09 *Successors and Assigns*

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

18.10 *Headings*

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



# SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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## **SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT**

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

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—for example, "Paragraph SC4.05."

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

~~No suggested Supplementary Conditions in this Article.~~

**SC-1.01.A.8 – Add the following at the end of the Paragraph:**

**The Change Order form to be used on this Project is EJCDC C-941 (2018). Agency approval is required before Change Orders are effective.**

**SC-1.01.A.30 – Add the following at the end of the Paragraph:**

**For the purposes of Rural Development, this term is synonymous with the term "applicant" as defined in 7 CFR 1780.7 (a) (1), (2) and (3) and is an entity receiving financial assistance from the federal programs.**

**SC-1.01.A.50 – Add the following at the end of the Paragraph:**

**The Work Change Directive form to be used on this Project is EJCDC C-940 (2018). Agency approval is required before a Work Change Directive is issued.**

**SC-1.01.A.51 – Add the following new paragraph immediately after Paragraph 1.01.A.50:**

**51. Agency - The Project is financed in whole or in part by USDA Rural Utilities Service pursuant to the Consolidated Farm and Rural Development Act (7 USC Section 1921 et seq.). The Rural Utilities Service programs are administered through the USDA Rural Development offices; therefore, the Agency for these documents is USDA Rural Development.**

SC-1.01.A.52 – Add the following new paragraph with the title “American Iron and Steel Definitions” immediately after Paragraph 1.01.A.51:

**52.a *American Iron and Steel (AIS)*** - Requirements mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference for “iron and steel products,” meaning the following products, if made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials. AIS requirements apply in each of the several states, the District of Columbia, and each federally recognized Tribe, but not the U.S. Territories.

**52.b *Coating*** - A covering that is applied to the surface of an object. If a Coating is applied to the external surface of a domestic iron or Steel component, and the application takes place outside of the United States, said product would be considered a compliant product under the AIS requirements. Any Coating processes that are applied to the external surface of Iron and Steel components that would otherwise be AIS compliant would not disqualify the product from meeting the AIS requirements regardless of where the Coating processes occur, provided that final assembly of the product occurs in the United States. This exemption only applies to Coatings on the *external surface* of Iron and Steel components. It does not apply to Coatings or linings on internal surfaces of Iron and Steel products, such as the lining of lined pipes. All Manufacturing Processes for lined pipes, including the application of pipe lining, must occur in the United States for the product to be compliant with AIS requirements.

**52.c *Construction Materials*** - Those articles, materials, or supplies made primarily of iron and/or steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. Note: Mechanical and electrical components, equipment and systems are not considered Construction Materials. See definitions of Mechanical Equipment and Electrical Equipment.

**52.d *Contractor’s Certification*** - Documentation submitted by the Contractor upon Substantial Completion of the Contract that all Iron and Steel products installed were Produced in the United States.

**52.e *De Minimis*** - Various miscellaneous, incidental low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. Examples of *De Minimis* components could include small washers, screws, fasteners (such as “off the shelf” nuts and bolts), miscellaneous wire, corner bead, ancillary tube, signage, trash bins, door hardware etc. Costs for such *De Minimis* components cumulatively may comprise no more than a total of five percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed one percent of the total cost of the materials used in and incorporated into a project.



**52.f Electrical Equipment** - Typically any machine powered by electricity and includes components that are part of the electrical distribution system. AIS does not apply to Electrical Equipment.

**52.g Engineer's Certification** - Documentation submitted by the Engineer that Drawings, Specifications, and Bidding Documents comply with AIS.

**52.h Iron and Steel products** - The following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials. Only items on the above list made primarily of iron or steel, permanently incorporated into the project must be Produced in the United States. For example, trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. iron or steel.

**52.i Manufacturer** - A Supplier, fabricator, distributor, materialman, or vendor is an entity with which the Owner, Contractor or any subcontractor has contracted to furnish materials or equipment to be incorporated in the project by the Owner, Contractor or a subcontractor.

**52.j Manufacturer's Certification** - Documentation provided by the Manufacturer stating that the Iron and Steel products to be used in the project are produced in the United States in accordance with American Iron and Steel (AIS) Requirements. If items are purchased via a Supplier, distributor, vendor, etc. from the Manufacturer directly, then the Supplier, distributor, vendor, etc. will be responsible for obtaining and providing these certifications to the parties purchasing the products.

**52.k Manufacturing Processes** - Processes such as melting, refining, pouring, forming, rolling, drawing, finishing, and fabricating. Further, if a domestic Iron and Steel product is taken out of the United States for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a Coating are similarly not covered. Non-iron or Steel components of an Iron and Steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-Iron and Steel components do not have to be of domestic origin. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-U.S. sources.

**52.l Mechanical Equipment** - Typically equipment which has motorized parts and/or is powered by a motor. AIS does not apply to Mechanical Equipment.

**52.m Minor Components** - Components *within* an iron and/or Steel product otherwise compliant with the American Iron and Steel requirements; this waiver is typically used by Manufacturers. It differs from the *De Minimis* definition in that *De Minimis* pertains to the entire project and the minor component definition pertains to a single product. This waiver allows use of non-domestically produced miscellaneous Minor Components comprising up to five percent of the total material cost of an

EJCDC® C-800, Supplementary Conditions of the Construction Contract.

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Modified to include RD edits from RUS Bulletin 1780-26 (6/16/2020).

otherwise domestically produced Iron and Steel product. However, unless a separate waiver for a product has been approved, all other Iron and Steel components in said product must still meet the AIS requirements. This waiver does not exempt the whole product from the AIS requirements only Minor Components within said product and the iron or Steel components of the product must be produced domestically. Valves and hydrants are also subject to the cost ceiling requirements described here. Examples of Minor Components could include items such as pins and springs in valves/hydrants, bands/straps in couplings, and other low-cost items such as small fasteners etc.

**52.n *Municipal Castings*** - Cast iron or Steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and solid waste infrastructure.

**52.o *Primarily Iron or Steel*** - A product is made of greater than 50 percent iron or Steel on a materials cost basis. An exception to this definition is reinforced precast concrete (see Definitions). All technical specifications and applicable industry standards (e.g. NIST, NSF, AWWA) must be met. If a product is determined to be less than 50 percent iron and/or steel, the AIS requirements do not apply. For example, the cost of a fire hydrant includes:

- The cost of materials used for the iron portion of a fire hydrant (e.g. bonnet, body and shoe); and
- The cost to pour and cast to create those components (e.g. labor and energy).

Not included in the cost are:

- The additional material costs for the non-iron or Steel internal workings of the hydrant (e.g. stem, coupling, valve, seals, etc.); and
- The cost to assemble the internal workings into the hydrant body.

**52.p *Produced in the United States*** - The production in the United States of the iron or Steel products used in the project requires that all Manufacturing Processes must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives.

**52.q *Reinforced Precast Concrete*** – Reinforced Precast Concrete structures must comply with AIS, regardless of whether or not it consists of at least 50 percent iron or steel. The reinforcing bar and wire must be Produced in the United States and meet the same standards as for any other iron or Steel product. Additionally, the casting of the concrete product must take place in the United States. The cement and other raw materials used in concrete production are not required to be of domestic origin. If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered Construction Materials and must be Produced in the United States.

**52.r *Steel*** - An alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of Steel for the purpose of enhancing properties such as

corrosion resistance, hardness, or strength. The definition of Steel covers carbon steel, alloy steel, stainless steel, tool steel, and other specialty steels.

**52.s Structural Steel** - Rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees, and zees. Other shapes include but are not limited to, H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

## ARTICLE 2—PRELIMINARY MATTERS

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

SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

### 2.02 *Copies of Documents*

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

- A. Owner shall furnish to Contractor 5 printed copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.

### 2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol (“EDP” or “Protocol”) for exchange of electronic transmittals.
  - 1. *Basic Requirements*
    - a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information

contained therein is subject to the requirements of this Protocol and other provisions of the Contract.

- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

## 2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
  - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is **15 MB**. Attachments larger than that may be exchanged using large file transfer functions or physical media.
  - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for

maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- h. The Owner will operate a Project information management system (also referred to in this EDP as "Project Website") for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:

- 1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;
- 2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;
- 3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and
- 4) Include any other Project Website attributes that may be pertinent to Contractor's use of the facility and pricing of such use.

C. *Software Requirements for Electronic Document Exchange; Limitations*

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
  - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. *Requests by Contractor for Electronic Documents in Other Formats*

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:
  - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied



warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
  - c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
  - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$75 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

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

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

#### **SC-4.01.A – Delete the last sentence of paragraph.**

4.05 *Delays in Contractor's Progress*

#### **SC-4.05 Paragraph is mandatory for WWD projects.**

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

5. *Weather-Related Delays*
  - a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the

following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled. **Extreme or unusual weather that is typical for a given region, elevation, or season should not be considered abnormal weather conditions. Requests for time extensions due to abnormal weather conditions will be submitted to the Engineer within five days of the end of the abnormal weather condition event. It is the responsibility of the Contractor to provide the information listed in SC 4.05.C.5.b.**

- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
- 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
    - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds **0.1”** of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
    - ii) Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: **30** degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: **95** degrees Fahrenheit.
  - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by **NOAA** weather monitoring station at **closest location to project**.
  - 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Exhibit **B** Foreseeable Bad Weather Days.
  - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit **B** - Foreseeable Bad Weather Days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.

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

### **5.03** *Subsurface and Physical Conditions*



SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
NO REPORTS AVAILABLE		

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

Drawings Title	Date of Drawings	Technical Data
NO DRAWINGS AVAILABLE		

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents at **Hethcoat & Davis, Inc.** during regular business hours, or may request copies from Engineer.

5.06 *Hazardous Environmental Conditions*

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
NO REPORTS AVAILABLE		

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

Drawings Title	Date of Drawings	Technical Data
NO DRAWINGS AVAILABLE		

**ARTICLE 6—BONDS AND INSURANCE**

6.02 *Insurance—General Provisions*

6.03 *Contractor's Insurance*

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: **None.**
- E. *Workers' Compensation and Employer's Liability:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

<b>Workers' Compensation and Related Policies</b>	<b>Policy limits of not less than:</b>
<b>Workers' Compensation</b>	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
<b>Jones Act (if applicable)</b>	
Bodily injury by accident—each accident	\$
Bodily injury by disease—aggregate	\$
<b>Employer's Liability</b>	
Each accident	\$500,000.0
Each employee	\$
Policy limit	\$
<b>Stop-gap Liability Coverage</b>	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	\$

- F. *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 claims for:
  1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
  2. damages insured by reasonably available personal injury liability coverage, and
  3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- G. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial

general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
    - a. Such insurance must 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, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
  4. Underground, explosion, and collapse coverage.
  5. Personal injury coverage.
  6. 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). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
  7. 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.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of "insured contract" (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
  2. Any exclusion for water intrusion or water damage.
  3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
  4. Any exclusion of coverage relating to earth subsidence or movement.
  5. Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation).
  6. Any limitation or exclusion based on the nature of Contractor's work.
  7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. *Commercial General Liability—Minimum Policy Limits*

<b>Commercial General Liability</b>	<b>Policy limits of not less than:</b>
General Aggregate	\$2,000,000.00
Products—Completed Operations Aggregate	\$1,000,000.00
Personal and Advertising Injury	\$1,000,000.00
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000.00

- J. *Automobile Liability*: Contractor shall purchase and maintain automobile liability insurance 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 must be written on an occurrence basis.

<b>Automobile Liability</b>	<b>Policy limits of not less than:</b>
<b>Bodily Injury</b>	
Each Person	\$1,000,000.00
Each Accident	\$1,000,000.00
<b>Property Damage</b>	
Each Accident	\$1,000,000.00
<b>[or]</b>	
<b>Combined Single Limit</b>	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000.00

- K. *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. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

<b>Excess or Umbrella Liability</b>	<b>Policy limits of not less than:</b>
Each Occurrence	\$5,000,000.00
General Aggregate	\$5,000,000.00

- N. *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 must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

<b>Contractor's Professional Liability</b>	<b>Policy limits of not less than:</b>
Each Claim	\$2,000,000.00
Annual Aggregate	\$2,000,000.00

6.04 *Builder's Risk and Other Property Insurance*

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

F. *Builder's Risk Requirements:* The builder's risk insurance must:

1. be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks: fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).
  - a. Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
  - b. 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 will be provided through other insurance policies acceptable to Owner and Contractor.
2. 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.
3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of contractors, engineers, and architects).
4. 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).
5. extend to cover damage or loss to insured property while in transit.
6. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.

7. allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
8. include performance/hot testing and start-up, if applicable.
9. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.
10. include as named insureds the Owner, Contractor, Subcontractors (of every tier), and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of Paragraphs 6.04, 6.05, and 6.06 of the General Conditions, and this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds." In addition to Owner, Contractor, and Subcontractors of every tier, include as insureds the following:
  - a. **None**

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

### **7.03 Labor; Working Hours**

**SC-7.04.D – Add the following new paragraph immediately after Paragraph 7.04.C:**

**D. All Iron and Steel products must meet American Iron and Steel requirements.**

**SC-7.04.E – Add the following new paragraph immediately after Paragraph 7.04.D:**

**E. For projects utilizing a *De Minimis* waiver, Contractor shall maintain an itemized list of non-domestically produced iron or steel incidental components and ensure that the cost is less than 5% of total materials cost for project.**

**SC-7.05.A – Amend the third sentence of paragraph by striking out the following words:**

**Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item is permitted,**

**SC-7.05.A.1.a.3 – Amend the last sentence of Paragraph a.3 by striking out "and;" and adding a period at the end of Paragraph a.3.**

**SC-7.05.A.1.a.4 – Delete paragraph in its entirety and insert "Deleted."**

**SC-7.05.B – Add the following at the end of paragraph:**

**Contractor shall include a Manufacturer's Certification letter for compliance with American Iron and Steel requirements in support data, if applicable. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**

**SC-7.06.A.3.a.2 – Remove “and” from the end of paragraph.**

**SC-7.06.A.3.a.3 – Add “; and” to the end of paragraph.**

**SC-7.06.A.3.a.4 – Add the following new paragraph immediately after Paragraph 7.06.A.3.a.3:**

**4. Comply with American Iron and Steel by providing Manufacturer’s Certification letter of American Iron and Steel compliance, if applicable. Refer to Manufacturer’s Certification Letter provided in these Contract Documents.**

**SC-7.07.A – Amend by adding the following to the end of the paragraph:**

**The total amount of work subcontracted by the Contractor shall not exceed fifty percent of the Contract price without prior approval from the Owner, Engineer and Agency.**

**SC-7.07.B – Delete paragraph in its entirety and insert “Deleted”.**

**SC-7.07.E – Delete the second sentence of paragraph and insert the following in its place:**

**Owner may not require that Contractor use a specific replacement.**

#### **7.10 Taxes**

**SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:**

- A. Owner is exempt from payment of sales and compensating use taxes of the State of Tennessee and of cities and counties thereof on all materials to be incorporated into the Work.**
  - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.**
  - 2. Owner’s exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.**

**SC-7.12.A Amend paragraph by adding the following after “written interpretations and clarifications,”:**

**Manufacturers’ Certifications,**

**SC-7.16.A.1.c – Amend paragraph by deleting the last period and adding:**



, including Manufacturer's Certification letter for any item in the submittal subject to American Iron and Steel requirements and include the Certificate in the submittal. Refer to Manufacturer's Certification Letter provided in these Contract Documents.

**SC-7.16.C.9 – Add new paragraph immediately after Paragraph 7.16.C.8:**

**9. Engineer's review and approval of a Shop Drawing or Sample shall include review of Manufacturers' Certifications in order to document compliance with American Iron and Steel requirements, as applicable.**

**SC-7.17.F – Add new paragraph immediately after Paragraph 7.17.E:**

**F. Contractor shall certify upon Substantial Completion that all Work and Materials have complied with American Iron and Steel requirements as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference. Contractor shall provide said Certification to Owner. Refer to General Contractor's Certification Letter provided in these Contract Documents.**

#### **ARTICLE 8—OTHER WORK AT THE SITE**

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

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

##### *10.03 Resident Project Representative*

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

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
  2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
  3. *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 Contractor's proper execution of the Work.
4. *Review of Work; Defective Work*
- a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Observe whether any Work in place appears to be defective.
  - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
5. *Inspections and Tests*
- a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
  - b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
6. *Payment Requests: Review Applications for Payment with Contractor.*
7. *Completion*
- a. Participate in Engineer's visits regarding Substantial Completion.
  - b. Assist in the preparation of a punch list of items to be completed or corrected.
  - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
  - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will 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 construction.

- 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. Authorize Owner to occupy the Project in whole or in part.

## **ARTICLE 11—CHANGES TO THE CONTRACT**

No suggested Supplementary Conditions in this Article.

### **SC-11.02.C – Add new paragraph immediately after Paragraph 11.02.B:**

**C. The Engineer or Owner shall contact the Agency for concurrence on each Change Order prior to issuance. All Contract Change Orders must be concurred on (signed) by Agency before they are effective.**

### **SC-11.03.A.2 - Add new Paragraph 11.03.A.2 immediately after Paragraph 11.03.A, which shall be renamed Paragraph 11.03.A.1:**

**2. The Engineer or Owner shall contact the Agency for concurrence on each Work Change Directive prior to issuance. Once authorized by Owner, a copy of each Work Change Directive shall be provided by Engineer to the Agency.**

### **SC-11.05.B – Add the following at the end of this paragraph:**

**For Owner-authorized changes in the Work, the Contractor will provide the Manufacturer's Certification(s) for materials subject to American Iron and Steel requirements except when sole-source is specified, in which case the Engineer will provide the Manufacturer's Certification(s).**

### **SC-11.09.B.2.c – Add new paragraph immediately after Paragraph 11.09.B.2.b:**

**c. Change orders involving materials subject to American Iron and Steel requirements shall include supporting data (name of Manufacturer, city and state where the product was manufactured, description of product, signature of authorized Manufacturer's representative) in the Manufacturer's Certification Letter, as applicable.**

## **ARTICLE 12—CLAIMS**

No suggested Supplementary Conditions in this Article.

## **ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK**

### **13.01 *Cost of the Work***

**SC-13.02.C – Delete paragraph in its entirety and insert "Deleted".**

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

No suggested Supplementary Conditions in this Article.

**SC-14.03.G – Add new paragraph immediately after Paragraph 14.03.F:**

**G. Installation of materials that are non-compliant with American Iron and Steel requirements shall be considered defective work.**

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

15.01 *Progress Payments*

**SC-15.01.B.4 – Add the following language at the end of paragraph:**

**No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage or invest the retainage for the benefit of the Contractor.**

**SC-15.01.B.5 – Add new paragraph immediately after Paragraph 15.01.B.4:**

**5. The Application for Payment form to be used on this Project is EJCDC® C-620. The Agency must approve all Applications for Payment before payment is made.**

**SC-15.01.B.6 – Add new paragraph immediately after Paragraph 15.01.B.5:**

**6. By submitting an Application for Payment based in whole or in part on furnishing equipment or materials, Contractor certifies that such equipment and materials are compliant with American Iron and Steel requirements. Manufacturer's Certification letter for materials satisfy this requirement. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**

**SC-15.01.C.2.d – Add the following new paragraph immediately after Paragraph 15.01.C.2.c:**

**d. The materials presented for payment in an Application for Payment comply with American Iron and Steel requirements.**

**SC-15.01.D.1 – Delete paragraph in its entirety and insert the following in its place:**

**The Application for Payment with Engineer's recommendations will be presented to the Owner and Agency for consideration. If both the Owner and Agency find the Application for Payment acceptable, the recommended amount less any reduction under the**

**provisions of Paragraph 15.01.E will become due twenty (20) days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.**

SC-15.01 Add the following new Paragraph 15.01.F:

- F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment.

**SC-15.02.A – Amend paragraph by striking out the following text: “7 days after”.**

15.03 *Substantial Completion*

**SC-15.03.A – Modify by adding the following after the last sentence:**

**Contractor shall also submit the General (Prime) Contractor’s Certification of Compliance certifying that to the best of the Contractor’s knowledge and belief all substitutes, equals, and all Iron and Steel products proposed in the Shop Drawings, Change Orders, and Partial Payment Estimates, and those installed for the Project, are either Produced in the United States or are the subject of an approved waiver under Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.**

SC-15.03 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, will 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 this Article 15.

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

No suggested Supplementary Conditions in this Article.

**ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES**

**ARTICLE 18—MISCELLANEOUS**

**SC-18.11 – Add new paragraph immediately after Paragraph 18.10:**

**18.11     *Tribal Sovereignty***

**A. No provision of this Agreement will be construed by any of the signatories as abridging or debilitating any sovereign powers of the *[insert name of Tribe]* Tribe; affecting the trust-beneficiary relationship between the Secretary of the Interior, Tribe, and Indian landowner(s); or interfering with the government-to-government relationship between the United States and the Tribe.**

**SC-19 – Add the following new Article 19 immediately after Article 18:**

**Article 19 - FEDERAL REQUIREMENTS**

**19.01     *Agency Not a Party***

**A. This Contract is expected to be funded in part with funds provided by Agency. Neither Agency, nor any of its departments, entities, or employees, is a party to this Contract.**

**19.02     *Contract Approval***

**A. Owner and Contractor will furnish Owner's attorney such evidence as required so that Owner's attorney can complete and execute the "Certificate of Owner's Attorney" (Exhibit G of this Bulletin) before Owner submits the executed Contract Documents to Agency for approval.**

**B. Agency concurrence is required on both the Bid and the Contract before the Contract is effective.**

**19.03     *Conflict of Interest***

**A. Contractor may not knowingly contract with a Supplier or Manufacturer if the individual or entity who prepared the Drawings and Specifications has a corporate or financial affiliation with the Supplier or Manufacturer. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest or other interest in or a tangible personal benefit from the Contractor. Owner's officers,**

employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

#### **19.04      *Gratuities***

A. If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

B. In the event this Contract is terminated as provided in paragraph 19.04.A, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

#### **19.05      *Small, Minority and Women's Businesses***

A. If Contractor intends to let any subcontracts for a portion of the work, Contractor will take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Affirmative steps will include:

1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

#### **19.06      *Anti-Kickback***

A. Contractor shall comply with the Copeland Anti-Kickback Act (40 USC 3145) as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States"). The Act provides that Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. Owner shall report all suspected or reported violations to Agency.

**19.07 *Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended***

A. Contractor to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

**19.08 *Equal Employment Opportunity***

A. The Contract is considered a federally assisted construction contract. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

**19.09 *Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)***

A. Contractors that apply or bid for an award exceeding \$100,000 must file the required certification (RD Instruction 1940-Q Exhibit A-1). The Contractor certifies to the Owner and every subcontractor certifies to the Contractor that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining the Contract if it is covered by 31 U.S.C. 1352. The Contractor and every subcontractor must also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the Owner. Necessary certification and disclosure forms shall be provided by Owner.

**19.10 *Environmental Requirements***



**A. When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:**

**1. Wetlands – When disposing of excess, spoil, or other Construction Materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.**

**2. Floodplains – When disposing of excess, spoil, or other Construction Materials on public or private property, Contractor shall not fill in or otherwise convert 100-year floodplain areas (Standard Flood Hazard Area) delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, e.g., alluvial soils on NRCS Soil Survey Maps.**

**3. Historic Preservation - Applicants shall ensure that Contractors maintain a copy of the following inadvertent discovery plan onsite for review:**

**a. If during the course of any ground disturbance related to any Project, any post review discovery, including but not limited to, any artifacts, foundations, or other indications of past human occupation of the area are uncovered, shall be protected by complying with 36 CFR § 800.13(b)(3) and (c) and shall include the following:**

**i. All Work, including vehicular traffic, shall immediately stop within a 50 ft. radius around the area of discovery. The Contractor shall ensure barriers are established to protect the area of discovery and notify the Engineer to contact the appropriate RD personnel. The Engineer shall engage a Secretary of the Interior (SOI) qualified professional archeologist to quickly assess the nature and scope of the discovery; implement interim measures to protect the discovery from looting and vandalism; and establish broader barriers if further historic and/or precontact properties, can reasonably be expected to occur.**

**ii. The RD personnel shall notify the appropriate RD environmental staff member, the Federal Preservation Officer (FPO), and State Historic Preservation Office (SHPO) immediately. Indian tribe(s) or Native Hawaiian Organization (NHOs) that have an interest in the area of discovery shall be contacted immediately. The SHPO may require additional tribes or NHOs who may have an interest in the area of discovery also be contacted. The notification shall include an assessment of the discovery provided by the SOI qualified professional archeologist.**

**iii. When the discovery contains burial sites or human remains, the Contractor shall immediately notify the appropriate RD personnel who will contact the RD environmental staff member, FPO, and the SHPO. The relevant law enforcement authorities shall be immediately contacted by onsite personnel to reduce delay times, in accordance with tribal, state, or local**



laws including 36 CFR Part 800.13; 43 CFR Part 10, Subpart B; and the Advisory Council on Historic Preservation's Policy Statement Regarding treatment of Burial Sites, Human Remains, or Funerary Objects (February 23, 2007).

iv. When the discovery contains burial sites or human remains, all construction activities, including vehicular traffic shall stop within a 100 ft. radius of the discovery and barriers shall be established. The evaluation of human remains shall be conducted at the site of discovery by a SOI qualified professional. Remains that have been removed from their primary context and where that context may be in question may be retained in a secure location, pending further decisions on treatment and disposition. RD may expand this radius based on the SOI professional's assessment of the discovery and establish broader barriers if further subsurface burial sites, or human remains can reasonably be expected to occur. RD, in consultation with the SHPO and interested tribes or NHOs, shall develop a plan for the treatment of native human remains.

v. Work may continue in other areas of the undertaking where no historic properties, burial sites, or human remains are present. If the inadvertent discovery appears to be a consequence of illegal activity such as looting, the onsite personnel shall contact the appropriate legal authorities immediately if the landowner has not already done so.

vi. Work may not resume in the area of the discovery until a notice to proceed has been issued by RD. RD shall not issue the notice to proceed until it has determined that the appropriate local protocols and consulting parties have been consulted.

vii. Inadvertent discoveries on federal and tribal land shall follow the processes required by the federal or tribal entity.

4. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.

5. Mitigation Measures – The following environmental mitigation measures are required on this Project: [*Insert mitigation measures from the Letter of Conditions here*].

**19.11 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)**

A. Where applicable, for contracts awarded by the Owner in excess of \$100,000 that involve the employment of mechanics or laborers, the Contractor will comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, the Contractor will compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic will be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

**19.12 *Debarment and Suspension (Executive Orders 12549 and 12689)***

A. A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

**19.13 *Procurement of recovered materials***

A. The Contractor will comply with 2 CFR Part 200.322, "Procurement of recovered materials."

**19.14 *American Iron and Steel***

A. Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference applies an American Iron and Steel requirement to this project. All iron and steel products used in this project must be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials.

B. The following waivers apply to this Contract:

1. *De Minimis*,
2. *Minor Components*,

3. **Pig iron and direct reduced iron, and**
4. ***[add project specific waivers as applicable].***

**EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE**

<b>Item</b>	<b>Electronic Documents</b>	<b>Transmittal Means</b>	<b>Data Format</b>	<b>Note (1)</b>
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contractors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
<b>Notes</b>				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
<b>Key</b>				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format readable by Adobe® Acrobat Reader Version <b>[number]</b> or later			
DWG	Autodesk® AutoCAD .dwg format Version <b>[number]</b>			
DOC	Microsoft® Word .docx format Version <b>[number]</b>			
EXC	Microsoft® Excel .xls or .xml format Version <b>[number]</b>			
DB	Microsoft® Access .mdb format Version <b>[number]</b>			

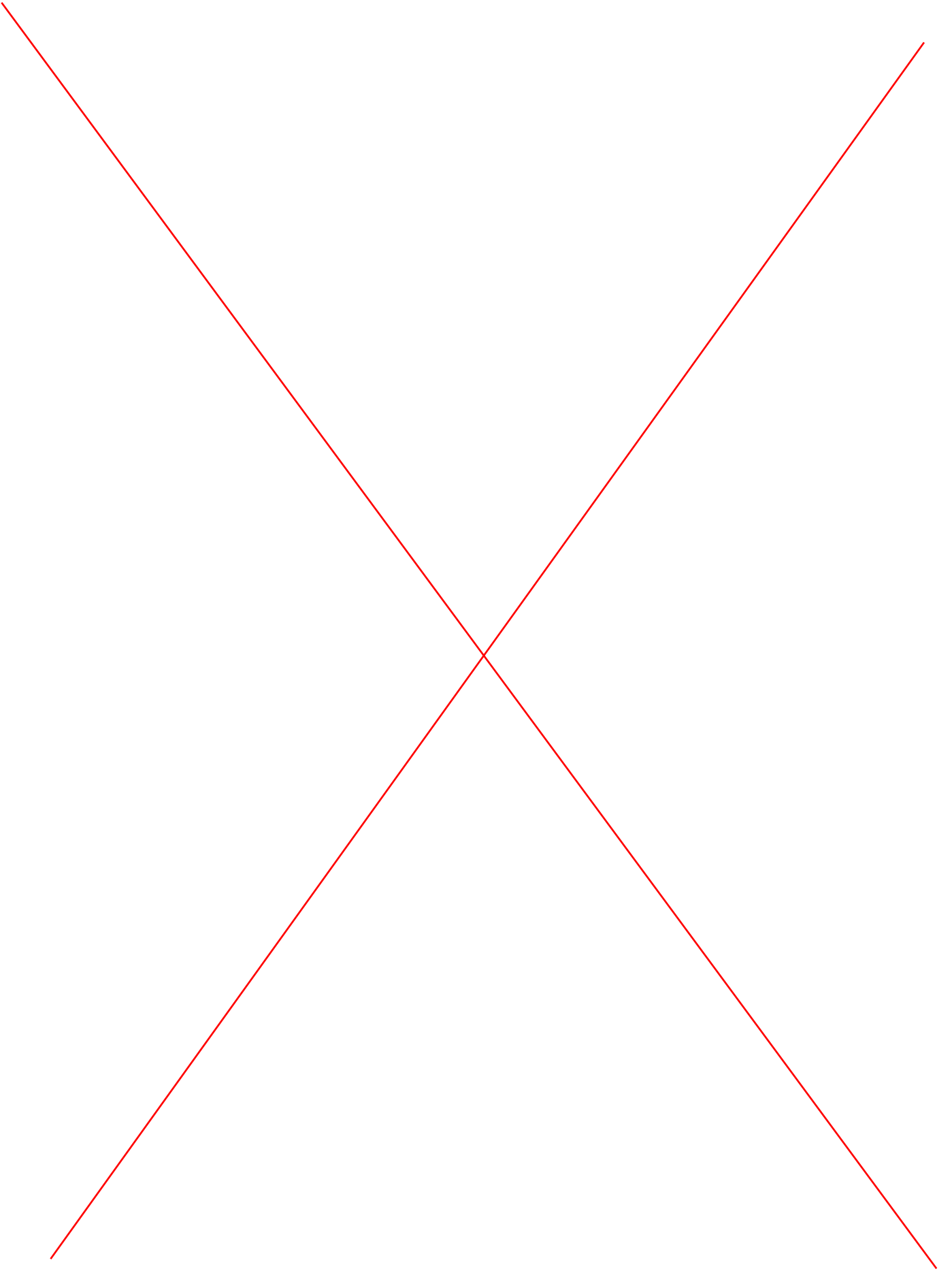
**EXHIBIT B—FORESEEABLE BAD WEATHER DAYS**

**Guidance Notes—Exhibit B**—This exhibit is used with SC-4.05.C, which provides a definition of those “abnormal weather conditions” that result from excessive precipitation or extreme temperatures. If the Project-specific Supplementary Conditions do not include SC-4.05.C, then do not include Exhibit B. If Exhibit B is included, fill in the information in the table to establish the Project-specific number of foreseeable Bad Weather Days with respect to precipitation and temperature.

Month	Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) (1)	Ambient Outdoor Air Temperature (degrees F)	
		Number of Foreseeable Bad Weather Days in Month Based on Low Temperature (at 11:00 a.m.)	Number of Foreseeable Bad Weather Days in Month Based on High Temperature (at 3:00 p.m.)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Notes:  
1. Two inches of sleet equal one inch of rain. Five inches of wet, heavy snow equal one inch of rain. Fifteen inches of “dry” powder snow equals one inch of rain.





## SECTION 00815

### SUPPLEMENTAL GENERAL CONDITIONS

The “Standard General Conditions of the Construction Contract”, NSPE/ACEC EJCDC C-700 (2018 Edition) bound herein are revised as follows:

#### **Article 2. PRELIMINARY MATTERS**

2.04 Revise as follows:

Add the following statement:

The Owner shall determine at the Preconstruction Conference the start date of the project.

#### **Article 4. COMMENCEMENT AND PROGRESS OF WORK**

4.03A Delete the entire paragraph and replace with the following:

The Owner will provide no engineering surveys to establish reference products for construction. The Engineer will provide coordinate points for use by the Contractor

#### **Article 7. CONTRACTOR’S RESPONSIBILITIES**

7.13 Safety and Protection

Add the following language immediately after the second sentence of paragraph 7.13.B. of the Conditions:

The Contractor shall comply with the “Safety and Health Regulations for Construction” and subsequent amendments, promulgated by the Department under the Occupational and Health Act of 1970 (PL-91-596) and under Section 107 of the Contractor Work Hours and Safety Standards Act (PL-91054). These regulations are identified as Chapter XVII of Title 29, Code of Federal Regulations (CFS), Part 1926 (formerly Chapter XIII of Title 29, CFR, Part 1518)



**Article 13. COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

13.03 Unit Price Work

Add the following language immediately after the first sentence of Paragraph 13.03.E.1 of the Conditions:

A material and significant change in quantity will be if the Bid price of a particular item of Unit Price Work amounts to 10 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 15 percent from the estimated quantity of such item indicated in the Agreement; and

**END OF SECTION**

**CHANGE ORDER NO.:** \_\_\_\_\_

Owner: City of Wartburg  
 Engineer: Hethcoat & Davis, Inc  
 Contractor:

Owner's Project No.:  
 Engineer's Project No.:1076-06  
 Contractor's Project No.:

Project: 2016 RD Sewer System Rehabilitation  
 Contract Name: 2016 RD Sewer System Rehabilitation

Date Issued: \_\_\_\_\_ Effective Date of Change Order: \_\_\_\_\_

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

Description:

**[Description of the change]**

Attachments:

**[List documents related to the change]**

Change in Contract Price	Change in Contract Times
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
<b>[Increase] [Decrease]</b> from previously approved Change Orders No. 1 to No. <b>[Number of previous Change Order]</b> : \$ _____	<b>[Increase] [Decrease]</b> from previously approved Change Orders No.1 to No. <b>[Number of previous Change Order]</b> : 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: _____
<b>[Increase] [Decrease]</b> this Change Order: \$ _____	<b>[Increase] [Decrease]</b> 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: \_\_\_\_\_

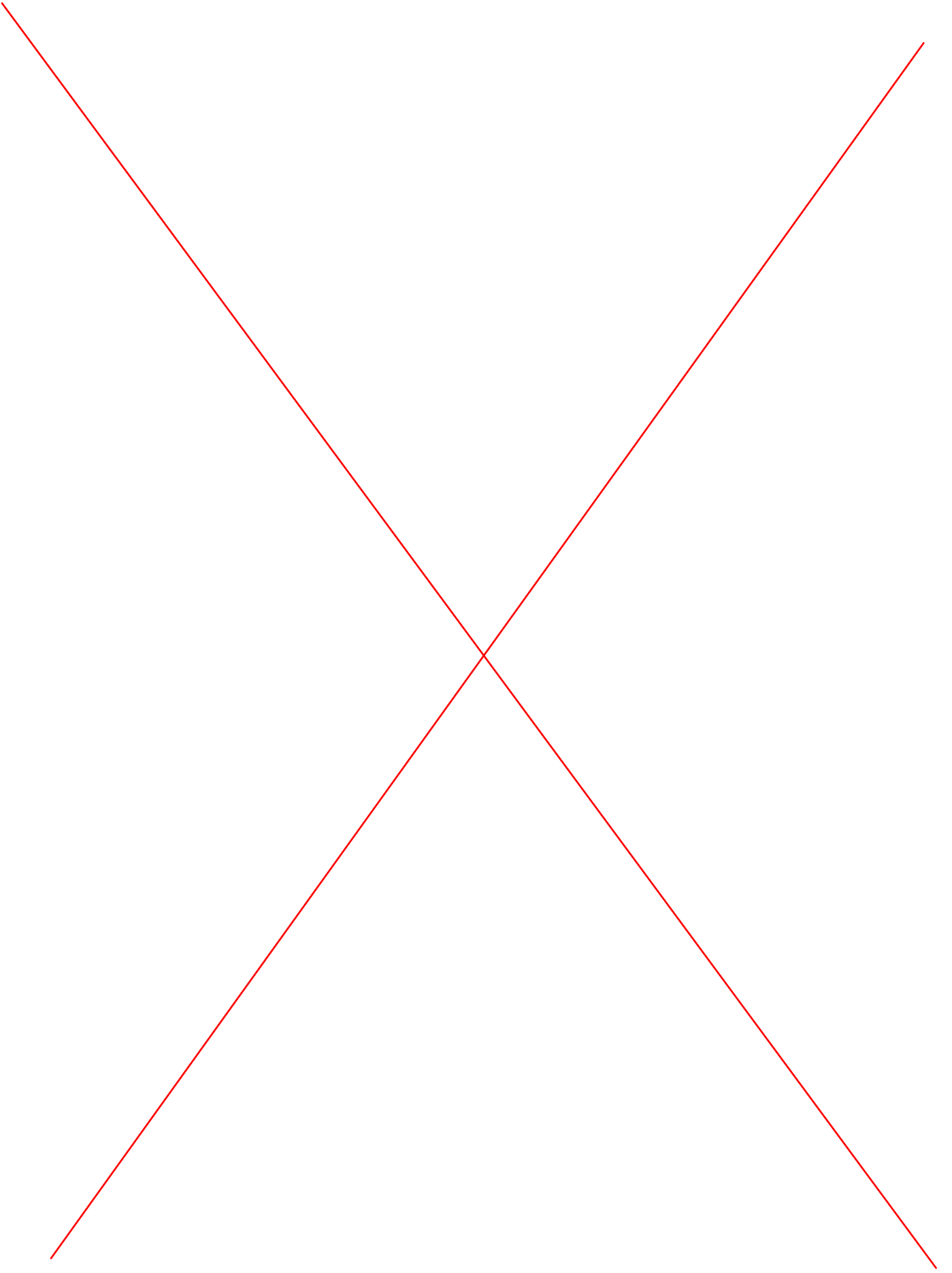
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Title: \_\_\_\_\_

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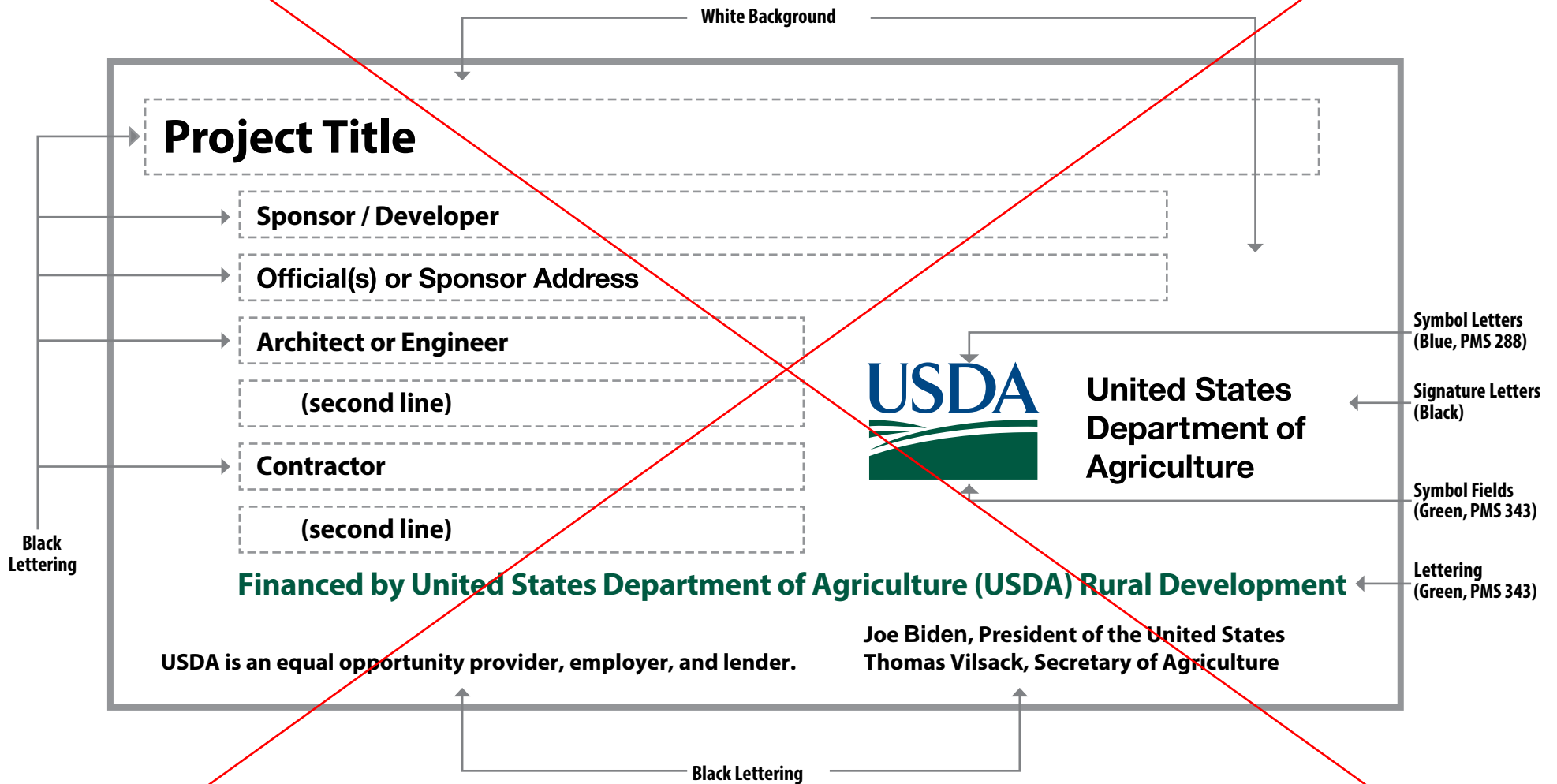
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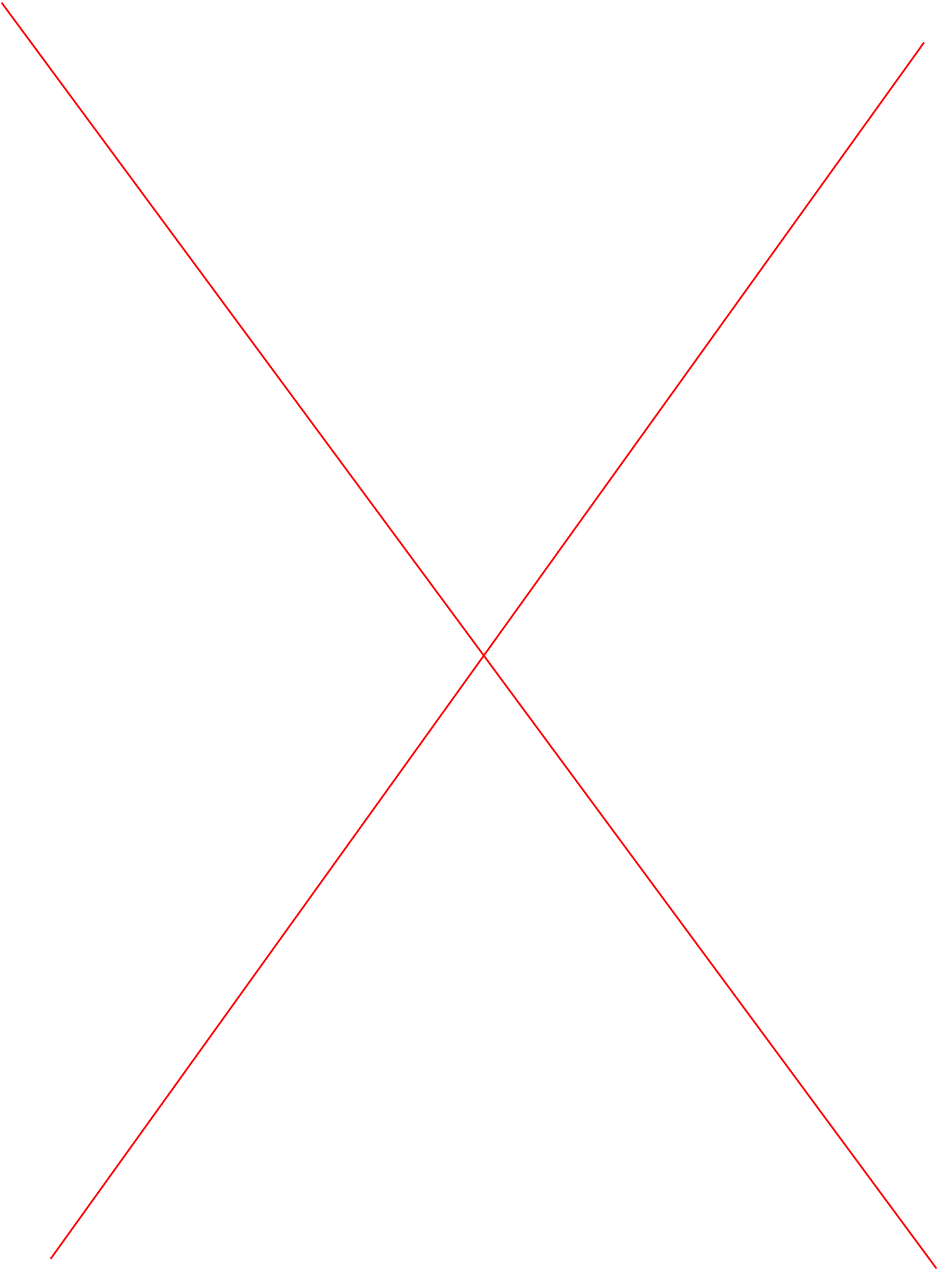


# TEMPORARY CONSTRUCTION SIGN FOR RURAL DEVELOPMENT PROJECTS

Recommended Fonts: Helvetica, Arial, or Myriad Pro



**SIGN DIMENSIONS** : 1200 mm x 2400 mm x 19 mm (approx. 4' x 8' x 3/4")  
**PLYWOOD PANEL (APA RATED A-B GRADE-EXTERIOR)**



**CERTIFICATE OF OWNER'S ATTORNEY AND AGENCY CONCURRENCE**

CERTIFICATE OF OWNER'S ATTORNEY

PROJECT NAME:

---

CONTRACTOR NAME:

---

I, the undersigned, \_\_\_\_\_, the duly authorized and acting legal representative of \_\_\_\_\_, do hereby certify as follows: I have examined the attached Contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements is adequate and has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

---

Name

Date

AGENCY CONCURRENCE

As lender or insurer of funds to defray the costs of this Contract, and without liability for any payments thereunder, the Agency hereby concurs in the form, content, and execution of this Agreement.

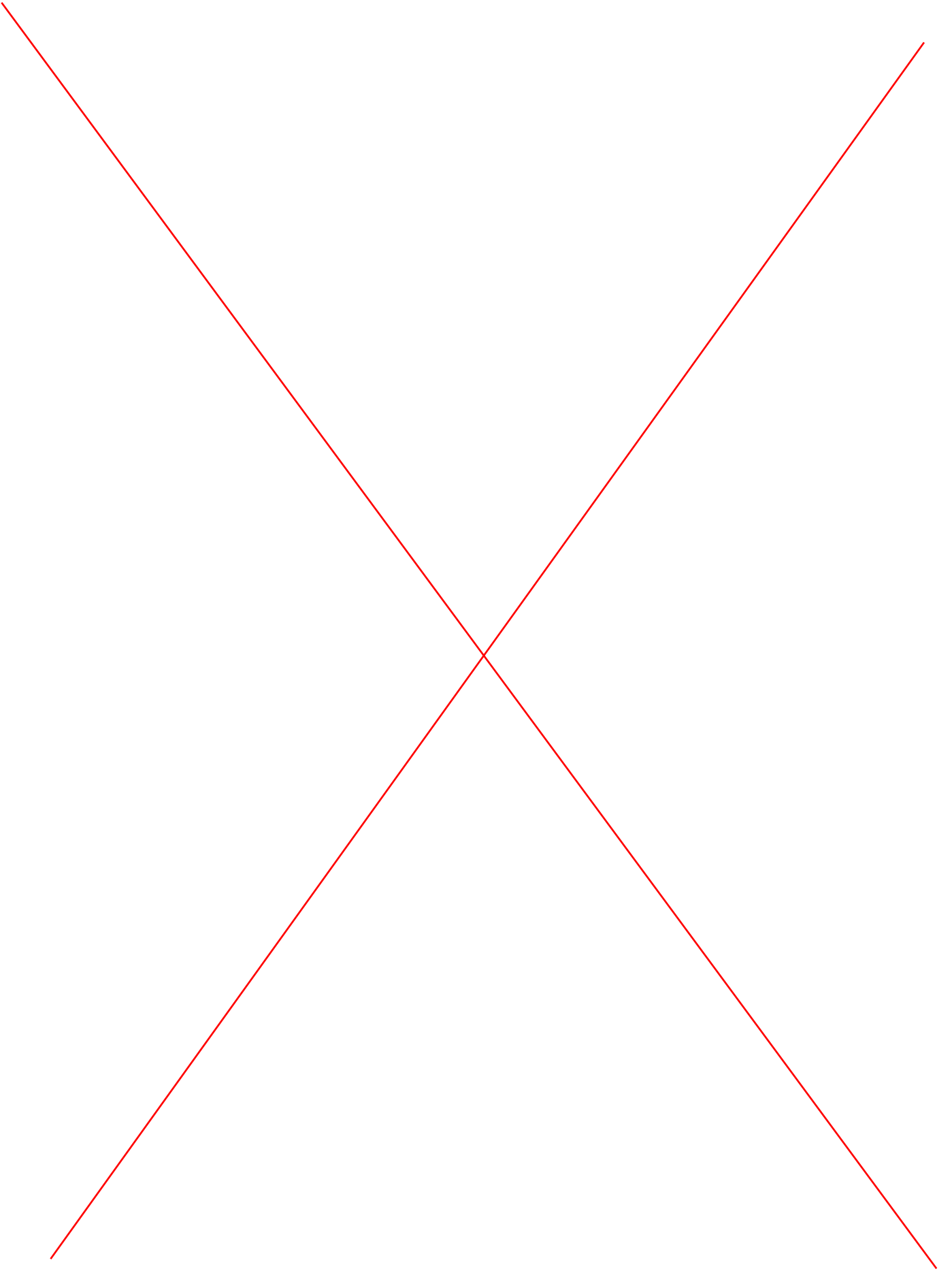
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Agency Representative

Date

---

Name



**ENGINEER'S CERTIFICATION OF FINAL PLANS AND SPECIFICATIONS**

PROJECT NAME: 2016 RD Sewer System Rehabilitation

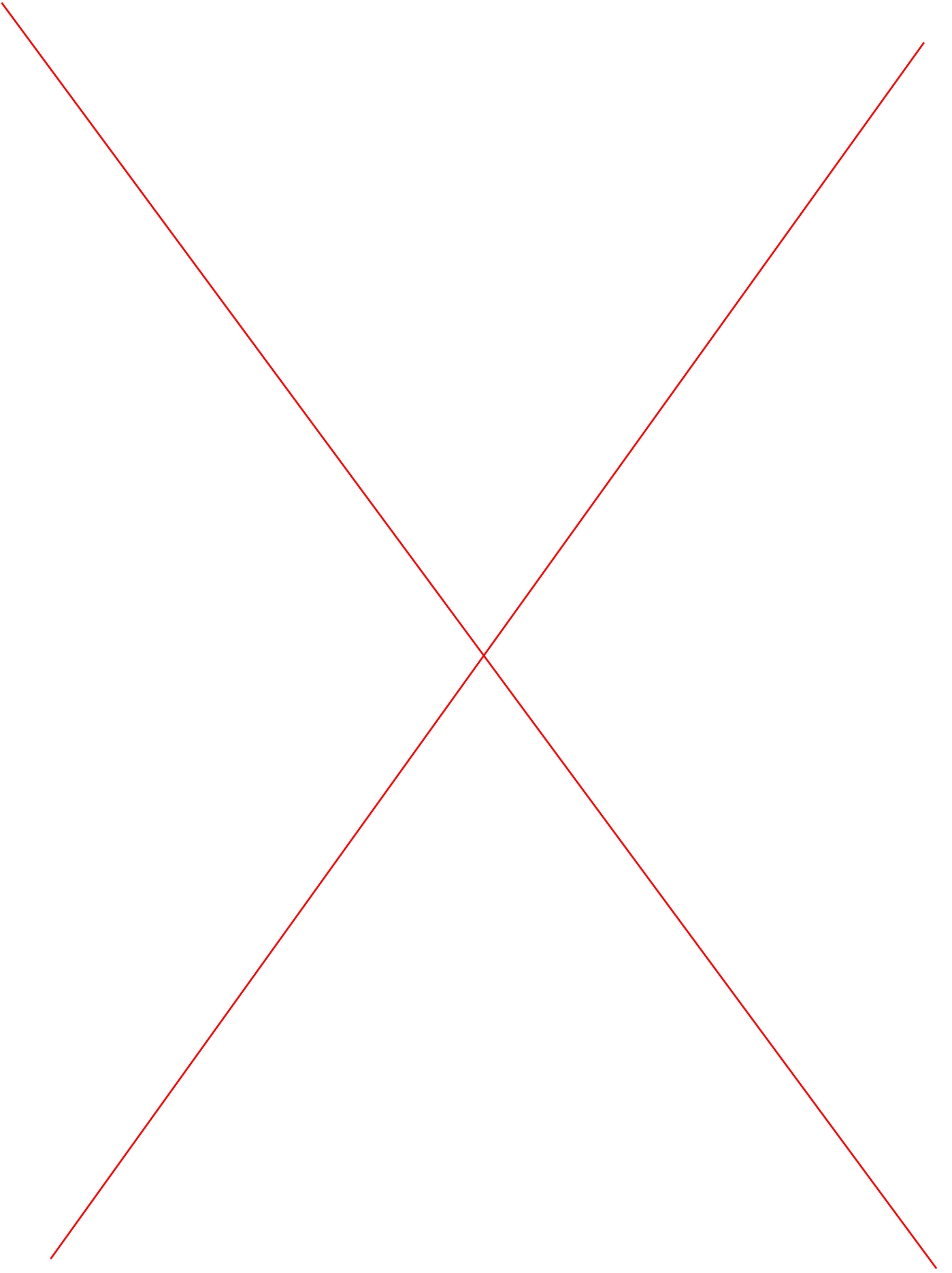
The final Drawings and Specification, other assembled Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, comply with all requirements of the U.S. Department of Agriculture, Rural Utilities Service, to the best of my knowledge and professional judgement.

If the Engineers Joint Contract Documents Committee (EJCDC) documents have been used, all modifications required by RUS Bulletin 1780-26 have been made in accordance with the terms of the Standard EJCDC Text, using 'Track Changes' (redline/strikeout), highlighting, or other means of clearly indicating additions and deletions." Such other means may include attachments indicating changes (e.g. Supplementary Conditions modifying the General Conditions).

Stacey Cox 5/9/21  
Engineer Date

Stacey Cox, Project Engineer  
Name and Title





## SECTION 01000

### SPECIAL REQUIREMENTS

#### PART 1 - GENERAL

##### 1.01 MAINTAINING TRAFFIC AND BUSINESS OPERATIONS

- A. The operations performed under this Contract shall be closely coordinated, scheduled and conducted in such a manner and sequence as to cause the least practical interference with the traveling public, fire protection service, public utility service or work by other contractors. No more than one street can be closed at a time. At conclusion of work day, road shall be returned to a passable condition.
- B. When it becomes necessary to make connections, cut-ins, or alterations or to perform any other work that temporarily interferes with normal operations, coordinate such work with the Owner and/or utility company at least 48 hours in advance of interruptions and perform the work as directed in a prompt and orderly manner so as to minimize such interference.
- C. All traffic control shall be coordinated with the local governing agencies to meet their requirements. At a minimum, traffic control shall be in accordance with the MUTCD, latest edition.

##### 1.02 SAFETY

- A. Keep all flammable liquids in the areas designated. Provide and maintain in working order standard UL labeled, water pressurized fire extinguishers as required.
- B. With respect to all work performed under this contract, the Contractor shall:
  - 1. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associate General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, No. 75, Saturday April 17, 1971.
  - 2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.

3. Maintain at his/her office or other well-known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
  4. Neither Engineer nor Owner shall direct Contractor's employees in any form as it relates to construction of the project. This includes job site safety. Contractor shall be solely responsible for the safety of its workers and the general public impacted by the construction activities. Any observation or comment from representatives of Owner or Engineer regarding construction techniques or safety does not pronounce any judgment over the situation, and similarly, silence about a construction practice or safety does not endorse or approve the activity.
- C. 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.
  3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. 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.
- E. Contractor shall comply with the applicable requirements of Owner's safety programs, if applicable.

- F. 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.
- G. All damage, injury, or loss to any property referred to in Paragraph 1.02.C.2 or 1.02.C.3 caused, directly or indirectly, in whole or in part, by Contractor, or 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 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.)
- H. 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 Specification Section 01700 that the Work is acceptable (except as otherwise expressly provided with Substantial Completion).
- I. 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 obligation, or to conduct other tasks arising from the Contract Documents.
- J. Safety Representative: 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.
- K. Hazard Communication Programs: 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 employees at the Site in accordance with Laws and Regulations.
- L. 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.

### 1.03 USE OF POTABLE WATER

- A. The Owner will provide potable water for use in sewer cleaning and/or testing at no cost to the Contractor. Contractor shall obtain a construction meter for use in filling water tanks or trucks and maintain water use records as required by the Owner. All connections to the water system for filling purposes shall be protected with suitable backflow prevention devices.

### 1.04 CUTTING AND PATCHING

- A. No cutting or patching shall be done except under the direction of the Contractor and the consent of the Engineer. Cutting and patching, when allowed, shall be skillfully managed and in a timely manner.
- B. Patching and renewing after the installation of new work, including lines, ducts, etc., shall be performed as specified under the relevant specification sections for the type of material involved.

### 1.05 DAMAGE TO EXISTING GROUNDS

- A. All damage caused to existing grounds or in-place construction shall be made good in a manner acceptable to the Engineer. In addition, the Owner must be protected from claims for damages within or without the premises that may result from this Contract.
- B. Contractor shall take all reasonable care to minimize siltation and soil erosion during construction. He shall employ BMPs, as necessary, as outlined in Section 02200 Erosion and Sediment Control.

### 1.06 PAVEMENT REPAIR REQUIREMENTS

- A. Pavement Repair and/or Replacement in State Highways: Under this contract, there is no pavement restoration required in State Highways.
- B. Pavement Repair and/or Replacement in Local Roads: When pipeline trenching operations have taken place within local roads, streets, or parking areas, pipeline installation and initial backfill shall immediately commence and follow the trenching operation. Traffic shall be restored at the end of each work day by installing the final layer of backfill and a 6" layer of dense grade aggregate that shall be flush with the existing pavement. Add material and otherwise maintain such surface until the pavement is permanently restored.

## 1.07 NEW MANHOLE REQUIREMENTS

- A. Survey grade GPS coordinates shall be collected for all new manholes that are installed. The Tennessee State Plane Coordinate System shall be used for collecting data. The following data shall be collected for each new manhole installed: location of manhole and inverts in/out (x,y,z coordinate at the top of casting center of MH and x,y,z coordinates of inverts in/out), and pipe size of all corresponding inverts. It is the Contractor's responsibility to schedule data collection. Data collection should occur after the new manholes have been installed. Data must be delivered to the Engineer in a CAD format or GIS format (shapefile).

### **PART 2 - PRODUCTS**

N/A

### **PART 3 - EXECUTION**

N/A

**END OF SECTION**



## SECTION 01010

### PROJECT SUMMARY

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Summary of the Work
- B. Project Time
- C. General Requirements

##### 1.02 SUMMARY OF THE WORK

- A. The project consists of:
  - 1. Pipe bursting of approximately 11,450 linear feet of existing 8" gravity sewer line including approximately 10 point repairs.
  - 3. The reconnection of approximately 130 service lines and all related work.
  - 4. Rehabilitation of approximately 32 existing manholes and installation of 1 new manhole.
  - ~~5. Installation of approximately 400 lf of 8-inch gravity sewer and 3 manholes.~~
  - ~~6. Demolition of existing sewer pump station.~~
  - ~~7. Installation of new pump station including concrete wetwell, submersible grinder pumps, valve vault, valves, electrical, connection to exiting force main and all appurtenances.~~

##### 1.03 PROJECT TIME

- A. Substantial completion for this project is set at 270 calendar days after the date the Contract Time commences. Final completion for this project is set at 300 calendar days after the date the Contract Time commences.

##### 1.04 GENERAL REQUIREMENTS

- A. Smoking and Fire Precautions: No smoking, fire, or use of any fire or explosion producing tools or equipment shall be permitted on the premises or at any locations where such may endanger said premises or the current operations thereon.
- B. Manufacturers Qualifications: The manufacturers of all materials and equipment used must be reputable and regularly engaged in the manufacture of the particular material or equipment for the use and service to which it will be subjected.
- C. Contractor Shall Pay for All Laboratory Inspection Service: All materials and equipment used in the construction of the project shall be subject to adequate



inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Contractor and approved by the Engineer and/or Owner. Contractor to pay for all laboratory inspection services as a part of the Contract. Submit all material test reports to the Owner in triplicate.

- D. Compliance With State and Local Laws: Comply with all applicable requirements of state and local laws and ordinances to the extent that such requirements do not conflict with federal laws or regulations.
- E. Protection of Public and Private Property: Take special care in working areas to protect public and private property. The contractor shall replace or repair at his own expense any damaged water pipes, power and communication lines, or other public utilities, roads, curbs, gutters, sidewalks, drain pipes, ponds or pond structures, drainage ditches, all properties and fixtures (both permanent and temporary) fences, and all plantings, including grass or sod on the site of the work. Leave the site in original or better condition after all cleanup work has been done.

Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

- F. Sewer Bypassing or Overflows: No wastewater bypassing shall occur during construction unless a schedule has been approved by the Division of Water and/or by EPA/NEPA permit if required.
- G. Markers: Preserve all USGS, TVA, and State property markers and private markers. Do not remove or disturb any such markers without prior approval from the Owner. Any removal and replacement of such markers shall be at the expense of the Contractor.
- H. Non-discrimination: The Contractor agrees to hire qualified persons without regard to race, creed, color, sex, or national origin for the performance of the work specified in this contract.
- I. Highway Department Permits: The Owner shall secure any permits and provide bond as required by the Tennessee Department of Transportation or City of Wartburg, Morgan County, Tennessee for the installation of permanent facilities on highway rights-of-way. All such work shall be coordinated with and be subject to the approval of TDOT, City and/or the County.
- J. Pavement Repair and/or Replacement: Whenever pipe trenches are cut across or along existing pavement or shoulders, backfill same and restore traffic over the cuts as quickly as possible by constructing a temporary surface with Class A, grade D crushed stone. Add material and otherwise maintain such surface until

the permanent pavement is restored by the Contractor or until the entire project is accepted.

- K. **Approved Chemicals:** All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval of either EPA or USDA. The use of all such chemicals and the disposal of residues shall be in strict conformance with instructions.
  
- L. **Catalogue Data for Owners:** Provide duplicate, complete, bound sets of a compilation of catalog data of each manufactured item of mechanical and electrical equipment used in the work, and present this compilation to the Engineer for transmittal to the Owner before payment of more than ninety percent (90%) is made. Include descriptive data and printed installation, operating, and maintenance instruction (including a parts list for each item of equipment) Provide a complete double index as follows:
  - 1. Listing the products alphabetically by name.
  - 2. Listing alphabetically the names of manufacturers whose products have been incorporated in the work, together with their addresses and the names and addresses of the local sales representative.
  
- M. **Operation and Maintenance Instruction to Owner:** Where the specifications for specific equipment require that a factory service representative provide operation and maintenance instruction to the Owner for that equipment, this service is to be performed by prior arrangement with the Owner after and in addition to the manufacturer's instructions to the Contractor for installation and start-up. The individual performing the instruction to the Owner shall be trained and/or certified by the manufacturer as its authorized operation, maintenance, and service specialist. If the said specialist is not a regular full-time employee of the manufacturer, the specialist's qualifications shall be submitted to the Owner for review and approval prior to scheduling the site visit for instructions to the Owner.
  
- N. **Drawings of Record:** Provide a complete, up-to-date record set of blue-line prints, which shall be corrected daily to show every change, and the approved shop drawings. Keep this set of prints at the job site and use only as a record set. Turn the set over to the Engineer upon completion of the project. The Contractor shall, prior to request for final payment, supply the Owner with a set of as-built drawings of the project. These drawings shall indicate the location of the utility line and all appurtenances, and shall include dimensions to the centerline of the pipe and each appurtenance. The Engineer shall supply the Contractor at the beginning of the project a set of construction drawings, which may be used for modification to create as-built documents. The drawings shall be delivered to the Engineer and verified before submittal to the Owner.
  
- O. **Utilities:** The Contractor is to contact the Owner of all underground utilities before beginning construction in the area. Contractor shall determine exact location of all existing utilities prior to beginning construction in accordance with

*State of Tennessee, Title 65 – Public Utilities and Carrier, Chapter 31 Underground Utility Damage Prevention Act.* Carefully protect from damage all utilities in the vicinity of the work at all times. If it is necessary to repair, remove, and/or replace any such utility in order to complete the work properly, do so in compliance with the rules and regulations of the particular utility involved. Any such work shall be considered incidental to the construction of repairs of utility lines, and no additional payment will be allowed thereafter.

- P. If artifacts or archaeological features are encountered during project activities, work shall cease and the Owner and Engineer shall be notified immediately in order to contact the Historic Preservation office and the tribal contacts immediately.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

Not Used

**END OF SECTION**

## SECTION 01026

### MEASUREMENT AND PAYMENT

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Measurement for payment on a unit price basis shall be as described below. Payment for each unit installed or completed shall be made according to the unit price bid, as listed in the Bid Form. Only those items appearing in the Bid Form will be considered for payment on a unit price basis.
- B. Even though an item of work is included in the technical specifications, if it is not both covered herein and specifically itemized in the Bid Form, payment for it shall not be separately made. Such work shall be considered a necessary part of or incidental to its related work.
- C. Unit prices shall include all necessary material, delivery costs, labor and equipment costs, performance, furnishing deliverables, insurance, applicable taxes, overhead and profit.
- D. Quantities are for bid purposes only and may be increased, decreased or deleted without any additional compensation to the Contractor. This project is being bid with certain funds allocated. Items of work may be deleted to remain within the allocated funding for the project.

##### 1.02 SCHEDULE OF PAY ITEMS

- A. Section 02100 Site Preparation
  - 1. Site Preparation is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which site preparation is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.
- B. Section 02110 Clearing
  - 1. Clearing is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which clearing is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.

C. Section 02200 Erosion Control

1. Erosion control is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which erosion control is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.

D. Section 02221 Trenching, Backfilling and Compaction for Utilities

1. Trenching, Backfilling and Compaction for Utilities is not a pay item. Trenching, backfilling and compaction for utilities shall be considered and designated a necessary part of the construction, and unit prices bid for items with which trenching, backfilling and compaction for utilities is connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawing and specifications.

E. Section 02222 Unclassified Excavation for Utilities

1. Unclassified excavation for utilities is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which trenching, backfilling and compaction for utilities is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.

F. Section 02260 Finish Grading

1. Finish Grading is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which finish grading is connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawings and specifications.

G. Section 02410 Demolition

- ~~1. Abandonment and removal of existing pump station and wetwell is a lump sum pay item. Payment for this item shall include removal of all equipment, piping, disconnection of utilities including electrical, demolition and removal of wetwell and pumping station, final restoration of all disturbed areas including topsoil and seeding and all items as noted on the plans and required to complete this work. All materials, labor and equipment associated with demolition and removal shall be incorporated into the lump sum amount provided in the Bid Form.~~

H. Section 02485 Seeding

1. Seeding is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which seeding is connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawings and specifications.

I. Section 02575 Pavement Repair

1. Pavement repair is a pay item. Payment shall be made at the unit price for permanent pavement replacement measured by the square yard. Payment shall be full compensation for all saw-cutting, compaction, re-grading, blading, clipping, blue-topping, subgrade preparation, subbase crushed stone, asphaltic mixes, prime and tack coats, placement of asphalt and paving, and all other work necessary to complete the pavement repair work.
2. Payment for asphaltic binder and asphaltic surface mix will be paid for by the actual square yardage of binder and surface mix placed and measured.
3. Payment for prime coat and tack coat will not be paid separately and shall be included in other unit costs for asphalt repair.
4. Payment for Class A, Grade D crushed stone will not be paid separately and shall be included with other unit costs for pipe installation.
5. No separate payment will be made for striping or markings related to pavement restoration (i.e. white lines, yellow lines, etc.). The cost for this shall be included with other unit costs associated with pavement restoration.

J. Section 02600 Manholes and Wetwells

1. Payment for new and replacement manholes shall be made at the contract unit price per each manhole installed as specified on the bid form. Payment shall include all labor, materials, unclassified excavation, removal of existing manhole and proper disposal, furnish and install the new manhole, including frame and cover, and pipe connections. No additional payment will be made for collecting survey grade GPS coordinate (x,y,z) for new/ replacement manholes.
2. Service Reconnections to manholes are a pay item. The quantities of service reconnections for which payment will be allowed shall be expressed per each sewer lateral connection to the manhole. The unit price

set forth in the Bid Form will constitute full payment for unclassified excavation, backfilling, crushed stone, dewatering, as-builts, furnishing and installing lateral connections at all depths, and all incidental work including all labor, materials and equipment. Payment will consist of the cost of coring and grouting the manhole, saddle, cleanout, reconnection at the manhole and reconnection to the existing service line, and all required fittings.

3. The raising of manhole castings using precast grade rings up to 6-inches is a separate pay item. The unit price for each manhole casting raised shall be for all labor, materials and equipment to complete the work in accordance with the specifications. Payment shall be for each existing manhole casting raised to be flush with existing conditions, up to 6-inches.
- ~~4. Payment for concrete wetwell is not a separate pay item. It shall be included in the lump sum bid item "Sewer Pumping Station, complete..." All materials, labor and equipment associated with installing the wetwell shall be incorporated into the lump sum amount for the pump station on the Bid Form. No separate payment for the wetwell will be considered.~~

K. Section 02650 Sanitary Sewer Manhole Rehabilitation

1. Sanitary sewer manhole rehabilitation is a pay item. Payment shall be made for each vertical foot of manhole completed by the cementitious repair and sealing of the manhole including the base, invert, walls, cone, chimney, and frame, tested and accepted. The unit price listed on the Bid Form shall be full compensation for all labor, materials, tools, equipment, testing and other accessories and incidentals to perform and successfully complete the manhole rehabilitation.

L. Section 02722 Sanitary Sewers (Gravity)

1. Service Reconnections to new or existing sewer main are a pay item. The quantities of service reconnections for which payment will be allowed shall be expressed per each sewer lateral connection to each section of sewer main. The unit price set forth in the contract will constitute full payment for unclassified excavation, backfilling, crushed stone, dewatering, asbuilts, furnishing and installing lateral connections at all depths, and all incidental work including labor, materials, tools and equipment. Payment will consist of the cost of the two-way tee, saddle, cleanout, reconnection at the main sewer line, up to 30 linear feet of service pipe and reconnection to the existing service line, and all required fittings.
2. Additional sanitary sewer service line is a pay item. The unit price set forth in the contract shall constitute full payment for unclassified

excavation, backfilling, crushed stone, dewatering, furnishing and installation, and all incidental work including labor, materials tools and equipment. The quantities of which payment will be allowed shall be expressed per linear foot of service line and all fittings, above the 30-foot allowed in the reconnection.

3. Point repairs by excavation on sanitary sewer lines are separate pay items. The quantities of point repairs for which payment will be allowed shall be expressed per each point repair on each size pipe, up to ten feet in length. The unit price set forth in the contract will constitute full payment for unclassified excavation, backfilling, dewatering, sheeting and shoring of all kinds, traffic control, furnishing and installing pipe and couplings to accommodate sewer rehabilitation, and all incidental work including all labor, materials and equipment.
- ~~4. Plugging existing gravity sewer lines and service lines as indicated on the plans is a pay item. Payment shall be made at the contract unit price per each line plugged. Payment shall include all materials, labor and equipment required to plug the line in accordance with the drawings and specifications.~~

M. Section 02762 Sewer Line Cleaning

1. Sewer line cleaning is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid for items with which sewer line cleaning is connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawings and specifications.

N. Section 02764 Sanitary Sewer Television Inspection

1. Sanitary Sewer CCTV inspection (pre-installation and post installation) is not a separate pay item. Payment shall be considered part of the corresponding pipe bursting or cured-in-place piping unit price. All materials, labor and equipment associated with this work shall be incorporated into the cost of the sewer rehabilitation line item.

O. Section 02767 Sewer Flow Control

1. Sewer flow control is not a pay item. It shall be considered and designated a necessary part of the construction, and unit prices bid with which sewer flow is connected shall be full compensation for this item and for all labor, materials, and equipment required to complete the item in accordance with the drawings and specifications.



P. Section 02768 Pipe Bursting

1. Pipe Bursting gravity sewer main lines is a pay item. Quantities for which payment will be allowed shall be expressed in linear feet of each size of HDPE pipe in terms of horizontal lengths installed including connections at manholes, restoration of manhole, testing and accepted as measured along the centerline. Payment for pipe bursting shall be made at the contract price per linear foot of each size pipe burst, installed and tested and accepted. Note: Payment shall include one burst pit per line segment. No additional payment for pavement repairs, bursting, materials, labor, etc. will be considered if additional pits and coupled pipe connections are made within a line segment. No additional payment shall be made for cutting out or removing previously sliplined HDPE pipe materials when encountered.

Q. Section 03303 Concrete for Utilities

1. Concrete for cradles, anchors, or thrust blocking is not a pay item and shall be considered and designated as incidental to construction.

~~R. Section 08305 Access Hatches~~

- ~~1. Access hatches are not separate pay items. Hatches will be part of the lump sum pay items for the "Sewer Pump Station, complete..". Lump sum items bid with which hatches are connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawings and specifications.~~

~~S. Section 11200 Sewage Valves~~

- ~~1. Sewage valves are not separate pay items and shall be considered part of the lump sum bid item "Sewer Pump Station, complete. . ." Lump sum items bid with which valves are connected shall be full compensation for this item and for all labor, materials and equipment required to complete the item in accordance with the drawings and specifications.~~

~~T. Section 11395 Submersible Sewage Grinder Pumps~~

- ~~1. The Submersible Sewage Grinder Pumps are part of the lump sum pay item "Sewer Pump Station, complete . . ." All materials, labor and equipment associated with the pumps and controls shall be incorporated into the lump sum amount provided in the Bid Form to provide a complete and operable system.~~

~~U. Electrical~~

1. ~~All electrical work is part of the lump sum pay item "Sewer Pump Station, complete. . " All materials, labor, permits and fees, and equipment associated with the electrical components for the sewer pumping station shall be incorporated into the lump sum amount provided in the Bid Form to provide ana complete and operable system.~~

V. Mobilization

1. Mobilization and demobilization of forces, supplies and equipment is a lump sum pay item. Payment shall be full compensation for all costs associated with obtaining bonds, onsite project office, fees, permits, etc., and other preconstruction costs incurred after award of the contract which are necessary costs to the project and are of a general nature rather than directly attributable to other pay items.
2. Mobilization will be measured for payment by the unit for the completion of the work. Payment for mobilization shall be made on the first and second partial pay estimates paid on the contract, and will be made at the rate of 50% lump sum price for bid "Mobilization" on each of these partial pay estimates provided the amount does not exceed 5% of the total amount bid for the contract. Where the amount bid for the item of "Mobilization" exceeds 5% of the total amount bid, 2.5% of the total amount bid will be paid on each of the first and second partial pay estimated and that portion exceeding 5% will be paid on the last partial pay estimate.

~~1.03 SCHEDULE OF VALUES~~

- A. ~~Sewer Pump Station - Schedule of Values for the pump station shall be broken down at a minimum to the following items to facilitate payment for the lump sum pay item.~~
  1. ~~Site preparation including unclassified excavation and backfill~~
  2. ~~Dewatering~~
  3. ~~Wetwell~~
  4. ~~Submersible Sewage Grinder Pumps~~
  5. ~~Controls~~
  6. ~~Piping~~
  7. ~~Valve Vault~~
  8. ~~Sewage Valves and Bypass Connection~~
  9. ~~Connection to Existing Force Main and Gravity Lines~~
  10. ~~Electrical~~

1.04 NON-PAYMENT FOR REJECTED ITEMS

- A. Payment will not be made for any of the following:
  1. Products wasted or disposed of in a manner that is not acceptable.
  2. Products determined as unacceptable before or after placement.

3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the line, levels, and limits of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling and disposing of rejected Products.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

Not Used

**END OF SECTION**

## SECTION 01028

### CHANGE ORDER PROCEDURES

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. Procedural requirements for considering and processing Change Orders.
- B. Related Requirements:
  - 1. Agreement: The amounts of established unit prices.
  - 2. Conditions of the Contract.
    - a. Methods of determining cost or credit to Owner resulting from changes in Work made on a time and material basis.
    - b. Contractor's claims for additional costs.
  - 3. Section 01026: Measurement and Payment for Unit Price Contracts

##### 1.02 PRELIMINARY PROCEDURES

- A. Owner or Engineer may initiate a potential change by submitting a Proposal Request to Contractor. Request will include the following:
  - 1. Detailed description of the Change, Products, and location of the change in the Project.
  - 2. Supplementary or revised Drawings and Specifications.
  - 3. The projected time span for making the change, and a specific statement as to whether overtime work is, or is not, authorized.
  - 4. A specific period of time during which the requested price will be considered valid.
  - 5. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress.
- B. Contractor may initiate a request for changes by submitting a written notice to Engineer, containing the following:
  - 1. Description of the proposed changes.
  - 2. Statement of the reason for making the changes.
  - 3. Statement of the effect on the Contract Sum and the Contract Time.
  - 4. Statement of the effect on the work of separate contractors.
  - 5. Provide documentation supporting any change in Contract Time, as appropriate.

- C. Contractor shall provide full written data required to evaluate changes.
  - 1. Maintain detailed records of work performed on a time-and-material/force account basis.
  - 2. Provide full documentation to Engineer upon request.
- D. Contractor shall designate in writing the member of Contractor's organization:
  - 1. Who is authorized to accept changes in the Work.
  - 2. Who is responsible for informing others in the Contractor's organization of the authorization of changes in the Work.
- E. Owner will designate in writing the person who is authorized to execute Change Orders.

### 1.03 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Contractor shall support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.
- B. On request, Contractor shall provide additional data to support time and cost computations:
  - 1. Labor required.
  - 2. Equipment required.
  - 3. Products required:
    - a. Recommended source of purchase and unit cost.
    - b. Quantities required
  - 4. Taxes, insurance and bonds
  - 5. Credit for work deleted from Contract, similarly documented.
  - 6. Overhead and profit, for subcontractor and General Contractor separately.
  - 7. Justification for any change in Contract Time.
- C. Contractor shall support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus the following additional information:
  - 1. Name of the Owner's authorized agent who ordered the Work, and date of the order.
  - 2. Dates and hours work was performed, and by whom.
  - 3. Time record, summary of hours worked, and hourly rates paid.
  - 4. Receipts and invoices for:
    - a. Equipment used, listing dates and time of use.
    - b. Products used, listing of quantities.
    - c. Subcontractors
    - d. Overhead and Profit, Taxes, Insurance.

- D. Contractor shall document requests for substitutions for Products as specified elsewhere in Division 1.

#### 1.04 PREPARATION OF CHANGE ORDERS

- A. Engineer will prepare each Change Order.
- B. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

#### 1.05 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
  - 1. Engineer's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
  - 2. Contractor's Proposal for a change, signed by the Contractor, as recommended by Engineer.
- B. Owner, Engineer and Agency will sign and date the Change Order as authorization for the Contractor to proceed with the changes, after the Contractor has signed the Change Order.

### **PART 2 – PRODUCTS**

Not Used

### **PART 3 – EXECUTION**

#### 3.01 CHANGE ORDER APPROVAL

- A. Engineer will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions, and based on Contractor's submitted data.
- B. Engineer will sign and date the Change Order to establish the change in Contract Sum and Contract time.
- C. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.

- D. All Change Orders must be approved by the City of South Fulton, Engineer and USDA prior to undertaking the change in Work. Work undertaken by the Contractor prior to the approval of Change Order by the Department is at the Contractor's own risk.
- E. Engineer will issue the executed Change Order to the Contractor.

**END OF SECTION**

## **SECTION 01050**

### **FIELD ENGINEERING**

#### **PART 1 - GENERAL**

- 1.01 The Contractor shall be responsible for providing and paying for any surveying or engineering services required during the construction. The Contractor must retain qualified personnel as work may require.

The Engineer shall be responsible only for inspections and services specified in project documents.

- 1.02 Field Engineering

Contractor is responsible for providing and paying for engineering and surveying services required during construction. Both sides of designated easements shall be survey located and clearly marked with orange fencing and/or silt fence.

Field engineering by the Contractor, such as structural design of form work, scaffolding, special earthwork, hydraulic groundwater control design, or other engineering work is specified in other appropriate sections, due to the specialized requirements of portions of the work.

Construction staking and cut sheets shall be performed and prepared by a registered land surveyor.

#### **PART 2 - PRODUCTS**

N/A

#### **PART 3 - EXECUTION**

N/A

**END OF SECTION**





## SECTION 01320

### CONSTRUCTION PROGRESS DOCUMENTATION

#### PART 1 – GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

##### 1.02 SUMMARY

- A. This section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Contractor's Construction Schedule.
  - 2. Submittals Schedule.

##### 1.03 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
  - 2. Predecessor activity is an activity that must be completed before an activity can be started.
- B. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- C. Event: The starting or ending point of an activity.

##### 1.04 SUBMITTALS

- A. Contractor's Construction Schedule: Submit three printed copies of initial schedule large enough to show the entire schedule for the entire construction period. Initial schedule shall be submitted for review within 15 days of Notice to Proceed.

## 1.05 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the subcontracts and submittals and schedule them within the proper sequence.

## **PART 2- PRODUCTS**

### 2.01 CONTRACTOR'S CONSTRUCTION SCHEDULE – GENERAL

- A. Time Frame: Extend schedule from date established as Notice to Proceed to date of Final Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule unless specifically authorized by Change Order.
- B. Activities: Treat each separate area as a separate numbered activity for each principal element of the work. Comply with the following:
  - 1. Activity Duration: No longer than 30 days.
  - 2. Procurement Activities: Include procurement activities for long lead items requiring a cycle time of more than 60 days as separate activities.
  - 3. Startup and Testing: Include time of not less than 5 days for startup and testing.
  - 4. Seasonal Activities: Schedule seasonal items such as restoration and seeding within time frames as set forth in other sections.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in the schedule, and show how the sequence of the work is affected.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

### 2.02 CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit a fully developed, horizontal Gantt-chart type schedule within 30 days of date established for Notice to Proceed.
- B. Indicate each significant construction activity separately. Identify first day of each work week with a continuous vertical line

## **PART 3- EXECUTION**

### **3.01 CONSTRUCTION SCHEDULE**

- A. Contractor's construction schedule updating shall occur at monthly intervals. Schedule shall be updated to reflect actual progress and activities. Submit schedules with each monthly pay estimate. Pay estimates will not be processed without an updated schedule. As work progresses, indicate actual completion percentage for each activity.

**END OF SECTION**



## SECTION 01340

### SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

#### PART 1 - GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Submit shop drawings, product data and samples required by the Contract Documents.

##### 1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract: Definitions and additional responsibilities of the parties.
- B. Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed Shop Drawings, Product Data and Samples will be needed.

##### 1.03 SHOP DRAWINGS

- A. Drawings shall be presented in a clear and thorough manner.
  - 1. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on the Contract Documents.
  - 2. Reproduction of Contract Drawings for Shop Drawings is not acceptable.

##### 1.04 PRODUCT DATA

- A. Preparation
  - 1. Clearly mark each copy to identify pertinent products or models.
  - 2. Show performance characteristics and capacities.
  - 3. Show dimensions and clearances required.
  - 4. Show wiring or piping diagrams and controls.
- B. Manufacturer's standard schematic Drawings and Diagrams.
  - 1. Modify drawings and diagrams to delete information which is not applicable to the work.
  - 2. Supplement standard information to provide that specifically applicable to the work.

##### 1.05 SAMPLES

- A. Office samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture and pattern.

#### 1.06 CONTRACTOR RESPONSIBILITIES

- A. Review Shop Drawings, Product Data and Samples prior to submission.
- B. Determine and verify:
  1. Field measurements.
  2. Field construction criteria.
  3. Catalog numbers and similar data.
  4. Conformance with specifications.
- C. Coordinate each submittal with requirements of the work and of the Contract Documents.
- D. Notify the Engineer in writing, at the time of submission, of any deviations in the submittals from requirements of the Contract Documents.
- E. Begin no fabrication or work, which requires submittals until return of submittals with stamped approval.

#### 1.07 SUBMISSION

- A. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the work or in the work of any other contractor.
- B. Number of submittals required:
  1. Shop Drawings: One (1) clear and legible electronic copy via email to Engineer.
- C. Each submittal shall contain:
  1. Cover Sheet with following information:
    - a. Prepared by: *Insert Supplier's Name*
    - b. Date: *Insert Date Submittal Prepared*
    - c. Prepared For: *Insert Contractor's Name*
    - d. Reviewed by: *Signature of Reviewer/Contractor and Date Reviewed*
    - e. Project Title: *Insert Project Name*
    - f. Engineer: *Insert Engineer Company/ Name*
    - g. Product: *Insert Name of Material/ Product being submitted (for example: HDPE Pipe, Gate Valve, etc.) with specification section number*
    - h. Description: *Insert Job Specific Description (for example: for service line connections, for pump station, etc.)*

2. Provide enough room on cover sheet for the following to be overlaid:

<input type="checkbox"/> Approved	<input type="checkbox"/> Approved as corrected
<input type="checkbox"/> Rejected	<input type="checkbox"/> Revise and Resubmit
<input type="checkbox"/> Submit Specific Item	
<p>This review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work of all trades; and for performing all work in a safe and satisfactory manner.</p>	
HETHCOAT & DAVIS, INC.	
Date _____ By _____	

3. Manufacturer of product clearly identified.
4. Field sizes and dimensions, clearly identified as such.
5. Applicable standards, such as ASTM or AWWA Specification numbers.
6. Identification of deviations from Contract Documents.
7. Identification of revisions on submittals.

#### 1.08 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.
- B. Shop Drawing and Product Data:
  1. Revise initial drawings or data and resubmit as specified for the initial submittal.
  2. Indicate any changes that have been made other than those requested by the Engineer.
- C. Samples: Submit new Samples as required for initial submittal.

#### 1.09 DISTRIBUTION

- A. Distribute reproductions of Shop Drawings and copies of Product Data, which carry the Engineer's stamp of approval to:
  1. Job site file.
  2. Other affected contractors.



3. Subcontractors.
4. Suppliers or fabricators.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

Not Used

**END OF SECTION**

## **SECTION 01410**

### **TESTING LABORATORY SERVICES**

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Laboratory services required to perform the specified testing shall be performed by an independent testing laboratory employed by the Contractor.
  - 1. Services will be paid by Contractor.
- B. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.
- C. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

##### **1.02 QUALIFICATION OF LABORATORY**

- A. Laboratory shall meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.
- B. Laboratory shall be authorized to operate in the State in which the Project is located.

##### **1.03 REFERENCE STANDARDS**

- A. ANSI/ASTM D3740 – Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ANSI/ASTM E329 – Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

##### **1.04 LABORATORY RESPONSIBILITIES**

- A. Laboratory shall provide qualified personnel at site after due notice and cooperate with Engineer and Contractor in performance of services.
- B. Laboratory shall perform specified inspection, sampling, and testing of products in accordance with specified standards.
- C. Laboratory shall ascertain compliance of materials and mixes with requirements of Contract Documents.

- D. Laboratory shall promptly notify Engineer and contractor of observed irregularities or non-conformance of Work or products.
- E. Laboratory shall perform additional inspections and tests required by Engineer and authorized by Owner.
- F. Laboratory shall attend preconstruction conferences.

#### 1.05 LABORATORY REPORTS

- A. After each inspection and test, Laboratory shall promptly submit two copies of laboratory report to Engineer and two copies to Contractor.
- B. Each report shall include:
  - 1. Date issued.
  - 2. Project Title and number
  - 3. Testing laboratory name, address and telephone number.
  - 4. Name of laboratory inspector and job number.
  - 5. Date and time of sampling or inspection.
  - 6. Record of temperature and weather conditions.
  - 7. Date of test.
  - 8. Identification of specification section.
  - 9. Location of sample or test in the Project.
  - 10. Type of inspection or test.
  - 11. Results of tests and compliance with Contract Documents.
  - 12. Interpretation of test results.

#### 1.06 LIMITS ON TESTING LABORATORY AUTHORITY

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

#### 1.07 CONTRACTOR RESPONSIBILITIES

- A. Cooperate with laboratory personnel and provide access to Work.
- B. Provide incidental labor and facilities to provide access to work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.

- C. Notify Engineer and laboratory 48 hours prior to expected time for operations requiring inspection and testing services.
  - 1. When tests or inspections cannot be performed after such notice, Contractor shall notify the laboratory.
  - 2. If Contractor does not notify the laboratory before laboratory personnel are scheduled for this work, Contractor shall reimburse the Owner for laboratory personnel and travel expenses.

#### 1.08 PAYMENT FOR TESTING

- A. Initial Service:
  - 1. When initial tests indicate non-compliance with the Contract Documents, the costs of initial tests associated with that non-compliance will be deducted by the Owner from the Contract Sum.
- B. Retesting:
  - 1. When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency and the costs thereof will be deducted by the Owner from the Contract Sum.
- C. Contractor's Convenience Testing:
  - 1. Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

#### 1.09 CODE COMPLIANCE TESTING

- A. Inspections and tests required by codes or ordinances, or by a plan approval authority having jurisdiction over the project site, and which are made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

### **PART 2 – PRODUCTS**

Not Used

### **PART 3 – EXECUTION**

Not Used

**END OF SECTION**



**SECTION 01450**

**WEATHER DELAYS**

**PART 1 - GENERAL**

1.01 EXTENSIONS OF CONTRACT TIME

- A. If the basis exists for an extension of time in accordance with Paragraph 4.05.C of the General Conditions, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

- A. The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration and determined a Standard Baseline of average climatic range for the State of Tennessee.
- B. Standard Baseline is defined as the normal number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.
- C. Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	11	8	7	7	6	7	5	4	5	6	11

1.03 ADVERSE WEATHER AND WEATHER DELAY DAYS

- A. Adverse Weather is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour day that prevents construction activity exposed to weather conditions of access to the site:
  - 1. Precipitation (rain, snow, or ice) in excess of one-tenth (0.10”) liquid measure.
  - 2. Temperatures that do not rise above that required for the day’s construction activity, if such temperature requirement is specified or accepted as standard industry practice.
  - 3. Sustained wind in excess of twenty-five (25) miles-per-hour.

- B. Adverse Weather may include, if appropriate, “dry-out” or “mud” days:
  - 1. Resulting from precipitation days that occur beyond the standard baseline;
  - 2. Only if there is a hindrance to site access or sitework and Contractor has taken all reasonable accommodations to avoid such hindrance;
  - 3. At a rate no greater than 1 make-up day for each day or consecutive days of precipitation beyond the standard baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the Engineer.
- C. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor’s scheduled work day and critical path construction activities were included in the day’s schedule, including a weekend day or holiday if Contractor has scheduled construction activity for that time.
- D. Contractor shall take into account that certain construction activities are more affected by adverse weather conditions and seasonal conditions than other activities, and that “dry-out” or “mud” days are not eligible to be counted as a Weather Delay Day until the standard baseline is exceeded. Hence, Contractor should allow for an appropriate number of additional days associated with the Standard Baseline days in which such applicable construction activities are expected to be prevented and suspended.

#### 1.04 DOCUMENTATION AND SUBMITTALS

- A. Submit daily jobsite logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.
- B. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station (Wartburg or Morgan County).
- C. Use Standard Baseline data provided in this Section when documenting actual delays due to weather in excess of the average climatic range.
- D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the procedures for Claims established in Article 12 of the General Conditions.
- E. If an extension of the Contract Time is appropriate, such extension shall be made in accordance with the provisions of Article 12 of the General Conditions.

**PART 2 – PRODUCTS**

N/A

**PART 3 - EXECUTION**

N/A

**END OF SECTION**





## **SECTION 01500**

### **TEMPORARY FACILITIES**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. Furnish, install and maintain temporary utilities required for construction and remove upon completion of work, as per the General Conditions.
- B. Do not use any permanent facilities except otherwise indicated by the Owner or Engineer before final completion of construction.

##### **1.02 REQUIRED OF REGULATORY AGENCIES**

- A. Comply with Federal, State and local codes and regulations and with utility company requirements.

##### **1.03 MATERIALS, GENERAL**

- A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

##### **1.04 TEMPORARY WATER**

- A. Contractor shall be responsible for furnishing water for jet cleaning of sewers. Coordinate with the City of Wartburg.

##### **1.05 TEMPORARY SANITARY FACILITIES**

- A. Sanitary Facilities: Provide type acceptable to governing authorities and adequate (at all stages of construction) for use of personnel at project site. Provide separate facilities for male and female personnel when both sexes are working (in any capacity) at project site. Keep such facilities clean and in a sanitary condition and remove them upon completion of the construction.

##### **1.06 WATER CONTROL**

- A. Provide methods to control surface water to prevent damage to the Project, the site or adjoining properties.
  - 1. Control filling, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.

- B. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface water.
- C. Dispose of drainage water in a manner to prevent flooding, erosion or other damage to any portion of the site or to adjoining areas, as required by local rules and regulations.

#### 1.07 DEBRIS CONTROL

- A. Maintain all areas under Contractor's control free of extraneous debris.
- B. Initiate and maintain a specific program to prevent accumulation of debris at the construction site, storage and parking areas, or along access roads and haul routes.
  - 1. Provide containers for deposit of debris.
  - 2. Prohibit overloading of trucks to prevent spillages on access roads or haul routes.
  - 3. Provide periodic inspection of traffic areas to enforce requirements.
- C. Schedule periodic collection and disposal of debris. Provide additional collections and disposals of debris whenever the periodic schedule is inadequate to prevent accumulation.

#### 1.08 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharging of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids.
  - 1. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
  - 1. Prevent disposal of waste, effluents, chemicals or other such substances adjacent to streams or in sanitary sewers.
- D. Provide system for control of atmospheric pollutants.
  - 1. Prevent toxic concentrations of chemicals.
  - 2. Prevent harmful disposal of pollutants into the atmosphere.

## **PART 2 – PRODUCTS**

Not Used

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.
- C. Restore existing facilities used for temporary service to specified or original condition.

**END OF SECTION**



## SECTION 01610

### TRANSPORTATION AND HANDLING

#### PART 1 – GENERAL

##### 1.01 PACKING AND TRANSPORTATION

- A. Require supplier to package products in boxes or crates for protection during shipment, handling, and storage. Protect sensitive products against exposure to elements and moisture.
- B. Protect sensitive equipment and finishes against impact, abrasion, and other damage.

##### 1.02 DELIVERY

- A. Arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate to avoid conflict with work and conditions at the site. Specifically coordinate to determine:
  - 1. Work of the Owner.
  - 2. Work of other contractors.
  - 3. Availability of equipment and personnel for handling products.
  - 4. Owner's use of premises.
- C. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
- D. Clearly mark partial deliveries of component parts of equipment to permit easy accumulation of parts and to facilitate and legible.
- E. Immediately on delivery, inspect shipments to assure:
  - 1. Compliance with Construction Plans and approved submittals.
  - 2. Quantities are correct.
  - 3. Containers and packages are intact and that labels are legible.
  - 4. Products are properly protected and undamaged.

##### 1.03 PRODUCT HANDLING

- A. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, or otherwise damaging products or surrounding spaces.

- C. Handle products by using methods that will prevent bending or over stressing.
- D. Lift heavy components only at designated lifting points.

**PART 2 – PRODUCTS**

N/A

**PART 3 – EXECUTION**

N/A

**END OF SECTION**

## SECTION 01620

### STORAGE AND PROTECTION

#### PART 1 – GENERAL

##### 1.01 GENERAL STORAGE

- A. Store products immediately upon delivery in accordance with manufacturer's printed instructions with seals and labels intact and legible.
- B. Arrange storage in a manner to provide easy access for inspection.
- C. Provide protection and restrict access to project site, in-place work, and stored materials from vandalism.

##### 1.02 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking or skids to support fabricated products above ground to prevent soiling and staining.
- B. Cover products which are subject to discoloration or deterioration from exposure to the elements with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
- C. Cover ends of all stored sections of pipe and cover all open ends of stored valves.
- D. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- E. Provide surface drainage to prevent erosion and ponding of water.
- F. Prevent mixing of refuse or chemically injurious materials or liquids.

##### 1.03 MAINTENANCE OF STORAGE

- A. Maintain a periodic system of inspection of stored products on a scheduled basis to assure that:
  - 1. Materials have not been vandalized or stolen.

#### PART 2- PRODUCTS

Not Used

#### PART 3- EXECUTION

Not Used

**END OF SECTION**





**SECTION 01630**  
**SUBSTITUTIONS**

**PART 1 – GENERAL**

1.01 SECTION INCLUDES

- A. Requirements for requesting approval of proposed substitutions.
- B. The requirements of this section govern the use of “Substitution Request Form – Section 01631”.

1.02 LIMITATIONS ON SUBSTITUTIONS.

- A. This Project shall be governed by a prior approval requirement. Requests for substitutions must be received no later than ten (10) days prior to posted bid date to be considered. Electronic requests are acceptable.
- B. Substitutions will not be considered unless the “Substitution Request Form – Section 01631” attached in this Project Manual is used and the requirements of this section and Section 01631 are fully complied with.
  - 1. Other types of forms are not acceptable.
- C. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request complying with “submittal procedures” specified in this section.
- D. Substitutions will not be considered unless submitted through the Work Package Contractors.
- E. Additional studies, investigations, submittals, redesign and/or analysis by the Engineer caused by the requested substitutions shall be paid by the Contractor at no expense to the Owner.
- F. Substitute products shall not be ordered or installed without written acceptance.
- G. Only one request for substitution for each product will be considered. When substitution is not accepted by the Engineer, provide the specified product.
- H. Engineer will determine the acceptability of all substitutions.

## 1.03 REQUESTS FOR SUBSTITUTIONS

- A. Contractor's/ Vendor Representation:
1. Request for substitution constitutes a representation that the Contractor and/or vendor has investigated the proposed product and has determined that it is equal to or superior in all respects to the specified product.
  2. Request for substitution constitutes a representation that the Contractor/ vendor will provide same type of warranty for substitution as for specified product.
    - a) Contractor's/ vendor warranty shall be in writing guaranteeing all substituted products have same or superior performance as the product specified.
  3. Request for substitution constitutes a representation that the Contractor will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
  4. Request for substitution constitutes a representation that the Contractor/ vendor waives all claims for additional costs related to substitutions which consequently become apparent.
  5. Request for substitution constitutes a representation that the cost data is complete and includes all related cost, but excludes any approved Engineer's design fees required by substitution.
  6. Request for substitution constitutes a representation that the Contractor/ vendor has thoroughly investigated the proposed substitute to determine if license fees and royalties are pending on the proposed substitute, for compliance with Article 6.12 of General Conditions of the Contract.
- B. Request for substitutions shall be submitted on "Substitution Request Form – Section 01631" attached in the Project Manual. Legible copies of this form shall be made as required for Contractor's submittals. Each submittal request form shall be complete with data substantiating compliance of proposed substitution with requirements of Contract Documents including the following information:
1. Project title and Engineer's project number.
  2. Identification of product specified including Specifications Section and Paragraph Number.
  3. Identification of proposed substitute complete with manufacturer's name and address, trade name of product, and model or catalog number. Attach product data as specified in Section 01340.
  4. List fabricator and supplier (with address and phone number) for proposed substitute.
  5. The affect of substitution on dimensions, material thicknesses, wiring, piping, ductwork, etc. indicated in Contract Documents.
  6. The affect of substitution on other trades.

7. The affect of substitution on construction schedule.
8. Differences in quality and performance between specified product and proposed substitute.
9. Comparison of manufacturer's guarantees of specified product and proposed substitute.
10. Availability of maintenance services and replacement materials for proposed substitute.
11. Cost data comparing proposed substitute with specified product, and amount of net change to Contract Sum.
12. License fees and/or royalties pending on proposed substitute.

#### 1.04 SUBMITTAL PROCEDURES DURING BIDDING PERIOD

- A. Submit separate "Substitution Request Form – Section 01631" for each substitution.
  1. Form shall be completely and properly filled in as required by this section and Section 01631. If form is incomplete, the Engineer reserves the right to reject and return form to Contractor for completion and compliance with Sections 01630 and 01631.
  2. Submit to Engineer three copies of the completed and signed form. Forms may be submitted electronically.
- B. Requests for substitutions of products will be accepted no later than 10 days prior to bid to allow time for Engineer's evaluation of substitutions and the preparation of an addendum, if required.
- C. Engineer will issue the addendum to all Bidders to notify them of the Engineer's decision to accept the requested substitutions.
- D. For approved substitutions, submit shop drawings, product data, and samples in accordance with Section 01340.

#### **PART 2 – PRODUCTS**

Not Used

#### **PART 3 – EXECUTION**

Not Used

**END OF SECTION**



**SECTION 01631  
SUBSTITUTION REQUEST FORM**

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GENERAL: This form is part of the substitution requirement specified in Section 01630

PROJECT TITLE& NO.      City of Wartburg  
   2016 RD – Sewer System Improvements  
   1067-07

TO:                              Hethcoat & Davis, Inc.  
   278 Franklin Road, Suite 200  
   Brentwood, TN 37027  
   Telephone: 615/577-4300

ATTN: \_\_\_\_\_

SPECIFIED ITEM: \_\_\_\_\_

Section \_\_\_\_\_ Paragraph \_\_\_\_\_

PROPOSED SUBSTITUTE: \_\_\_\_\_

Attach complete description, catalog, spec data, and laboratory tests if applicable

1. What effect will substitution have on dimensions, gauges, weights, etc. indicate in Contract Documents?

\_\_\_\_\_  
\_\_\_\_\_

2. What effect will substitution have on wiring, piping, ductwork, etc. indicated in Contract Documents?

\_\_\_\_\_  
\_\_\_\_\_

3. What effect will substitution have on other trades?

\_\_\_\_\_  
\_\_\_\_\_

4. What effect will substitution have on construction schedule?

---

---

5. What are the differences in quality and performance between proposed substitute and specified product?

---

---

6. Manufacturer's guarantees of the specified products and proposed products are:  
Same: \_\_\_\_\_ Different (Explain) \_\_\_\_\_

---

7. List (on separate sheet) the availability of maintenance services and replacement materials for proposed substitute.

8. List (on separate sheet) names, addresses and phone numbers of fabricators and suppliers for proposed substitutes.

9. If the substitution request is accepted, it will result in:

No cost impact \_\_\_\_\_ Credit (How much) \_\_\_\_\_

Added cost (How much) \_\_\_\_\_

10. There are \_\_\_\_\_ are no \_\_\_\_\_ license fees and royalties pending on the proposed substitute. (Explain)

---

---

11. The undersigned shall pay for additional studies, investigations, submittals, redesign and/or analysis by the Engineer caused by the requested substitutions.

SUBMITTED BY: (Supplier or Contractor)

Firm \_\_\_\_\_

Address: \_\_\_\_\_

Signature: \_\_\_\_\_

Telephone No. \_\_\_\_\_

Date \_\_\_\_\_

REVIEWED AND APPROVED for Contractor :

Firm \_\_\_\_\_

Address: \_\_\_\_\_

Signature: \_\_\_\_\_

Telephone No. \_\_\_\_\_

Date \_\_\_\_\_

ENGINEER'S REVIEW COMMENTS:

Accepted

Accepted as Noted  
(see attached copy)

Rejected due to  
incomplete form.  
Resubmit.

Not Accepted

Received Too Late

Signature \_\_\_\_\_

Date \_\_\_\_\_

Remarks \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**END OF SECTION**





## SECTION 01700

### CONTRACT CLOSEOUT

#### PART 1 – GENERAL

##### 1.01 SUBSTANTIAL COMPLETION

- A. When the work task is considered to be substantially complete, submit the following to Owner:
  - 1. Written notice that the specific work task is substantially complete.
  - 2. List of items to be complete or corrected.
- B. Within a reasonable time, Owner will inspect to determine status of completion and compile a punch list of items to be completed and corrected. If Owner determines that Work is not substantially complete, he will immediately notify Contractor in writing. Owner will generally point out his reasons, but he will not be obligated to give an exhaustive list of discrepancies.
- C. Contractor's Duties: Remedy deficiencies and send Owner another written Notice of Substantial Completion.
- D. Owner's Actions:
  - 1. Re-inspect the Work
  - 2. When Owner considers Work substantially complete, he will issue the Certificate of Substantial Completion.

##### 1.02 OWNER OCCUPANCY

- A. Owner's Action: Occupy the Project, or designated portion of the Project, in accordance with provisions of the Certificate of Substantial Completion.
- B. Contractor's Duties:
  - 1. Make corrections listed on punch list attached to Certificate of Substantial Completion.
  - 2. Perform final clean-up.

##### 1.03 FINAL COMPLETION

- A. When this project is considered to be complete, Contractor shall submit certification in indication of the following:
  - 1. Contract Documents have been reviewed and Work has been inspected for compliance with those Documents.

2. Work has been completed in accordance with Contract Documents.
  3. All punch list items have been corrected.
  4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
  5. Work is complete and ready for final inspection.
- B. Owner's Action During Final Inspection:
1. Inspect to verify the status of completion with reasonable promptness.
  2. If he considers Work incomplete or defective, he will promptly notify Contractor in writing, listing deficiencies.
- C. Contractor's Duties: Take immediate action to correct deficiencies, and send certification to Owner that Work is complete.
- D. When Owner determines that Work is acceptable, he will request Contractor to make closeout submittals.

#### 1.04 REINSPECTION FEES

- A. Should status of completion of work require re-inspection by Owner due to failure of work to comply with Contractor's claims on initial inspection, Owner will deduct the amount of Owner compensation for re-inspection services from final payment to Contractor.

#### 1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS REQUIRED

- A. Documents required by State Licensure inspectors and other authorities having jurisdiction.
- B. Project Record Documents: Comply with Section 01705
- C. Evidence of Payment and Release of Liens: Comply with requirements and Condition of the Contract.
- D. Consent of Surety to Final Payment.
- E. Certificates of Insurance for Products and Completed Operations: Comply with Supplementary Conditions.

#### 1.06 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement to Owner indicating all adjustments to the Contract Sum. Include the following:
1. Original Contract Sum.
  2. Previous change orders.

3. Changes under unit prices.
4. Total Contract Sum, as adjusted
5. Previous payments

B. If required, a final Change Order will be prepared reflecting approved adjustments to Contract Sum which were not previously made on Change Orders.

#### 1.07 FINAL APPLICATION FOR PAYMENT

A. Submit final Application for Payment in accordance with procedures and requirements of the Conditions of the Contract.

#### 1.08 FINAL PAYMENT

A. Owner will make final payment.

### **PART 2- PRODUCTS**

Not Used

### **PART 3- EXECUTION**

Not Used

**END OF SECTION**



## SECTION 01705

### PROJECT RECORD DOCUMENTS

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. The Policy Manual requires the Contractor to maintain a record copy of the following for Owner's review:
  - 1. Drawings.
  - 2. Approved shop drawings, product data, and samples.
  - 3. Records of all changes made during construction.
- B. In addition to the above, the Contractor shall maintain a record copy of the following where applicable:
  - 1. Field test results.
  - 2. Manufacturer's certificates.
  - 3. Fixed equipment manuals.

##### 1.02 RECORDING

- A. Record information concurrently with construction progress.
  - 1. Do not conceal work until required information has been recorded.
- B. Contract Drawings: Legibly mark each item to record actual construction, including the following:
  - 1. Measured horizontal and vertical locations of underground utilities, valves, etc. referenced to building exterior lines or other distinguishable permanent features such as power poles, inlets, etc. Show direction of flow of pipe and depth of piping underground.
  - 2. Field changes of dimensions and details.
  - 3. Details not on original Contract Drawings.

##### 1.03 RECORD DRAWINGS

- A. Record Drawings which are required for Owner records shall be recorded on reproducible by the Contractor.
- B. The Contractor shall transfer all changes recorded on construction drawings on the Record Drawing.
  - 1. All information shall be recorded neatly and legibly.
  - 2. Use separate colors for recording information about each major system.

## 1.04 SUBMITTALS

- A. At Contract Closeout, deliver Record Drawings to Owner.
- B. Submit Record Documents under cover of a transmittal letter containing:
  - 1. Date.
  - 2. Project title.
  - 3. Contractor's and subcontractor's names and addresses.
  - 4. Certification that each document submitted is complete and accurate.
  - 5. Signature of Contractor or his authorized representative.
- C. Submit the following for record drawings:
  - 1. Two (2) mark-up copies of Record Drawings.
  - 2. An electronic copy of Record Drawings in .dwg format.

### **PART 2 – PRODUCTS**

N/A

### **PART 3 – EXECUTION**

N/A

**END OF SECTION**

## SECTION 01710

### CLEANING

#### PART 1 - GENERAL

##### 1.01 CLEANING

- A. The Contractor is responsible for cleanup.
- B. Maintain premises and public properties free from accumulations of waste, debris, and rubbish caused by operations.
- C. Keep streets clean from mud, dirt, debris, and other materials removed from the job site. Promptly remove mud and dirt tracked by vehicles from street surfaces.
- D. At completion of work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials. Clean all sight-exposed surfaces. Leave project clean and ready for construction work to follow, and ready for occupancy, as applicable.
- E. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
  - 1. Do not burn or bury rubbish and waste materials on project site.
  - 2. Do not dispose of volatile waste such as mineral spirits, oil and paint thinner in storm drains or sanitary sewers.
- F. Hazard Control:
  - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
  - 2. Prevent accumulation of waste, which might cause hazardous conditions.
  - 3. Provide adequate ventilation during use of volatile and noxious substances.

##### 1.02 DURING CONSTRUCTION

- A. Clean building, grounds and public properties and keep free from accumulations of waste materials and rubbish.
- B. At reasonable intervals during progress of Work, but in no case less than once a week, clean site and public properties and dispose of waste materials, debris and rubbish.
- C. Provide on-site containers for collection of waste materials, debris, and rubbish. Type of container is at Contractor's option. Provide containers with adequate



capacity to accommodate anticipated needs. If containers do not have adequate capacity, increase intervals of waste removal until adequate capacity is provided.

### 1.03 FINAL CLEANING

- A. Remove waste, debris and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.
- B. Maintain cleaning until Final Completion.
- C. Prior to Final Completion Contractor shall conduct an inspection of all work areas to verify that the entire work area is clean.

### **PART 2 - PRODUCTS**

Not Used

### **PART 3 - EXECUTION**

Not Used

**END OF SECTION**

## **SECTION 02100**

### **SITE PREPARATION**

#### **PART 1 - GENERAL**

##### **1.01 WORK INCLUDED**

- A. Furnish all materials and equipment necessary for site preparation.
- B. Perform all labor necessary for site preparation and development.
- C. Perform all work specified under this section in such a chronological order as to leave the site in the best possible finished condition.

##### **1.02 RELATED WORK**

- A. Section 02110 - Clearing
- B. Section 02222 – Unclassified Excavation for Utilities

#### **PART 2 – MATERIALS**

N/A

#### **PART 3 - EXECUTION**

##### **3.01 SUBSURFACE SOUNDINGS**

- A. Prior to submission of a bid, the Contractor shall examine the location of the work and fully inform himself as to the site conditions, configuration of the ground, the character, quality and quantity of the materials to be encountered.

##### **3.02 CLEARING AND STRIPPING OF TOPSOIL**

- A. The site shall be cleared of all obstructions interfering with the construction of new work.
- B. Contractor shall strip all areas of cut, fill and graded areas to remove all topsoil.
- C. The topsoil acquired from stripping shall be stockpiled for re-use at a location to be approved by the Engineer.
- D. Disposal of refuse will be the responsibility of the Contractor.

### 3.03 FINISH GRADING AND TOPSOILING

- A. Finish grading shall conform to finished elevations and grades as shown on the plans or to the original ground conditions.
- B. Finished grading surfaces shall be left smooth and free to drain.
- C. Cut areas shall have small berm ditches constructed at the tops of slope to prevent erosion of the cut.
- D. Stone chips, gravel, etc. shall be removed by raking or by hand in areas subject to mowing.
- E. Topsoil shall be placed a minimum of 4" depth.

### 3.04 SEEDING, SODDING AND LANDSCAPING

- A. Areas disturbed during construction shall be seeded and strawed unless otherwise noted. Such areas include but are not limited to trenching, grading, cutting and filling.
- B. Areas to be seeded will be thickly sown with grass mixtures per Section 02485.
- C. Seeding shall be limited to the following planting periods: Spring - March 1 through May 10 or Fall - August 15 through October 31.
- D. If construction work is completed out of sequence with the planting periods, the Contractor shall delay this item of work as directed by the Engineer.
- E. Sodding is required on all slopes 3:1 or steeper unless otherwise directed by the Engineer.
- F. The Contractor shall be responsible for all seeding and/or sodding required to restore construction site to original condition.
- G. Seed and straw newly graded surfaces as work progresses to prevent damage to adjacent facilities and property due to erosion.

### 3.05 FINAL CLEAN UP

- A. All unused material and construction debris is to be removed from the site. The site is to be left in satisfactory condition per the Engineer before work is to be considered complete.

- B. All streets, sidewalks, curbs, pavements, fences and other private or public property disturbed during construction shall be restored to former condition. Final acceptance will be withheld until such work is complete.

**END OF SECTION**



## **SECTION 02110**

### **CLEARING**

#### **PART 1 - GENERAL**

##### **1.01 WORK INCLUDED**

- A. Clear site of trees, shrubs, plant life, grasses and debris.
- B. Remove root system of trees and shrubs to be removed measuring three (3) inches and over at the diameter of the base.
- C. Remove rocks, boulders and other debris.

##### **1.02 RELATED WORK**

- A. Section 02221: Trenching, Backfilling and Compaction for Utilities.
- B. Section 02485: Seeding.

##### **1.03 PROTECTION**

- A. Protect existing trees, shrubs and lawn areas to receive planting, rock outcropping and other features remaining as part of final landscaping.
- B. Protect benchmarks and existing structures, roads, sidewalks, paving and curbs against damage from vehicular or foot traffic.
- C. Maintain designated temporary roadways, walkways and detours for vehicular and pedestrian traffic.

#### **PART 2 - PRODUCTS**

N/A

#### **PART 3 - EXECUTION**

##### **3.01 PREPARATION**

- A. Maintain benchmarks, monuments and other reference points. Re-establish if disturbed or destroyed at no expense to the Owner.

### 3.02 CLEARING

- A. Clear areas as required for access to the site excavation and performance of work.
- B. Cut down trees and shrubs within construction areas. Grub out stumps, roots, embedded rocks and boulders. Consult with Owner and Engineer before actual removal of trees and shrubs.
- C. Clear out undergrowth and deadwood, without disturbing subsoil.
- D. Do not disturb trees or roots of trees which are to remain.
- E. Remove any damaged branches on trees which are to remain.

### 3.03 BACKFILLING AND SURFACE PREPARATION

- A. Backfill and compact all depressions resulting from clearing and grubbing with suitable materials in accordance with Section 02221.
  - 1. Backfill embankment areas to natural ground elevation.
  - 2. Backfill excavation areas below finished subgrade to finished subgrade.
- B. Perform backfilling a satisfactory time period ahead of construction operations.
- C. Prepare areas designated on the Drawings to receive erosion controls to smooth surfaces that have been shaped, in accordance with the Drawings.

### 3.04 REMOVAL OF DEBRIS

- A. Promptly remove cleared debris from site. Burning or burying on site is not permitted.
- B. Obtain permission from applicable regulatory authority for disposal of debris to waste disposal site.

**END OF SECTION**

## **SECTION 02200**

### **EROSION CONTROL**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION**

- A. This work shall consist of erosion control on all cut and fill operations, excavation, backfill, or other construction activities within the limits of the construction site, within any temporary or permanent easements, and within any borrow site used during the period of construction. The protection of these sites shall continue throughout the construction period. During flood seasons, protect the sites by sandbagging, the pumping of water, and any other means appropriate to restrain flooding of plant and equipment. During dry weather, sprinkle the sites with water or use other means as necessary to provide dust control. In case of abnormally cold weather, any construction such as excavation work may be delayed until warmer weather or covered to prevent freezing.
- B. The temporary pollution control provisions contained herein shall be coordinated with the permanent erosion control features, to ensure economical, effective, and continuous erosion control throughout the construction and post-construction period.

#### **PART 2 - PRODUCTS**

- 2.01 **CHECK DAMS:** Check dams are barriers composed of large stones, sand bags, or other non-corrodible materials placed across or partially crossing a natural or constructed drain way.
- 2.02 **TEMPORARY SEEDING AND MULCHING:** Temporary seeding and mulching are measures consisting of seeding, mulching, fertilizing, and matting utilized to reduce erosion. All cut and fill slopes including waste sites and borrow pits shall be seeded when and where necessary to eliminate erosion.
- 2.03 **TEMPORARY SILT FENCES:** Silt fences are temporary measures utilizing woven wire or other approved material attached to posts with filter cloth imposed or burlap, plastic filter fabric, etc., attached to the upstream side of the fence to retain the suspended silt particles in the runoff water.
- 2.04 **STRAW WATTLES:** Straw wattles are tubes of rice straw used for erosion control. Straw wattles capture the sediment before it leaves the site or enters the stormdrain.

#### **PART 3 - EXECUTION**

##### **3.01 PROJECT REVIEW**



- A. Prior to the Preconstruction Conference the Contractor shall meet with the Engineer and go over in detail the expected problem areas in regard to the erosion control work. Different solutions should be discussed so that the best method might be determined. It is the basic responsibility of the Contractor to develop an erosion control plan acceptable to the Engineer and the State of Tennessee.
- 3.02 The project drawings show the minimum erosion and siltation control measures required for this job. If the Contractor desires to stockpile construction materials, stone, earth, etc., the location of it and protection thereof shall be outlined in an Erosion and Siltation Control Plan to be submitted to the ENGINEER for review.
- 3.03 The Contractor shall submit a spill prevention plan to the ENGINEER for review. The contents of this spill prevention plan shall depend on what types of chemicals, lubricants and fuels will be used and if these will be stored on site. As a minimum, if fuel or lubricants or other chemicals are stored on site, either temporarily in vehicular tanks or in skid or trailer mounted tanks, a plan shall be supplied which directs all employees of the Contractor in the proper procedures to be followed should a spill occur. For more complex chemical storage requirements, a more complex plan will be required.
- 3.04 PRECONSTRUCTION CONFERENCE
- A. At the Preconstruction Conference, the Contractor shall submit for acceptance his schedule for accomplishment or temporary and permanent erosion control work, as are applicable for clearing and grubbing, grading, bridges, and other structures at watercourses, construction, and paving. He shall also submit for acceptance his proposed method of erosion control on haul roads and borrow pits and his plan for disposal of waste materials. No work shall be started until the erosion control schedules and methods of operations have been accepted by the ENGINEER.
- 3.05 CONSTRUCTION REQUIREMENTS
- A. The ENGINEER has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, the surface of erodible earth material exposed by excavation, borrow and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds, or other water impoundment. Such work may involve the construction of temporary berms, dikes, dams, sediment basins, slope drains, and use of temporary mulches, mats seeding or other control devices or methods as necessary to control erosion. Cut and fill shall be seeded and mulched as the excavation proceeds to the extent directed by the ENGINEER.
  - B. The Contractor shall be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in his accepted schedule. Temporary pollution control measures shall be used to correct

conditions that develop during construction that were not foreseen during the preconstruction stage; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

- C. Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise erosion control measures may be required between successive construction stages. Under no conditions shall the surface area of erodible earth material exposed at one time by clearing and grubbing exceed 5,000 linear feet without approval of the ENGINEER.
- D. The ENGINEER will limit the area of excavation, borrow, and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent pollution control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.
- E. In the event of conflict between these requirements and pollution control laws, rules or regulations, or other Federal, State or Local agencies, the more restrictive laws, rules, or regulations shall apply.

### 3.06 CONSTRUCTION OF STRUCTURES

#### A. Check Dams

- 1. Check dams shall be utilized to retard stream flow or restrict stream flow within the channel. Materials utilized to construct check dams are varied and should be clearly illustrated or explained in the Contractor's erosion control plan.
- 2. All check dams shall be keyed into the sides and bottom of the channel. A design is not needed for check dams.

#### B. Temporary Seeding and Mulching

- 1. Seeding and mulching shall be performed in accordance with the Section 02485 - Seeding. Seeding and mulching shall occur as soon as practical after water line installation but no more than 10 working days.

C. Temporary Silt Fences

1. Temporary silt fences shall be placed on the natural ground, at the bottom of fill slopes, in ditches, or other areas where siltation is a problem. Silt fences are constructed of wire mesh fence with a covering of burlap or some other suitable material on the upper grade side of the fence and anchored into the soil.
2. The Contractor shall be required to maintain the silt fence in a satisfactory condition for the duration of the project or until its removal is requested by the ENGINEER. The silt accumulation at the fence may be left in place and seeded or removed, as directed by the ENGINEER. The silt fence remains the property of the Contractor whenever the fence is removed.

D. Straw Wattles

1. Straw wattles shall be utilized to capture sediment before leaving the construction site. They can be snaked around storm drain inlets to protect them from sediment pollution and installed along sidewalks and roadways to prevent sediment from washing into the gutters. Straw wattles are tubes of rice straw. Each wattle is usually eight to nine inches in diameter and can be specially ordered to any length.
2. The Contractor shall be required to maintain the straw wattles in a satisfactory condition for the duration of the project or until its removal is requested by the Engineer. When use of the straw wattles is discontinued, all sediment is to be removed from the site. The straw wattle remain the property of the Contractor once removed from site.

E. Under no circumstances shall spent oil wastes be discharged on the site.

3.07 MAINTENANCE

- A. The temporary erosion control features installed by the Contractor shall be acceptably maintained by the Contractor until no longer needed or permanent erosion control methods are installed. Any materials removed shall become the property of the Contractor.

3.08 EROSION CONTROL OUTSIDE PROJECT AREA

- A. Temporary pollution control shall include construction work outside the project area where such work is necessary as a result of construction such as borrow pit operations, haul roads, and equipment storage sites.

**END OF SECTION**

## SECTION 02221

### TRENCHING, BACKFILLING AND COMPACTION FOR UTILITIES

#### PART 1 – GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Excavation for buried utility material.
- B. Provide necessary sheeting, shoring and bracing.
- C. Prepare trench bottom with appropriate materials.
- D. De-water excavations as required.
- E. Place and compact granular beds, as required, and backfill.

##### 1.02 RELATED WORK

- A. Section 02722: Sanitary Sewers (Gravity)
- B. Section 02600: Manholes
- C. Section 02768: Pipe Bursting

##### 1.03 PRECAUTIONS

- A. Contractor shall shore and brace all open cut trenches as required by State and Federal Laws and Local Ordinances; conform with recommendations set forth in AGC Manual of Accident Prevention in Construction; protect life, property, or work; and avoid excessively wide cuts in unstable material.
- B. Notify utility companies when necessary to disturb existing facilities and abide by their requirements for repairing and replacing.
- C. Protect all vegetation and other features to remain.
- D. Protect all benchmarks and survey points.

#### PART 2 – PRODUCTS

##### 2.01 AGGREGATE FOR BEDDING & BACKFILLING

- A. No. 67 stone meeting the requirements of TDOT Section 903.22, Sizes of Course Aggregate.

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. Install barriers and other devices to protect areas adjacent to construction.
- B. Protect and maintain all benchmarks and other survey points.

### **3.02 EXCAVATION TRENCHES**

- A. Perform in such a manner as to form a suitable trench in which to place the pipe and so as to cause the least inconvenience to the public.
- B. Maximum width at the crown of the pipe shall be as specified in Section 02722.
- C. Cut pavement along neat, straight lines with either a pavement breaker or pavement saw.
- D. Trench depth: To provide minimum cover as specified in Section 02722 over the top of the pipe.
- E. Align trench as shown on the drawings unless a change is necessary to miss an unforeseen obstruction.
- F. When unstable soil is encountered at the trench bottom, remove it to a depth required to assure support of the pipeline and backfill to the proper grade with coarse aggregate AASHTO M-43, Size No. 2 or 3.
- G. Remove rock encountered in trench excavation to a depth of six (6) inches below the bottom of the pipe barrel, backfill with an approved material, and compact to uniformly support the pipe. In no case shall solid rock exist within six (6) inches of the finished pipeline.

### **3.03 SHEETING, SHORING AND BRACING**

- A. When necessary, furnish, put in place, and maintain such sheeting, bracing, etc., as may be required to support the sides of the excavation and to prevent movement.
- B. Take care to prevent voids outside the sheeting.
- C. If voids are formed, immediately fill and compact to the satisfaction of the Engineer.

- D. Unless adjacent facilities will be damaged, remove all sheeting, shoring, and bracing after backfill has been placed to a depth of 18 inches over the pipeline.
- E. Cut shoring off at the top of the pipe and leave the lower section in the trench.

#### 3.04 USE OF EXPLOSIVES

- A. Contractor shall obtain all permits required to use explosives.
- B. All blasting activities shall be covered by mats.
- C. No blasting materials shall remain on the site overnight.

#### 3.05 DISPOSAL OF EXCAVATED MATERIAL

- A. Satisfactorily dispose of all excess excavated material that cannot be used for or is not suitable for embankments.

#### 3.06 UNAUTHORIZED EXCAVATION

- A. Unauthorized excavation is defined as all excavation outside or below the proposed lines and grades shown on the drawings.
- B. Backfill areas of unauthorized excavation with the type material necessary (earth, rock or concrete) to insure the stability of the structure of construction involved.
- C. Unauthorized excavation or backfill to replace same shall not be a pay item.

#### 3.07 REMOVAL OF WATER

- A. Keep excavated areas free of water while work is in progress.
- B. Well-pointing shall be performed if required.
- C. Take particular precautions to prevent the displacement of structures or pipelines as a result of accumulated water.

#### 3.08 OBSTRUCTIONS

- A. Obstructions shown on the drawings are for information only and do not guarantee their exact locations nor that other obstructions are not present.
- B. When utilities or obstructions are not shown on the drawings but are present off the roadway at the location of the proposed pipeline route, the Contractor may request to relocate the pipeline in the roadway if necessary to avoid disturbing the utility or obstructions.

- C. If the relocation is approved, the Contractor shall receive compensation for additional granular backfill and pavement replacement.
- D. Exercise due care in excavating adjacent to existing obstructions and do not disturb same unless absolutely necessary.
- E. In the event obstructions are disturbed, repair or replace as quickly as possible to the condition existing prior to their disturbance. This repair or replacement shall not be a pay item.
- F. If desired by the utility company, pay for the repair or replacement work performed by the forces of the utility company or other appropriate party.
- G. If replacement or repair of disturbed obstructions is not performed after a reasonable period of time, the Owner may have the necessary work done and deduct the cost of same from payments to the Contractor.

### 3.09 INITIAL BACKFILLING/BEDDING

- A. Do not begin backfilling before the Engineer has inspected the grade and alignment of the pipe, the bedding of the pipe, and the joints between the pipe. If backfill material is placed over the pipe before an inspection is made, reopen the trench in order for an inspection to be made.
- B. Perform bedding and initial backfilling by hand, together with tamping, until fill has progressed to 12 inches above the top of the pipe.
  - 1. For bedding, deposit No. 67 stone material approximately six (6) inches thick. All bedding material (inside roadways, paved areas, or in earth) shall be No. 67 stone. Bell holes shall be prepared in the bedding zone for the pipe to rest in. Pipe shall not be supported on the pipe bells.
  - 2. For initial backfill (inside roadways, paved areas, or in earth), encapsulate the pipe with No. 67 stone material to a point twelve (12) inches above the top of the pipe.
  - 2. Compact by hand, or with manually operated machine tampers actuated by compressed air or other suitable means.
  - 3. Use tamps and machines of a suitable type which do not crush or otherwise damage the pipe.

### 3.10 FINAL BACKFILLING

- A. After the initial backfill has reached a point 12 inches above the top of the pipe, perform final backfilling depending upon the location of the work and danger from subsequent settlement.
- B. Where pipe is located inside local roadways, final backfilling shall be with Grade D crushed stone.
- C. Backfilling in Unimproved Areas:
  - 1. Dispose of and replace all soft or yielding material, which is unsuitable for trench backfill with suitable material.
  - 2. Deposit backfill to the surface of the ground by dragline, bulldozer, or other suitable equipment in such a manner so as not to disturb the pipe.
  - 3. Neatly round sufficient surplus excavated material over the trench to compensate for settlement.
  - 4. Dispose of all surplus excavated material.
  - 5. Prior to final acceptance, remove all mounds to the elevation of the surrounding terrain.

### 3.11 RESTORING TRAFFIC USE IN ROADWAYS

- A. All cuts in State Highways shall be covered with steel plates capable of supporting vehicular traffic until final pavement repair is complete. Plates shall be staked in place to prevent movement when crossed by traffic.
- B. For all cuts in local roadways, a dense grade aggregate shall be used for the top 6” as a temporary surface to restore traffic. The dense grade aggregate must be maintained in thickness and be kept flush with the existing roadway until final pavement repair is complete.

**END OF SECTION**





## SECTION 02222

### UNCLASSIFIED EXCAVATION FOR UTILITIES

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. The work called for by this section shall consist of clearing and grubbing, loosening, loading, removing, and disposing of, in the specified manner, all wet and dry materials encountered that must be removed for construction purposes; furnishing, placing, and maintaining all sheeting, shoring, bracing, and timbering necessary for the proper protection and safety of the work, the workmen, the public, and adjacent property and improvements; the dewatering of trenches and other excavations; the preparation of fills and embankments; the removal of unsuitable material from outside the normal limits of excavation and, where ordered by the Engineer, their replacement with suitable materials; and all other grading or excavation work incidental to or necessary for the work. This work shall be performed as specified below.

##### 1.02 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

##### 1.03 JOB CONDITIONS

- A. Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.
- B. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
- C. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer and then only after acceptable temporary utility services have been provided.
  - 1. Provide minimum of 48-hour notice to Owner, and receive written notice to proceed before interrupting any utility.

- D. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.
- E. Use of explosives is prohibited for this project.
- F. Preserve from damage: surveying monuments, property pins, and similar items. If disturbed or damaged by construction operations, pay the cost of restoration by a registered surveyor.
- G. Costs for locating, maintaining, and protecting existing facilities shall be merged in the unit price of the pipeline.
- H. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

#### 1.04 PROTECTION

- A. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation work.
- B. Underpin adjacent structures, which may be damaged by excavation work, including service utilities and pipe chases.
- C. Notify Engineer of unexpected subsurface conditions and discontinue work in affected area until notification to resume work.
- D. Protect bottoms of excavations and soil adjacent to and beneath foundations from frost.
- E. Grade excavation bottoms against freezing when atmospheric temperature is less than 35°F.
- F. Protect trees, shrubbery, fences, poles, and all other property and surface structures during construction operations unless their removal for purposes of construction is authorized by Engineer. Fences, poles, or other man made surface improvements, which are moved or disturbed, shall be restored to the original conditions after construction is completed. Trees, shrubbery, or other vegetation which are approved for removal in order to facilitate construction operations shall be removed completely, including stumps and main roots. Responsibility for damage or claims for damage caused by construction operations to shrubbery or other landscape improvements which were not authorized for removal by Owner shall be

assumed by Contractor. Driveway culverts damaged by construction activities shall be replaced in like kind at no additional cost to Owner.

#### 1.05 SAFETY

- A. Barricades, Guards, and Safety Provisions: Place and maintain barricades, fences, construction signs, torches, flashing lights, lanterns, guards, and flagmen as required during the progress of the construction work and until it is safe for traffic to use the roads and streets. Material piles, equipment, and pipe which may serve as obstructions to traffic shall be enclosed by fences or barricades and shall be protected by proper lights when the visibility is poor. The rules and regulations of OSHA and appropriate authorities respecting safety provisions shall be observed.
- B. Structure Protection: Provide temporary support, protection, and maintenance of underground and surface drains, sewers, and other obstructions encountered during the progress of the work. Structures, which may have been disturbed, shall be restored upon completion of the work.

#### 1.06 DEVIATIONS OCCASIONED BY STRUCTURES OR UTILITIES

- A. Wherever obstructions are encountered during the progress of the work which occupies the space required for the pipeline, Engineer shall have the authority to order a deviation from the line and grade or arrange with the Owners of the structures for the removal, relocation, or reconstruction of the obstructions.
- B. Where gas, water, telephone, electrical, or other existing utilities directly interfere with the vertical or horizontal alignment of the pipeline, Engineer will order a change in grade or alignment or will arrange with the Owners of the utilities for their removal.

#### 1.07 DUST CONTROL

- A. When ordered by Engineer, furnish and distribute over traveled road surfaces which have not been fully restored an application of regular flake calcium chloride having a minimum calcium chloride content of 77 percent. Rate of application shall be 3 pounds/square yard for the flake calcium chloride. Water may also be used for dust control
- B. Whenever dust control is necessary, it shall be considered an integral part of the work, and no separate payment shall be made for it.

## 1.08 MAINTENANCE OF THE TRAFFIC AND CLOSING OF STREETS

- A. Carry on the work in a manner which will cause a minimum of interruption to traffic. Where traffic must cross open trenches, provide bridges at street intersections and driveways. Post signs indicating that a driveway is closed and necessary detour signs for the proper maintenance of traffic. Before closing any driveways notify responsible authorities.

## **PART 2 – PRODUCTS**

### 2.01 SOIL MATERIALS

- A. Satisfactory soil materials are defined as those complying with ASTM D2487 unified soil classification system groups GW, GP, GM, SM, SW and SP.
- B. Unsatisfactory soil materials are defined as those complying with ASTM D2487 unified soil classification system GC, SC, ML, MH, CL, CH, OL, OH and PT.
- C. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1-1/2” sieve and not more than 5% passing a No. 4 sieve.
- D. Backfill and Fill Materials: Satisfactory soil material of clay, rock, or gravel not larger than 2” in any dimension, free of debris, waste, frozen materials, vegetable and other deleterious matter.

## **PART 3 – EXECUTION**

### 3.01 PREPARATION OF THE SITE

- A. Before starting construction, remove from the work site all vegetable growth (except as hereinafter excluded), debris, and/or other objectionable matter as well as any buildings and/or other structures that the Engineer specifically indicates are to be removed. Dispose of these refuse materials in a manner acceptable to the Engineer.
- B. In certain areas it may be desirable for existing trees, shrubs, or other vegetation on the site to be preserved for the permanent landscape. Such vegetation may be specifically listed in the specifications, marked on the site, or identified by the Engineer. In no case, damage or remove such growth without written permission from the Engineer.
- C. If the area to be excavated is occupied by trees, brush, or other vegetable growth, clear such growth and grub the excavated area and remove all

large roots to a depth of not less than 2' below the bottom of the proposed construction. Dispose of the growth removed in a manner satisfactory to the Engineer. Fill all holes or cavities created during this work that extend below the subgrade elevation with suitable material, and compact to the same density as the surrounding material.

- D. Trees, cultivated shrubs, etc., that are situated within public rights-of-way and/or construction easements through private property but not directly within the excavation area shall remain undisturbed unless it is necessary to remove them so that the work can be performed safely and unless their removal is specifically ordered by the Owner. Take special precautions to protect and preserve such growth throughout all stages of the construction.
- E. Preparation of the site shall be considered an integral part of the excavation and one for which no separate payment shall be allowed.

### 3.02 EXCAVATION

- A. **Excavation is unclassified, and includes excavation to subgrade elevations.**

### 3.03 UNSUITABLE MATERIALS

- A. Whenever muck, quicksand, soft clay, swampy ground, or other material unsuitable for foundations, subgrade, or backfilling is encountered, remove it and continue excavation until suitable material is encountered. The material removed shall be disposed of in the manner described below. Then refill the areas excavated for this reason with 1" to 2" crushed stone up to the level of the line grades, and/or cross sections shown on the drawings. The top 6" of the refill shall be No. 67 crushed stone for bedding.

### 3.04 ROCKS AND BOULDERS

- A. Any material that is encountered within the limits of the required excavation that cannot be removed except by drilling and /or blasting, including rock, boulders, masonry, hard pan, chert, shale, street and sidewalk pavements, and/or similar materials, shall be considered as rock excavation. Rock material shall be considered where it cannot be removed by a trackhoe by ripping the material.
- B. Excavate rock over the horizontal limits of excavation to a depth of not less than 6" below the bottom of pipe up to 30" in diameter and not less than 12" below the bottom of larger pipes if rock extends to such depth. Then backfill the space below grade with No. 67 crushed stone, tamp to the proper grade, and make ready for construction.

### 3.05 DISPOSAL OF MATERIALS

- A. Whenever practicable, all materials removed by excavation that are suitable for backfilling pipe trenches or for other purposes shown on the drawings or directed by the Engineer shall be used for these purposes. Any materials not so used shall be considered waste materials and disposed of by the Contractor as specified below.
- B. Waste materials may be deposited in spoil areas at locations approved by the Engineer. Waste materials shall be properly disposed of off-site if no spoil area is approved by the Engineer. Provide a copy of executed property owner agreements to Engineer. Do not leave in unsightly piles but instead spread in uniform layers, neatly level, and shape to drain. Seed as specified in Section 02485, Seeding.
- C. Once any part of the work is completed, properly dispose of all surplus or unused materials (including waste materials) left within the construction limits of that work. Leave the surface of the work in a neat and workmanlike condition, as described below.
- D. The disposal of waste materials shall be considered an integral part of the excavation work and one for which no separate payments shall be allowed.

### 3.06 SHEETING, SHORING AND BRACING

- A. Take special care to avoid damage wherever excavation is being done. Sufficiently sheet, shore, and brace the sides of all excavations to prevent slides, cave-ins, settlement, or movement of the banks and to maintain the specified trench widths. Use solid sheets in wet, saturated, or flowing ground. All sheeting, shoring, and bracing shall have enough strength and rigidity to withstand the pressures exerted, to keep the walls of the excavation properly in place, and to protect all persons and property from injury or damage. Separate payment will not be made for sheeting, shoring, and bracing, which are considered an incidental part of the excavation work.
- B. Wherever employees may be exposed to moving ground or cave-ins, shore and lay back exposed earth excavation surfaces more than 5' high to a stable slope, or else provide some equivalent means of protection. Effectively protect trenches less than 5' deep when examination of the ground indicates hazardous ground movement may be expected. Guard the walls and faces of all excavations in which employees are exposed to danger from moving ground by a shoring system, sloping of the ground, or some equivalent protection.

- C. Comply with all OSHA standards in determining where and in what manner sheeting, shoring, and bracing are to be done. The sheeting, shoring, and bracing system shall be designed by a professional engineer licensed in the State of Tennessee and shall be subject to approval by the Engineer. However, such approval does not relieve the Contractor of the sole responsibility for the safety of all employees, the effectiveness of the system, and any damages or injuries resulting from the lack or inadequacy of sheeting, shoring, and bracing.
- D. Where excavations are made adjacent to existing buildings or structures or in paved streets or alleys, take particular care to sheet, shore, and brace the sides of the excavation so as to prevent any undermining of or settlement beneath such structures or pavement. Underpin adjacent structures wherever necessary, with approval of the Engineer.
- E. Do not leave sheeting, shoring, or bracing materials in place unless this is called for by the drawings, ordered by the Owner, or deemed necessary or advisable for the safety or protection of the new or existing work or features. Remove these materials in such a manner that the new structure or any existing structures or property, whether public or private, will not be endangered or damaged and the cave-ins and slides are avoided.
- F. Fill and compact all holes and voids left in the work by the removal of sheeting, shoring, or bracing as specified herein.
- G. The Contractor may use a trench box, which is a prefabricated movable trench shield composed of steel plates welded to a heavy steel frame. The trench box shall be designed to provide protection equal to or greater than that of an appropriate shoring system.
- H. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
- I. Do not allow water to accumulate in excavations. Remove water to prevent softening of subgrade foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrade and foundation. Provide and maintain pumps, well points sumps, suction and discharge lines, and other dewatering system components to convey water away from excavations.
- J. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.



### 3.07 BORROW EXCAVATION

- A. Whenever the backfill of excavated areas or the placement of embankments requires more material than is available from authorized excavations, or whenever the backfill material from such excavations is unsuitable, then obtain additional material from other sources. This may require the opening of borrow pits at points accessible to the work. In such cases, make suitable arrangements with the property owner and pay all incidental costs, including any royalties, for the use of the borrowed material. Before a borrow pit is opened, the quality and suitability of its material shall be approved by the Engineer.
- B. Excavate borrow in such a way that the remaining surfaces and slopes are reasonably smooth and the adequate drainage is provided over the entire area. Construct drainage ditches wherever necessary to provide outlets for water to the nearest natural channel, thus preventing the formation of pools in the pit area. Leave the sides of borrow pit cuts at a maximum slope of 2:1 unless otherwise directed by the Engineer.
- C. Properly clear and grub borrow pits, and remove all objectionable matter from the borrow pit materials before placing it in the backfill.
- D. The taking of materials from borrow pits for use in the construction of backfill, fills, or embankment shall be considered an incidental part of the work; no separate payment shall be made for this.

### 3.08 BACKFILLING

- A. Conduct backfilling around manholes, inlet, outfalls, and/or structures in the same manner as specified for water lines, gravity sewers and/or force mains except that even greater care is necessary to prevent damage to the utility structure.
- B. Perform backfilling so as not to disturb or injure any pipe and/or structure against which the backfilling is being placed. If any pipe or structure is damaged and/or displaced during backfilling, open up the backfill and make whatever repairs are necessary.
- C. Backfilling shall take place immediately after pipe installation in trench.

### 3.09 MAINTENANCE

- A. Seed and maintain in good condition all excavated areas, trenches, fills, embankments, and channels until final acceptance by the Engineer.

- B. Final restoration and seeding shall occur within 30 days of pipe installation.
- C. Maintain trench backfill at the approximate level of the original ground surface by periodically adding backfill material wherever necessary and whenever directed to do so by the Engineer. Continue such maintenance until final acceptance of the project or until Engineer issues a written release.

### 3.10 SLOPES

- A. Neatly trim all open cut slopes, and finish to conform either with the slope lines shown on the drawings or the directions of the Owner. Leave the finished surfaces of bottom and sides in reasonably smooth and uniform planes like those normally obtainable with hand tools, though the Contractor will not be required to use hand methods if he is able to obtain the required degree of evenness with mechanical equipment. Conduct grading operations so that material is not removed or loosened beyond the required slope.

**END OF SECTION**



## **SECTION 02260**

### **FINISH GRADING**

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

- A. The work called for by this section shall include, but is not necessarily limited to, finish grading and the spreading and shaping of topsoil to the finished contour elevations or original contour elevations indicated by the drawings.
- B. Refer to other sections for work related to that specified under this heading. Coordinate this work with that specified by other sections for timely execution.

#### **PART 2 – PRODUCTS**

##### **2.01 TOPSOIL**

- A. Use stripped topsoil that has been stockpiled as specified elsewhere. If the quantity of topsoil on the job is inadequate, furnish enough additional topsoil. Topsoil furnished shall be natural, fertile, friable soil possessing characteristics of representative productive soils in the vicinity. It shall be obtained from naturally well drained areas. It shall not be excessively acid or alkaline nor contain toxic substances that may be harmful to plant growth. Topsoil shall be with admixture of subsoil and shall be cleaned and reasonably free from clay lumps, stones, stumps, roots, or similar substances 2” or more in diameter, debris, or other objects that are a hindrance to planting operations. Such material shall be subject to testing.

#### **PART 3 – EXECUTION**

##### **3.01 FINISH GRADING**

- A. All finish grading shall begin within 14 days of final backfilling of pipe trenches.
- B. Inspect subgrades to see that they generally conform to the standards called for elsewhere in these specifications, particularly with regard to the approximate depths required for the work. After work is completed, inspect it to ensure that all finish grading complies with design requirements.
- C. Place finished grade stakes wherever necessary to bring the work accurately to the elevations required by the drawings.
- D. Finish grade all areas to the depths required for the work as follows:

1. Grade uniformly with rounded surfaces at the tops and bottom of abrupt changes of plans.
  2. Hand grade steep slopes and areas that are inaccessible for machine work.
  3. Protect graded areas from undue erosion, and repair and re-grade areas where erosion does occur.
  4. Refill areas where noticeable settlement has occurred.
  5. Finish grade areas are to receive topsoil up to 4" below the finished contour elevations called for by the drawings or, over rock, to 12" below these elevations.
- E. Place topsoil uniformly over disturbed areas that do not receive other work as follows:
1. Obtain approval of the finish grading from the Engineer before starting to place topsoil.
  2. Scarify subgrade to a depth of 3".
  3. Place topsoil to a depth of 4" when lightly rolled or, on rock, to a depth of 12".
  4. Level the topsoil so that it slopes uniformly and has no water pockets.
  5. Carefully rake the topsoil by hand to remove all clods, roots, sticks, stones over 1" diameter, and other foreign materials from the surface.
- F. Dispose of excess excavated materials and debris away from the site.

**END OF SECTION**

## **SECTION 02410**

### **DEMOLITION**

#### **PART 1 – GENERAL**

##### 1.01 SUMMARY

- A. Section Includes: Selective removal and subsequent disposal of utilities, pavements, portions of buildings, mechanical and electrical equipment and other items indicated to be removed.
- B. Extent of demolition work is indicated on Contract Drawings.

##### 1.02 REFERENCES

- A. Code of Federal Regulations (CFR)
  - 1. 29 CFR Part 1910 – Occupational Safety and Health Standards
  - 2. 29 CFR Part 1926 Safety and Health Regulations for Construction

##### 1.03 PROJECT/SITE CONDITIONS

- A. Occupancy: Conduct demolition work in a manner that will minimize need for disruption of normal operations for occupants of adjacent areas. Demolition cannot occur until new pumping station has been completed, tested and ready for service.
- B. Explosives: Use of explosives is not permitted.

#### **PART 2 – PRODUCTS**

N/A

#### **PART 3 – EXECUTION**

##### 3.01 EXAMINATION

- A. Verify existing conditions at the site, and examine adjoining work that will affect the execution and scheduled completion of Work. If required, Contractor shall utilize detection system to locate existing underground interference.
- B. Provide written pre-demolition survey to the Owner for review and approval.

- C. Verify that utilities have been disconnected and capped.
- D. If unanticipated elements conflicting with the intended function or design are encountered, investigate and measure the nature and extent of the conflict.
  - 1. Promptly submit a written report to the Owner outlining the elements in conflict and extent of the conflict.

### 3.02 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain in service and protect against damage during demolition operations.
- B. Schedule any utility outages through the Owner. A minimum of two weeks notice is required.

### 3.03 PREPARATION

- A. Conduct demolition operations and remove debris in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- B. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities designated to remain.
  - 1. Provide temporary barricades and other forms of protection as required for safety and security.
  - 2. Provide barriers and appropriate signs meeting requirements of 29 CFR 1910 for size and color where necessary to restrict pedestrians from wandering into construction areas.
- C. Provide and maintain interior and exterior shoring, bracing or structural support to preserve stability and prevent movement, settlement, or collapse of structures and adjacent facilities that are not part of demolition.

### 3.04 DEMOLITION

- A. General: Perform demolition work in accordance with 29 CFR 1926.
  - 1. Perform work in a safe and systematic manner.
  - 2. Use such methods as required to complete work indicated on the Contract Drawings and to minimize disturbances to occupants of adjacent properties.
- B. Demolish and remove existing construction only to extent required, and as indicated in the Contract documents.
- C. Wear proper personal protective equipment at all times.

- D. Protect adjacent properties from debris, dust and excessive noise during the execution of the work of this Section. All work shall be wet down periodically to minimize dust.
- E. Completely backfill below-grade areas and voids resulting from utility removal and other demolition work.
- F. Abandonment of Utilities
  - 1. Purge, clean, fill, or terminate utility pipelines that are to be abandoned in a manner conforming to the requirements of the nationally recognized code covering the specific utility; and as indicated on the drawings.

### 3.05 REPAIRS

- A. Repair demolition performed in excess of that required.
- B. Return structures, utilities, and surfaces not part of demolition to conditions existing prior to commencement of demolition work.

### 3.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. All materials shall be disposed of in accordance with applicable laws and regulations of all agencies having jurisdiction. Contractor shall bear cost of all fees.
- B. If the Contractor encounters any materials during the removal that is suspected to be potentially hazardous, stop work immediately and notify the Owner.
- C. Contractor is responsible for all removal of demolished materials to off-site disposal.
- D. Burning debris and rubbish on the property will be permitted with the property Owner's and Owner's written approval. When permitted, burning shall strictly comply with applicable federal, state and local regulations. Contractor will be responsible for all applicable permits.
- E. No discharge of existing waste from wetwell shall be disposed of by direct discharge to ditches or other waters of the State. All existing sewage shall be disposed of into the new facility once it has been accepted for service.
- F. Owner has first right of refusal of any materials or equipment that is part of the demolition.



### 3.07 CLEANING

- A. Remove from the project site all materials, rubbish and other debris resulting from the demolition work. Leave the site clean and safe daily.
- B. Remove tools, equipment and demolished materials from site upon completion of demolition work.

**END OF SECTION**

## SECTION 02485

### SEEDING

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. This work shall be performed in all disturbed areas not receiving such site improvements as buildings, roads, walks, sod, planting, etc., and shall include, but not necessarily be limited to, all seed bed preparation; the supplying and placing of soil additives, seed, and mulch wherever required by the drawings or directed by the Engineer; and maintenance.
- B. Unless otherwise approved in writing by the Engineer, seeding operations shall be limited to the following planting periods:
  - 1. Spring – March 1 through May 30
  - 2. Fall – August 15 through October 31
- C. Refer to other sections for items affecting seeding. Coordinate this work with that specified by other sections for timely execution.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS

- A. **GRASS SEED:** Kentucky 31 Fescue (*Festuca Elatior*) and/or annual rye meeting the requirements of the State Department of Agriculture and furnished in new bags or bags that are sound and not mended; no “below standard” seed will be accepted.
- B. **FERTILIZER:** Commercially manufactured; Grade 10-10-10; furnished in standard containers that are clearly marked with the name, weight, and guaranteed analysis of the contents and that ensure proper protection in transportation and handling; and in compliance with all local, state, and federal fertilizer laws.
- C. **AGRICULTURAL LIMESTONE:** Containing a minimum of 85% calcium carbonate and magnesium carbonate combined, 85% of which passes a No. 10 mesh sieve.
- D. **MULCH:** Stalks of rye, oats, wheat, or other approved grain crops properly cured prior to baling, air dried, and reasonably free of noxious weeds and weed seeds or other material detrimental to plant growth.

- E. LANDSCAPE EDGING: Black Diamond polyethylene bed dividers, black in color, as manufactured by Valley View Specialties, Inc., Oak Lawn, Illinois 604453, or approved equal.

### **PART 3 – EXECUTION**

#### **3.01 SEEDING**

- A. Perform all seeding and related work as a continuous operation. Sow seed as soon as the seedbed has been prepared, and perform subsequent work in a continuous manner.
- B. Before beginning seeding operations in any area, complete the placing of topsoil and final grading, and have the work approved by the Engineer.
- C. Scarify, disk, harrow, rake, or otherwise work each area to be seeded until the soil has been loosened and pulverized to a depth of not less than two (2) inches. Perform this work only when the soil is in a tillable and workable condition.
- D. Apply fertilizer and agricultural limestone uniformly over the seed bed, and lightly harrow, rake, or otherwise incorporate them into the soil for a depth of approximately one (1) inch at the following rates:  
  
Fertilizer: 40 pounds per 1,000 square feet  
Agricultural Limestone: 80 pounds per 1,000 square feet
- E. Sow seeds uniformly with a rotary seeder, wheelbarrow seeder, hydraulic equipment or by other satisfactory means.
- F. The seeding rate shall be five (5) pounds per 1,000 square feet for Kentucky 31 Fescue (*Festuca elatior*).
- G. When seeding during March 1 through April 1 and October 1 through November 20, add an additional 3 pounds per 1,000 square feet of annual rye grass.
- H. Perform no seeding during windy weather or when the ground surface is frozen, wet, or otherwise untillable.
- I. When seeding with mulch is specified spread mulch material evenly over the seeded areas immediately following the seeding operation.
  - 1. Mulch Rate: Two (2) bales (100 pound minimum) per 1,000 square feet
- J. The mulch rate may be varied by the Engineer, depending on the texture and condition of the mulch material and the characteristics of the area seeded. Cover all portions of the seeded areas with a uniform layer of mulch so that approximately 25% of the ground is visible.

- K. No equipment, material storage, construction traffic, etc., will be permitted on newly seeded ground.
- L. Dispose of all surplus materials as directed by the Owner.

### 3.02 INSPECTIONS

- A. The Engineer shall inspect the seeding within 60 days after planting and determine if it is acceptable.

### 3.03 GUARANTEES

- A. Secure an acceptable growth of grass in all areas designated for seeding.
- B. An area is considered acceptable if it is represented by a minimum of 100 seedlings per square foot of the permanent species of grass representative of the seed mixture. If an acceptable growth is not obtained on the first planting, reseed and remulching will be required.
- C. If the planting is less than 50% successful, rework the ground, refertilize, reseed, and remulch.

**END OF SECTION**



## SECTION 02575

### PAVEMENT REPAIR

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. The work specified by this section shall consist of repairing or replacing all damaged pavement, whether public or private. Dirt shoulders, roads, streets, drives, and walks shall be restored to their original condition as an incidental part of the installation of utilities. Repair damaged base on either side of a trench wherever necessary. Trim the pavement surface to neat lines outside of the trench wall, and repave the entire area as specified below and as shown on the drawings or on the standard details.
- B. Both these specifications and the drawings make reference to the current edition of the standard specifications of the Tennessee Department of Transportation (TDOT) Even though the weather limitations, construction methods, and materials specifications contained in the TDOT specifications may not be explicitly repeated in these specifications, they shall, wherever applicable to the work called for by this section, be considered as implied and therefore adhered to. However, the various subsections “Basis for Payment” contained in the TDOT specifications shall not be considered applicable.
- C. Final restoration or completion of paving patches within City, County or State Highways shall be in conformance with this section and as shown on the drawings.
- D. Refer to other sections for work related to that covered by this section.

##### 1.02 ASPHALT INDEX

- A. The Owner will make **NO** consideration for adjustment in contract values related to fuel or asphalt. Contractor shall prepare his bid accordingly and make appropriate adjustment for fluctuation in these prices. Bid prices for asphalt will hold throughout the life of the project.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS

- A. MINERAL AGGREGATE BASE: Class A, Grading D crushed stone (TDOT specifications, Section 303, Subsection 903.05)

- B. BITUMINOUS PRIME COATS: Cutback asphalt, Grade RC-250, or emulsified asphalt, Grade AE-P (Section 402, Subsections 904.02 and 904.03)
- C. DOUBLE BITUMINOUS SURFACE: For both courses, either cutback asphalt, Grade RC-800, or RC\_3000, or emulsified asphalt, Grade RS-2 (Subsections 904.02 or 904.03)
- D. ASPHALTIC CONCRETE BINDER: Grading B Modified (Section 307)
- E. BITUMINOUS TACK COAT: Grade AE-3 (Section 403, Subsection 904.03)
- F. ASPHALTIC CONCRETE SURFACE: Grading E (Section 411)
- G. QUICK DRY TRAFFIC MARKING PAINT (WHITE AND YELLOW) (Subsection 910.05)

### **PART 3 – EXECUTION**

#### **3.01 SUBGRADE**

- A. Before any base material is installed, compact the subgrade of the area to be paved to 95% of optimum density as determined by ASTM D698 (Standard Proctor).
- B. The backfill material shall contain no topsoil or organic matter. For all areas where subgrade has been prepared, test for uniformity of support by driving a loaded dump truck at a speed of two (2) to three (3) miles per hour over the entire surface. Make further improvements on all areas that show a deflection of one (1) inch or more. When completed, the finished subgrade shall be hard, smooth, stable, and constructed in reasonably close conformance with the lines and grades that existed prior to beginning construction.
- C. No separate payment shall be allowed for subgrade preparation. Cost for subgrade preparation shall be included in the pavement replacement unit prices.

#### **3.02 BASE**

- A. Install a mineral aggregate base of the type specified above. The maximum compacted thickness of any one layer shall be six (6) inches and total thickness of the base shall be that indicated by the standard drawings or as shown on the plans.
- B. When a base course is compacted, cut back the surface course of the existing pavement a minimum of one (1) foot beyond the limit of the joint between the old and new base course or as shown on the standard drawings. Take special care to ensure good compaction of the new base course at the joint. Apply and compact

the surface to conform to the existing pavement so that it will have no surface irregularity.

### 3.03 ASPHALTIC CONCRETE BINDER

- A. Apply a bituminous prime coat of emulsified asphalt on the mineral aggregate base, Grade AE-P, or cutback asphalt, Grade RC-250, at a rate of 0.38 to 0.42 gallon per square yard. Take care to prevent the bituminous material splashing on exposed faces of curbs and gutters, walls, walks, trees, etc.; if such splashing does occur, remove it immediately. After the prime coat has been properly cured, apply an asphaltic concrete binder to the thickness shown on the standard drawings or the plans.
- B. Carefully place the material to avoid segregation of the mix. Broadcasting of the material will not be permitted. Remove any lumps that do not readily break down.
- C. All binder placed in trench patches shall be placed in a minimum of two (2) compacted lifts using plate compaction or mini-rollers inside the ditch limits. Rolling of asphalt with backhoe tires or other rubber-tired equipment will not be permitted. Maximum height of lift to be compacted shall not exceed 3-inches.

### 3.04 ASPHALTIC CONCRETE SURFACE

- A. If the asphaltic concrete surface course is to be placed directly on the mineral aggregate base, place a bituminous prime coat as described above. If, however, the surface course is to be placed on a binder course, then apply a bituminous tack coat of the sort specified above under PRODUCTS at a rate of 0.05 to 0.10 gallon per square yard.
- B. Take care to prevent the bituminous material splashing on exposed faces of curbs, gutters, walls, walks, trees, etc.; if such splashing does occur, remove it immediately. After the prime or tack coat has been properly cured, apply the asphaltic concrete to the thickness shown of the drawings or standard drawings. Apply the surface course as described above for the binder course.

### 3.05 TEMPORARY COLD MIX

- A. Cold mix shall be applied where directed by the Engineer as a temporary patch pavement. Cold mix will only be used in time frames when it is too cold to obtain hot-mix asphaltic concrete binder.
- B. Where temporary cold mix is applied, it shall be removed prior to placement of permanent binder or surface mix. Temporary cold mix asphalt will not be permitted as backfill material.



### 3.06 TEMPORARY PAVEMENT PATCH

- A. For Local Roads, install four (4) inches of asphaltic binder mix (above the final layer of backfill) of the type specified above in accordance with Section 307 of the TDOT specifications. Above the layer of asphaltic binder mix, install a mineral aggregate base of the type specified above in accordance with Section 303 of the TDOT specifications. The maximum compacted thickness of any one layer of mineral aggregate base shall be six (6) inches and the total thickness of the base shall be to the proposed finished surface elevation.
- B. For State Highways, use steel plates to cover the trench until final pavement repair is completed.

### 3.07 SAMPLING AND TESTING

- A. Submit to the Engineer test reports made by an independent testing laboratory on the crushed stone aggregate, bituminous materials, and asphaltic concrete design mixes, and obtain his approval of these reports before starting paving operations.
- B. Tests shall be made of the completed elements of the pavement to ascertain the compacted thickness of the base and surface courses. If sections with deficient thicknesses are found, the full section for a reasonable distance on each side of the deficiency shall be refused. Remove and reinstall all such sections. Patch all test holes in connection with thickness test.
- C. When making surface tests, furnish one (1) man to mark all surface defects for corrections.

### 3.08 PAVEMENT STRIPING

- A. All disturbed pavement markings shall be replaced to match existing striping at no additional expense to the Owner.

**END OF SECTION**

## SECTION 02600

### MANHOLES AND WETWELLS

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. Manholes shall be precast with eccentric cones unless otherwise approved by the Engineer.
- B. Refer to other sections for items affecting manholes. Coordinate this work with that specified by other sections for timely execution.
- C. Section shall also apply to concrete wetwells.

##### 1.02 QUALITY ASSURANCE

- A. Material Testing: All precast reinforced concrete manhole risers and tops specified herein shall be tested and inspected by a commercial testing laboratory approved by the Engineer prior to delivery to the site, and all materials that fail to conform to these specifications shall be rejected. After delivery to the site, any materials that have been damaged in transit or are otherwise unsuitable for use in the work shall be rejected and removed from the site.
- B. The commercial testing laboratory shall be engaged and paid for by the Contractor.
- C. Manholes and wetwells shall be watertight and of high quality.

##### 1.03 SUBMITTALS

- A. Shop drawings are required in accordance with Section 01340, for castings, plastic gaskets, manhole steps, resilient pipe connection, and precast manholes specified in this section.
- B. Supply certified copies in duplicate for the inspection and acceptance reports of the testing laboratory to the Engineer before using the materials.
- C. Submit a certificate from the manufacturer of the castings indicating that they meet all applicable requirements of these specifications.

## **PART 2 – PRODUCTS**

### **2.01 CONCRETE MASONRY:**

- A. Reinforced, meeting the applicable requirements as shown in the details.

### **2.02 STEEL TRAFFIC GRADE ADJUSTMENT RING (FOR CASTING ADJUSTMENT)**

- A. Adjustment rings shall conform to ASTM A48, Class 30, material specifications. The adjustment ring shall be of a traffic design. Adjustment casting by the use of adjustment ring in excess of 6-inches in height shall not be permitted. No grade adjustment rings shall be utilized where top of pre-cast section is scheduled to remain above the existing grade.

### **2.03 MORTAR**

- A. Composed of one (1) part Portland cement and two (2) parts sand (volumetric measure) thoroughly mixed in a tight box, with water added gradually and mixed continually until mortar has attained the proper consistency for use in the work; prepared only in such quantities as needed for immediate use; mortar mixed for more than 30 minutes, re-tempered, or previously set shall not be allowed.

### **2.04 GRAY IRON CASTINGS**

- A. Cast iron conforming to the requirements of Class 30, ASTM A48; made accurately to the required dimensions; sound, smooth, clean and free from blisters and other defects; not plugged or otherwise treated to remedy defects; machines so that covers rest securely in the frames with no rocking and are in contact with frame flanges for the entire perimeter of the contact surfaces; thoroughly cleaned subsequent to machining and, before rusting begins, painted with a bituminous coating so as to present a smooth finish; tough and tenacious when cold, but not tacky and with no tendency to scale; and with the actual weight in pounds stenciled or printed by the manufacturer on each casting in white paint.

### **2.05 STANDARD FRAME AND COVER**

- A. The standard frame and cover shall be traffic typed gray cast iron ASTM Designation A48 – Latest Revision, with a 24” (minimum) diameter opening weighing not less than 410 lbs. The covers shall be the solid self-sealing type with no holes except watertight pick notches. The surface between the cover and frame shall fit smoothly without rocking and shall be thoroughly cleaned. The gray iron castings shall be painted with a bituminous coating.
- B. Cover shall be of the solid indented type with the words “Sanitary Sewer” cast in raised letters thereon.

## 2.06 WATERTIGHT MANHOLES FRAMES AND COVERS

- A. The manhole frames shall be set in the same manner prescribed for standard frames except special attention shall be paid to securing a watertight connection to the manhole barrel.
- B. The watertight manhole frame and cover shall be a traffic type of grey cast iron ASTM A48-64 with a 24-inch diameter minimum clear opening weighing not less than 550 pounds and shall be of the two-cover design as shown on the Plans.
- C. The surface cover shall be the solid type with no holes except watertight pick notches or a heavy lifting ring. The surface between this cover and frame shall fit without rocking. The inner cover shall be of the solid type with no holes, shall have not less than two lifting handles and shall have a neoprene sealing gasket at least 3/8-inch diameter cross-section. The inner cover shall be mechanically sealed by means of a removable metal bar located over the inner cover with a centrally-located stainless steel tightening bolt. This bolt shall be fitted for a tee-handle or bent-handle for turning which shall be included with each cover. The bolt shall have Acme threads for durability. The inner cover shall have appropriate reinforcing ribs to prevent cracking or distortion when tightened. The inner cover shall have sufficient clearance to allow easy installation of the cover.

## 2.07 MANHOLE JOINT SEALANT FOR PRECAST MANHOLES

- A. One strip of flexible plastic sealant for joints in pre-cast manhole sections shall be installed on the tongue and groove sections of the precast manholes to provide flexible watertight joints which shall remain workable over wide temperature ranges and shall not shrink, harden or oxidize upon aging. Material shall be butyl resin sealant ConSeal CS-102 or CS-202 as manufactured by Concrete Sealants, Inc. of New Carlisle, Ohio, RUB'R-NEK L-T-M manufactured by K.T. Snyder Company, Inc. of Houston, Texas, or other approved equal.

## 2.08 MANHOLE JOINT WRAP

- A. Joint wrap, at all joints between riser sections, shall be installed in accordance with ASTM C909. Joint wrap shall be 6-inch minimum width.

## 2.09 MANHOLE STEPS

- A. Manhole steps shall be made of copolymer polypropylene plastic meeting the latest revision of ASTM D2146-82, Type II, Grade 16906 and shall have a ½ inch diameter Grade 60 reinforcing rod meeting the latest revision of ASTM A615 through its center. Each step shall be 12-inches in width and capable of carrying a load of 1,000 pounds in the center of the step when projected 6-inches from the wall. Each step shall be equipped with non-skid grooves.

- B. Manhole steps shall not be installed in the wetwell.

## 2.10 MANHOLE INVERTS

- A. Manhole inverts shall be formed from 3,000 psi concrete. Inverts for “Straight-through” manholes may be formed by laying the pipe straight through the manhole, pouring the concrete invert and then breaking out the top half of the pipe. Curved inverts shall be constructed of concrete and shall form a smooth even, half-pipe section as shown on the Plans. The inverts shall be constructed when the manhole is being built.
- B. The bench or top portion of the invert shall slope to the flow line to prevent standing water.

## 2.11 RESILIENT PIPE CONNECTIONS AT MANHOLES

- A. Resilient pipe connectors to new manholes shall be manufactured in accordance with ASTM C923 and shall provide a positive watertight joint and minimum of 7-degrees deflection in any direction. There shall be no water leakage through the connector when pipe is in its maximum deflected position. Connectors shall be manufactured of durable construction. Connectors shall be manufactured of durable rubber which offers superior resistance to water, sewage, oils, acid, ozone, weathering and aging.
- B. Connections to new or existing manholes shall use a conical type flexible boot which shall be clamped securely to the cut out in the manhole wall and to the pipe by means of stainless steel clamps or bands. The flexible boot shall meet ASTM C923. Connectors shall be as manufactured by the KOR-N-SEAL Company of Milford, New Hampshire, Press-Boot by Press-Seal Gasket Corporation of Fort Wayne, Indiana, or A-Lok G3, or approved equal.
- C. Resilient pipe connectors on existing manholes where pipe(s) entering manhole will be installed by pipe-burst method shall be made with a single bell gasketed manhole adapter with sand coating.

## 2.12 PRE-CAST CONCRETE MANHOLES AND WETWELLS

- A. Precast manholes and wetwells shall be constructed on a reinforced concrete foundation and shall be wet cast as modified herein. The bottom section of the manhole shall be precast integrally with the precast ring and shall be the diameter shown on the drawings. All concrete used in connection with the construction of manholes shall be 4,000 psi concrete.
- B. At the time of batching, the precast manhole manufacturer shall utilize a concrete waterproofing and protection admixture of the crystalline type that chemically controls and permanently fixes a non-soluble crystalline structure within the

process and capillary tracts of the concrete manhole structure. This crystalline system shall cause the concrete to become sealed against the penetrations of liquids from any direction and shall protect the concrete from deterioration due to harsh environmental conditions, specifically wastewater applications. This admixture shall be added to the concrete at the time of batching as recommended by the manufacturer. Colorant shall be utilized with the admixture in order to provide a visual indication of its use in the concrete structure.

- C. Precast concrete rings shall be constructed using standard forms and shall conform to ASTM C478 including steel reinforcement.
- D. The precast sections shall be manufactured and installed in a manner so that there is no visible leakage in the manholes. The manhole section shall be manufactured in lengths such that a finished manhole will have the least possible number of joints. One section less than 4' in length will be allowed per manhole and that being the section required to bring the manhole to grade. The precast rings shall be of the tongue and groove design sealed watertight, and the joint shall be grouted smooth on the inside of the manhole so that no crack is visible.
- E. The manhole sidewall shall be adjusted with either steel or concrete grade adjustment rings as required to bring the casting to grade. Grade ring adjustments in excess of 6-inches will not be allowed.
- F. Align all steps in each section that they are in straight vertical alignment.

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. Dewater sufficiently to maintain the ground water level at or below the bottom of the manhole foundation prior to and during placement of the foundation.
- B. Obtain an adequate foundation for all manhole structures by removing and replacing unsuitable material with well graded granular material, by tightening with coarse rock, or by such other means as provided for foundation preparation of the connected sewers or as directed by the Engineer. Wherever water is encountered at the site, place all cast-in-place bases or monolithic structures on a one-piece waterproof membrane to prevent any movement of water into the fresh concrete.

### **3.02 INSTALLATION**

- A. When the foundation subgrade has been prepared for pre-cast manholes, carefully block the base section above the prepared surface so that it is fully and uniformly supported in true alignment; make sure that all entering pipe can be inserted in at proper grade. Then place the concrete foundation and invert under and upon this

base section as shown in the standard drawings. A base section with monolithic foundation shall be used.

- B. Thoroughly wet and then completely fill all lift holes and all joints between precast elements with non-shrink grout. Smooth and paint them both inside and outside to ensure water tightness.
- C. Construct monolithic concrete manholes and bases of 4,000 psi concrete in accordance with the provisions of this section. The manhole steps shall be cast in place.
- D. Carefully set the cast iron frame for the cover at the required elevation, and properly bond it to the masonry with cement grout. Wherever manholes are constructed in paved areas, tilt the top surface of the frame and cover so as to conform to the exact slope, crown, and grade of the existing adjacent pavement. Existing frames and covers reused for elevation adjustment shall be thoroughly cleaned before reinstallation.
- E. Manhole inverts shall be constructed of concrete or mortared masonry fill and may, at the Contractor's option, be covered with cement mortar to the approximate cross section of the sewers connected to them. Make any necessary changes in cross sections gradually from side to side of the manhole; make changes in direction of flow of the sewers to a true curve of as large a radius as is permitted by the size of the manhole.
- F. Use flexible watertight manhole couplings on all pipe at connections to manholes. Connector shall meet the requirement of ASTM C923. Connector shall be supplied with external stainless steel pipe clamp. Connector shall be Kor-N-Seal or approved equal.
- G. Where the difference in the invert elevation of two or more lines intersecting in one manhole is 24 inches or more, construct a drop manhole. Drop manholes shall be similar in construction to standard manholes except that a drop connection of pipe and fittings of the proper sizes and materials shall be constructed outside the manhole and supported by 3,000 psi concrete as indicated by the standard drawings.
- H. Place backfill by hand around the manhole and to a distance of at least one (1) pipe length into each trench, and tamp with selected material up to an elevation of twelve (12) inches above the crown of all entering pipes. Continue backfilling in accordance with the requirements for trench backfilling.
- I. No manhole casting shall be lower than the surrounding existing ground surface. Contractor is responsible to confirm overall depth at time of fabrication to prevent the need for excessive grade adjustment rings.

- J. Vacuum Testing of New Manholes:
1. This test is only applicable to precast concrete manholes.
  2. All lifting holes and exterior joints shall be filled and pointed with an approved non-shrink mortar.
  3. Each manhole shall be vacuum tested immediately after installation or rehabilitation and prior to backfilling. No standing water shall be allowed in the manhole excavation which may affect the accuracy of the test.
  4. All pipes and other openings into the manhole shall be suitably plugged in such a manner as to prevent displacement of the plugs while the vacuum is drawn.
  5. Installation and operation of the vacuum equipment and indicating devices shall be in accordance with equipment specifications and instructions provided by the manufacturer.
  6. The test head shall be placed to include the manhole casting (frame).
  7. A vacuum of 10 inches of mercury shall be drawn. The time for the vacuum to drop to 9 inches shall be recorded.
  8. Acceptance for four (4) feet diameter manholes shall be defined as when the time to drop to 9 inches of mercury conforms to the table below. Contractor shall keep a log of all tests which shall be submitted to the Engineer for approval.

<u>Manhole Depth</u>	<u>Time to Drop One (1) Inch</u>
10 feet or less	60 seconds
10.1 feet to 15 feet	75 seconds
15.1 feet to 25 feet	90 seconds

9. For manholes five (5) feet in diameter, add an additional 15 seconds. For manholes six (6) feet in diameter, add an additional 30 seconds.
10. If the manhole fails the test, necessary repairs shall be made and the vacuum test repeated until the manhole passes the test.
11. If the manhole joint mastic or gasket is displaced during the vacuum test, the manhole shall be disassembled, the seal replaced, and the manhole re-tested.
12. No additional payment will be made for testing and cost shall be merged into cost of manholes.

### 3.03 ACCEPTANCE TEST FOR EXISTING MANHOLE GRADE ADJUSTMENT

- A. After the manhole has been adjusted to the proper grade, the manhole shall be visually inspected by the Contractor in the presence of the Owner's Representative. Any defects noted shall be corrected by the Contractor until the work is found satisfactory to the Owner's Representative. Any work that has become defective shall be redone by the Contractor at no additional expense to the Owner.

**END OF SECTION**





## **SECTION 02650**

### **SANITARY SEWER MANHOLE REHABILITATION**

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Sanitary sewer manhole rehabilitation, including:
  - 1. Patching/ Plugging: Stopping active leaks in concrete and masonry manholes.
  - 2. Level A Rehabilitation: Portland cement based products
  - 3. Level B Rehabilitation: Calcium Aluminate cement based products
  - 4. Level C Rehabilitation: Epoxy, Polyurethanes or PUR based products
  - 5. The repair and sealing of the manhole base, invert, walls, corbel/cone, and chimney of brick, block, or precast manholes, including the removal of any unsound material.
  - 6. The inspection and testing of the various types of work to insure compliance.

#### **PART 2 – PRODUCTS**

##### **2.01 MATERIALS**

- A. General:
  - 1. The materials used shall be designed, manufactured and intended for sewer manhole rehabilitation and the specific application in which they are used. The materials shall have a proven history of performance in sewer manhole rehabilitation. The materials shall be delivered to the job site in original unopened packages and clearly labeled with the manufacturer's identification and printed instructions. All materials shall be stored and handled in accordance with recommendations of the manufacturer and the American Concrete Institute. All materials shall be mixed and applied in accordance with the manufacturer's written instructions.
- B. Stopping active leaks in concrete and masonry manholes:
  - 1. Patching mix: A quick setting cementitious material shall be used as a patching mix. It shall be mixed and applied according to the manufacturer's recommendations and shall meet the following minimum

requirements.

Compressive strength ASTM C 109		1000 psi @ 1 hr 3500 psi @ 48 hrs 5000 psi @ 28 days
Tensile strength	ASTM C 307	200 psi @ 24 hrs 300 psi @ 7 days

2. Infiltration control mix: A rapid-setting cementitious product specifically formulated for leak control shall be used to stop minor water infiltration, shall be mixed and applied according to the manufacturer's recommendations and shall meet the following minimum requirements.

Compressive strength ASTM C 109		1,800 psi @ ½ hr 4,000 psi @ 24 hrs 5,000 psi @ 7days
Tensile strength	ASTM C 190	300 psi @ 7 days 350 psi @ 28 days

3. Grouting mix: A cementitious grout shall be used for stopping very active infiltration, filling voids and shall be mixed & applied according to manufacturer's recommendations. The cementitious grout shall be volume stable having a minimum 28 day compressive strength of 250 psi and a 1 day strength of 50 psi.

C. Spray applied or centrifugally cast Portland cement based products (Level A).

1. The material applied to the surface of the manhole (similar to Strong Seal MS-2A or Quadex QM-1s or approved equal) shall be a cementitious blend of acid resistant binders, siliceous aggregates, non-metallic fibers and other additives for constructing a liner that is impervious to the flow of water, is resistant to sulfide attack, and restores structural integrity to existing manhole walls.
2. A monolithic liner shall be formed which covers all interior manhole surfaces and shall have the following minimum requirements at 28 days:
  - a) Compressive Strength (ASTM C-109) - 9000 psi
  - b) Tensile Strength (ASTM C-496) - 500 psi
  - c) Flexural Strength (ASTM C-293) – 1,000 psi
  - d) Shrinkage (ASTM C-596) - 0% at 90% R.H.
  - e) Bond (ASTM C-882) – 1,750 psi
  - f) Density, when applied - 130 ± 10 pcf

D. Calcium Aluminate cement-based products (Level B):

1. The material applied to the surface of the manhole (similar to Strong Seal

High Performance Mix, Quadex Aluminaliner, Parsons CA 100, or Mainstay ML-CA, or approved equal) shall be a fused calcium aluminate cement mortar, fiber reinforced liner that is specifically formulated for highly corrosive applications, restores structural integrity, and stops infiltration.

2. A monolithic liner shall be formed which covers all interior manhole surfaces and shall have the following minimum requirements at 28 days:
  - a) Compressive Strength (ASTM C-109) - 9000 psi
  - b) Tensile Strength (ASTM C-496) - 600 psi
  - c) Flexural Strength (ASTM C-293) – 1,000 psi
  - d) Shrinkage (ASTM C-596) - 0% at 90% R.H.
  - e) Bond (ASTM C-882) – 2,000 psi

D. Epoxy, Polyurethanes or PUR based products (Level C):

1. The material sprayed onto the surface of the manhole shall be formulated for application within a sanitary sewer environment. The resin will exhibit suitable corrosion resistance and enhance the structural integrity of the existing manhole. (Similar to Warren S-301, Raven 405, Sprayroc Spray Wall, Spectrashield, or approved equal)

## **PART 3 - EXECUTION**

### **3.01 REHABILITATION OF MANHOLE STRUCTURE**

- A. Safety: The Contractor shall perform all work in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements regarding confined space entry and respiratory protection from airborne particulate materials during cleaning and product mixing and application.
- B. Cleaning: All concrete and masonry surfaces to be rehabilitated shall be clean. All grease, oil, laitance, coatings, loose bricks, mortar, unsound concrete and other foreign materials shall be completely removed. Water blasting utilizing proper nozzles shall be the primary method of cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. All surfaces on which these other methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products. Debris resulting from cleaning shall be removed from the manhole and not allowed to be carried downstream.
- C. Stopping Infiltration: After surface preparation and prior to the application of mortars and coatings, infiltration shall either be stopped by plugging or chemical grout sealing.
- D. Patching: All large holes or voids around steps, joints or pipes, all spalled areas

and all holes caused by missing or cracked brick shall be patched and all missing mortar repointed using a non-shrink patching mortar. All cracked or disintegrated material shall be removed from the area to be patched or repointed, exposing a sound sub base. All cracks not subject to movement and greater than 1/16 inch in width shall be routed out to a minimum width and depth of 1/2 inch and patched with non-shrink patching mortar.

- E. Flow Control: The Contractor shall be responsible for plugging or diverting the flow of sewage as needed for repair and lining of manhole inverts and benches. Sewer flow shall be maintained in accordance with Section 02767 of this specification.
- F. Remove all loose grout and rubble from existing channel. Rebuild channel if required by reshaping, repairing slope of shelves or benches. Work shall include aligning inflow and outflow ports in such a manner as to prevent the deposition of solids at the transition point. All inverts shall follow the grades of the pipe entering the manhole. Changes in direction of the sewer and entering branch or branches shall have a true curve of as large a radius as the size of the manhole will permit, but will be shaped to allow easy entrance of maintenance equipment including buckets, TV camera, etc.
- G. Manhole Steps: Existing manhole steps shall be cut and removed prior to lining if they are deteriorated and/or not serviceable as determined by the Engineer.
- H. Each lining system shall be installed in accordance with the manufacturer's recommendations to withstand groundwater pressures. For manholes greater than 12 feet in depth, the lining shall withstand the pressures associated with a groundwater depth equal to the manhole depth. Linings for all other manholes shall withstand the pressures associated with groundwater depth of 12 feet. Measure groundwater depth from manhole bench to top of ground surface.
- I. The manufacturer's recommended lining thickness shall be based on the ability to withstand groundwater pressure and shall be as submitted by manufacturer per Section 01340, Shop Drawings, Product Data, and Samples.
- J. Application of lining products shall be factory certified applicators.
- K. Application and curing procedures shall be in accordance with manufacturer's recommendations.
- L. No application shall be made to frozen surfaces or if freezing is expected to occur within the manhole for 24 hours after application. If ambient temperatures are in excess of 95° F, precautions shall be taken to keep the mix temperature at time of application below 90° F, using ice if necessary.
- M. Unless otherwise noted by manufacturer, the final application shall have a minimum of four (4) hours cure time before subjected to actual flow.

### 3.02 RESET AND RESEAL MANHOLE FRAME AND COVER, REINSTALLATION OR REPLACEMENT

- A. The Contractor shall remove the existing manhole frame and cover and, if they are not being reused, dispose of them as directed by the Engineer. It shall be the responsibility of the Contractor, at no additional cost to the Owner, to repair any damage to the chimney or corbel caused by the removal of the existing manhole frame.
- B. If the manhole frame is to be raised, a sufficient number of new precast concrete grade rings or brick shall be installed to enable the frame and cover to meet the new grade. The manhole cover may also be raised to meet the grade by installing an approved steel or iron manhole adjusting ring in the top of the existing manhole frame.
- C. The manhole frame for the cover shall be set on the manhole sidewall in a full cement mortar bed, at the required elevation. Where manholes are constructed in paved areas or fill slopes, the surface of the frame and cover shall be tilted so as to conform to the exact slope, crown and grade of the existing pavement or area adjacent thereto.
- D. Existing frames and covers that are to be reused shall be thoroughly cleaned before reinstallation. The Contractor shall then install the new or reused frames so that the top of the covers are at the required grade in a manner described in paragraph "B" above. An external frame-sidewall seal shall be installed. A flexible seal shall be installed at the manhole frame-sidewall interface. The seal shall be an external corrugated elastomeric sleeve shall be installed with external bands after setting frame. Field measurements or accurate information, as detailed in the seal manufacturer's recommended procedures, shall be determined to obtain the proper size and shape of the seal.
- E. The contact surfaces for the sleeve shall be circular, clean, reasonably smooth, and free of loose material and excessive voids. If the masonry surface is rough or irregular and will not provide an effective seal, it shall be smoothed with mortar. A bed of butyl rubber caulk shall be applied to the sealing surface of the sleeve to fill minor irregularities in the masonry surface. After the sleeve has been placed in proper position, the bands are positioned and individually tightened or expanded as required to provide a watertight seal. Detailed installation instructions shall be in accordance with the manufacturer's instructions.
- F. Any new manhole frame and cover replacement shall result in a minimum 23" diameter clear opening to the manhole.

### 3.03 MANHOLE REHABILITATION ACCEPTANCE

A. After the manhole rehabilitation work has been completed, the manhole shall be visually inspected by the Contractor in the presence of the Owner's Representative and the work shall be found satisfactory to the Owner's Representative, Internal manhole frame-chimney seals shall be inspected to insure that the sleeve is tight against the manhole surfaces, that no voids (leakage points) exist under the sleeve and that the bands and locking nuts are tight. In addition, at the Owner's request, the Contractor may be required within one year to visually inspect the manholes that were rehabilitated. Any work that has become defective shall be redone by the Contractor at no additional expense to the Owner.

B. Vacuum Testing:

1. When the manhole rehabilitation method called for results in sealing, patching or lining the entire inside of a manhole, vacuum testing will be required. This will include stopping active leaks, patching and filling non-leaking holes and cracks, polymer and epoxy coating systems, poured-in-place concrete manhole liners and prefabricated manhole liners.
2. The Vacuum Testing Method Shall Be Conducted As Follows: All incoming and outgoing sewer and service lines shall be plugged, the plugs restrained and the vacuum tester head placed on the manhole frame and sealed. A vacuum of 10 inches Hg shall then be drawn on the manhole and the time measured for the vacuum to drop to 9 inches Hg. This time shall not be less than as shown in the following table for a 48-inch diameter manhole.

Manhole Depth	Time (sec)
< 4 ft	10
6 ft	15
8 ft	20
10 ft	25
12 ft	30
14 ft	40
16 ft	50
18 ft	59
20 ft	69

3. If the manhole or structure fails the vacuum test, the Contractor shall perform additional repairs and repeat the test procedures until satisfactory results are obtained.
4. After the manhole rehabilitation work has been completed, the manhole shall be visually inspected by the Contractor in the presence of the Owner's Representative and the work shall be accepted if found

satisfactory to the Owner's Representative. The finished surface shall be free of blisters, "runs" or "sags" or other indications of uneven lining thickness. No evidence of visible leaks shall be allowed. In addition, at the Owner's request, the Contractor may be required within two years to visually inspect the manholes that were rehabilitated. Any work that has become defective within the two year period shall be redone by the Contractor at no additional expense to the Owner.

**END OF SECTION**





## SECTION 02722

### SANITARY SEWERS (GRAVITY)

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Pipe material for gravity sewer lines shall be as shown on the drawings.
- B. Shop drawings and manufacturer certification are required for all products specified in this section.
- C. Each type of gravity pipe and fitting supplied under this section shall be provided by the same manufacturer.
- D. Refer to other sections for items affecting gravity sewers. Coordinate this work with that specified by other sections for timely execution.
- E. Refer to Section 02221 – Trenching, Backfilling, and Compaction for Utilities for additional requirements.

##### 1.02 OTHER APPLICABLE SECTIONS

- A. Section 02222 - Unclassified Excavation for Utilities
- B. Section 02600 – Manholes and Wetwells
- C. Section 02767 – Sewage Flow Control

#### PART 2 – PRODUCTS

##### 2.01 PVC PIPE

- A. Polyvinyl Chloride (PVC) 4” – 15”:  
To meet and/or exceed the requirements of ASTM D3034, SDR 26; suitable for use as a gravity sewer conduit with provisions for contraction and expansion at each joint; with a rubber ring and standard lengths of 20-foot and 12.5-foot plus or minus one (1) inch; designed to pass all tests at 73 degrees F (plus or minus 3 degrees F); six (6) inch long sections of pipe to be subjected to impact from a free falling top (20 pounds, Type A) in accordance with ASTM D2444 with no evident splitting or shattering (denting not considered a failure). Joints shall meet the requirements of ASTM D3212. Joint design shall be tested and certified to result in no leakage under prescribed laboratory test conditions of joint alignment, load conditions, pressure and vacuum, and deflection. Pipe and fittings shall have integral bell with elastomeric seal joint.

- B. For PVC pipe, pipe manufacturer shall furnish a certificate indicating that the pipe meets all applicable requirements of these specifications. If requested by the Engineer, the Contractor shall provide copies of the actual tests performed as outlined in other paragraphs of this section.
- C. The minimum pipe stiffness for PVC pipe at five percent (5%) deflection shall be 46 for all sizes when tested in accordance with ASTM D2412; external loading properties of plastic pipe shall be by parallel plate loading.
- D. A specimen of PVC pipe six (6) inches long shall be flattened between parallel plates in a suitable press until the distance between the plates is 40% of the outside diameter of the pipe. The rate of loading shall be uniform and such that the compression is complete in two (2) to five (5) minutes.
- E. After being immersed for two (2) hours in a sealed container of anhydrous acetone (99.5% pure), a sample ring of PVC pipe shall show no visible spalling or cracking when tested in accordance with ASTM D2152 (swelling or softening is not considered a failure).
- F. Service lines may be SCR 26 PVC Pipe with gasketed fittings or SDR 17 HDPE pipe with butt fusion fittings.

## 2.02 JOINTS AND JOINTING MATERIALS

- A. PVC Pipe Joints: Joints for sewer plastic pipe shall meet all requirements of ASTM D32112 standard specifications. Joint design shall be tested and certified to result in no leakage under prescribed laboratory test conditions of joint alignment, load conditions, pressure and vacuum, and deflection. Pipe and fittings shall have integral bell with elastomeric seal joint meeting the requirements of ASTM F477.

## 2.03 COMPRESSION COUPLINGS

- A. Compression couplings may be used in transition of service laterals at the connection of new service pipe to existing service pipe when similar or dissimilar materials are joined. The compression couplings shall be of natural or synthetic rubber or rubber-like materials and shall comply with the requirements and test methods specified in Table 2 of ASTM C425. The couplings shall meet the leak requirements specified in ASTM C425, and the bands for attaching the couplings to the dissimilar pipes shall be of stainless steel meeting ASTM A167 or A240. Each coupling shall also contain a shear ring made of 300 series stainless steel, 0.012" thick minimum. Each coupling shall bear the manufacturer's identifying mark and an indication of its size.
- B. Compression couplings will not be allowed in the main line of new or rehabilitated sewers.

## PART 3 - EXECUTION

### 3.01 EXCAVATION FOR GRAVITY SEWERS

- A. Unclassified excavation for pipelines shall consist of the excavation necessary for the construction of sewer lines and their appurtenances (including manholes, collars, concrete saddles, and pipe protection) that are called for by the drawings. It shall include clearing and grubbing where necessary, backfilling and tamping pipe trenches and around structures, and disposing of waste materials, all of which shall conform to the applicable provisions set forth elsewhere in these specifications.
- B. The Contractor may, if he chooses, use a motor powered trenching machine. If he does, however, he shall be fully responsible for the preservation or repair of existing utility service connections.
- C. Unless the construction of lines by tunneling, jacking, or boring is called for by the drawings or specifically authorized by the Engineer, make excavation for pipelines in open cut and true to the lines and grades shown on the drawings or established by the Engineer on the ground. Cut the banks of trenches between vertical parallel planes equidistant from the pipe centerline. The horizontal distance between the vertical planes (or, if sheeting is used, between the inside faces of that sheeting) shall vary with the size of the pipe to be installed, but shall not be more than the distance determined by the following formula:  $(4/3)d + 15$  inches, where "d" represents the internal diameter of the pipe in inches. When approved in writing by the Owner, the banks of trenches from the ground surface down to a depth not closer than 1 foot above the top of the pipe may be excavated to nonvertical and nonparallel planes, provided the excavation below that depth is made with vertical and parallel sides equidistant from the pipe centerline in accordance with the formula given above. Any cut made in excess of the formula  $(4/3)d + 15$  inches shall be at the expense of the Contractor and may be cause for the Engineer to require that stronger pipe and/or a higher class of bedding be used at no cost to the Owner.
- D. For all pipe, provide a minimum of 6-inches of No. 67 crushed stone for bedding below the pipe.
- E. Do not excavate pipe trenches more than 200 feet ahead of the pipe laying, and not more than two hundred (200) feet of open ditch shall be left behind the pipe laying, and perform all work so as to cause the least possible inconvenience to the public. Construct temporary bridges or crossing when and where the Engineer deems necessary to maintain vehicular or pedestrian traffic.

- F. In all cases where materials are deposited along open trenches, place them so that in the event of rain no damage will result to the work and/or to adjacent property.
- G. Refer to Section 02222, Unclassified Excavation for Utilities for sheeting, shoring and bracing requirements.

### 3.02 PIPE LAYING

- A. Lay no pipe except in the presence of an inspector that has been approved by the Engineer.
- B. Before placing sewer pipe in position in the trench, carefully prepare the bottom and sides of the trench, and install any necessary bracing and sheeting as specified in Section 02222, Unclassified Excavation for Utilities.
- C. Wherever necessary to provide satisfactory bearing surface, place concrete cradles as shown on the drawings or as directed by the Engineer. Cradles shall be of concrete and conform to the dimensions shown on the drawings. Concrete placed outside the dimensions shown shall be at the Contractor's expense.
- D. Lasers must be used after the type and procedures are approved by the Engineer. When lasers are used, set reference points for both line and grade at each manhole. Where grades are 0.6% or less, check the elevation of the beam each 100 feet with an offset point or engineer's level.
- E. Do not allow water to run or stand in the trench while pipe laying is in progress or before the trench has been backfilled. Do not at any time open up more trench than the available pumping facilities are able to de-water.
- F. Correct trench bottoms found to be unsuitable for foundations after pipe laying operations have started, bringing them to exact line and grade with crushed stone as necessary.
- G. Carefully inspect each piece of pipe and special fitting before it is placed, and lay no defective pipe in the trench. Pipe laying shall proceed upgrade, starting at the lower end of the grade and with the bells upgrade. When pipe laying is not in progress, keep the ends of the pipe tightly closed with an approved temporary plug.
- H. Bell holes shall be large enough to allow ample room for the pipe joints to be properly made. Cut out bell holes no more than two (2) joints ahead of the pipe laying. Carefully grade the bottom of the trench between bell holes so that each pipe barrel rests on a solid foundation for its entire length. Lay each pipe joint so as to form a close concentric joint with adjoining pipe and to avoid sudden offsets or inequalities in the flow line.

- I. Before constructing or placing any joints, demonstrate to the Inspector, by completing at least one (1) sample joint, that the methods to be used conform to the specifications and will provide a watertight joint and further that the workmen to be involved in this phase of work are thoroughly familiar and experienced with the type of joint proposed.
- J. No other type of joint may be used unless authorized in writing by the Engineer.
- K. If the work consists of constructing a new sewer to replace an existing one, connect existing service lines to the new line.
- L. As the work progresses, thoroughly clean the interior of the pipe in place. After each line of pipe has been laid, carefully inspect it, and remove all earth, trash, rags, and other foreign matter from its interior. Pipe shall be temporarily plugged with a watertight plug at the conclusion of each day's work.
- M. After the joints have been completed, they shall be inspected, tested, and accepted by the Inspector before being covered. The pipe shall meet the test requirements for watertightness; immediately repair any leak or defect discovered at any time after completion of the work. Any pipe that has been disturbed after joints were formed shall be taken up, the joints cleaned and remade, and the pipe re-laid at the Contractor's expense. Carefully protect all pipe in-place from damage until backfilling operations are completed.
- N. Do not begin the backfilling of trenches until the pipe in place has been inspected and approved by the Inspector.
- O. Lay sewers at least ten (10) feet horizontally from any existing or proposed water main. If this is not practical, the sewer may be laid closer than ten (10) feet to a water main provided it is laid in a separate trench and the elevation of the top of the sewer is at least 18 inches below the bottom of the water main.
- P. Where a sewer crosses under water mains, the top of the sewer shall be at least 18 inches below the bottom of the water main. If the elevation of the sewer cannot be varied to meet the above requirements, relocate the water main to provide this separation, or else reconstruct it with mechanical joint ductile iron pipe for a distance of ten (10) feet on each side of the sewer with a full joint of the water main centered over the sewer.
- Q. If it is impossible to obtain proper horizontal and vertical separation as stipulated above, consult the Engineer.
- R. Make connections to all existing sewer lines as shown on the drawings or as directed by the Owner. Make connections either by removing a section of the sewer from the existing line and inserting a wye or tee branch of the proper size or

by constructing a manhole, junction box, regulator chamber, or other structure as shown on the drawings.

- S. Where applicable, make connections to existing manholes or inlets by core drilling a hole in the wall of the existing structure, installing a resilient pipe connector, inserting a length of sewer pipe into the hole. Shape or reshape the bottom of the manholes as necessary to fit the invert of the sewer pipe.
- T. Carefully protect from damage all existing sewers, water lines, gas lines, sidewalks, curbs, gutters, pavements, electrical lines, and other utilities or structures in the vicinity of the work at all times. If it is necessary to repair, remove, and/or replace any such utility or structure in order to complete the work properly, do so in compliance with the provisions set forth in other sections of these specifications or as required by the appropriate utility. Any such work shall be considered incidental to construction, and no additional payment will be allowed.
- U. Service connections to existing sewers that are damaged or removed shall be repaired or replaced by the Contractor at his own expense as an incidental part of the work.

### 3.03 BACKFILLING

- A. For all pipe installed, begin backfilling after the line construction is complete and then inspected and approved by the Owner.
  - 1. For all gravity sewer pipe in earth, deposit No. 67 stone material from a point 6 inches below the bottom of the pipe (and on each side of the line) to a point 8 inches above the top of the pipe.
  - 2. If pipe is installed in a rock trench, install a 6" bedding of No. 67 crushed stone below the pipe. Then add additional No. 67 stone to a point 8 inches above the top of the pipe.
  - 3. Inside paved areas, all bedding and backfill shall be No. 67 stone. Inside State Highways, bedding and initial backfill shall be No. 67 stone up to a point 8 inches above the pipe with excavatable flowable fill being used for final backfill.
- B. At locations beneath or closely adjacent to local roads, the bedding and backfill shall be entirely No. 67 stone to within 6-inches of the surface. The final 6-inches to the surface shall be a dense grade aggregate for a temporary surface, until re-paving is complete. Tamp and thoroughly compact the backfill in layers that before compaction are 6-inches deep.

- C. At locations beneath or closely adjacent to State Highways, the bedding and backfill shall be No. 67 stone to a point 8 inches above the top of the pipe. The final backfill shall be excavatable flowable fill up to a point where the upper portion of the trench is composed of 9 inches of asphaltic trench binder mix and 2 inches of asphaltic surface mix. Tamp and thoroughly compact the backfill in layers that before compaction are 6-inches deep. Use steel plates to cover the trench until final pavement repair is complete.
- D. In other areas, the backfill for the upper portion of the trenches may be placed without tamping but shall be compacted to a density equivalent to that of adjacent earth material as determined by laboratory tests. Use special care to prevent the operation of backfilling equipment from causing any damage to the pipe.
- E. If earth material for backfill is, in the opinion of the Owner, too dry to allow for thorough compaction, then add enough water so that the backfill can be properly compacted. Do not place earth material that the Owner considers too wet or otherwise unsuitable.
- F. Wherever excavation has been made within easements across private property, the top 1-foot of backfill material shall consist of fine loose earth free from large clods, vegetable matter, debris, stone, and/or other objectionable materials.
- G. Conduct backfilling around manholes, inlets, outfalls, and/or structures in the same manner as specified above for pipelines except that even greater care is necessary to prevent damage to the utility structure.
- H. Wherever pipes have diameters of 15-inches or less, do not use power operated tampers to tamp that portion of the backfill around the pipe within 1-foot above the pipe.
- I. Perform backfilling so as not to disturb or injure any pipe and/or structure against which the backfill is being placed. If any pipe or structure is damaged and/or displaced during backfilling, open up the backfill and make whatever repairs are necessary.
- J. Backfilling and clean-up operations shall closely follow pipe laying; failure to comply with this provision will result in the Owner requiring that the Contractor's other activities be suspended until backfilling and clean-up operations catch up with pipe laying.

### 3.04 TESTING OF GRAVITY SEWERS

#### A. SEWER CLEANING AND TELEVISION INSPECTION

- 1. Upon completion of the construction or earlier if the Engineer deems advisable, the Contractor shall provide for cleaning of the sewer line in



accordance with Section 02762 and visual CCTV inspection of the sewer in accordance with Section 02764. Immediately repair all leaks and defects found by such inspection.

2. The Contractor shall keep a daily log or record covering the television inspection and the information acquired there from.
3. Post installation videos should be submitted to the Engineer as part of the as-built package.

## B. AIR TESTING

1. Perform low pressure air testing as follows:
  - a. Furnish all equipment, facilities, and personnel necessary to conduct the test. The test shall be observed by a representative of the Engineer.
  - b. Make the air test after all services have been installed and backfilling has been completed and compacted.
  - c. Perform the first series of air tests after 1,000 linear feet but before 2,000 linear feet of sewer has been laid. The purpose of this first series of tests is to assure both the Contractor and the Engineer that the materials and methods of installation meet the intent of these specifications. Conduct the remainder of the tests after approximately each 2,000 linear feet has been laid.
  - d. Plug all tees and ends of sewer services with flexible joint plugs or caps securely fastened to withstand the internal test pressures. Such plugs or caps shall be readily removable, and their removal shall provide a socket suitable for making a flexible jointed lateral connection or extension.
  - e. Prior to testing, check the pipe to see that it is clean. If not, clean it by passing a full gauge squeegee through the pipe. It shall be the Contractor's responsibility to have the pipe cleaned.
  - f. Immediately following this check or cleaning, test the pipe installation with low pressure air. Supply the air slowly to the plugged pipe installation until the internal air pressure reaches 4.0 psi more than the average back pressure of any ground water that may submerge the pipe. Allow at least two (2) minutes for temperature stabilization. For air pressure correction due to groundwater, divide the average height of groundwater above the crown of pipe by 2.31 and add the result to 3.5 psig. The

allowable drop in pressure is not changed by the additional air pressure correction. In no case should the starting test pressure exceed 9.0 psig.

- g. The pipeline shall be considered acceptable if the time shown in Table 1 for the designated pipe size and length, elapses before the air pressure drops 1.0 psig; then the section undergoing test shall have passed and shall be presumed free of defects. The test may be discontinued once the prescribed time has elapsed even though the 1.0 psig loss has not occurred.
- h. The pipeline shall be considered as unacceptable if the pressure drops 1.0 psig before the appropriate time shown in Table 1 has elapsed. If the test fails, the Contractor at his own expense shall determine the source(s) of failure and shall repair or replace all defective materials and/or workmanship to the satisfaction of the Engineer.

Table 1 – Minimum Specified Time Required for a 1.0 PSIG Pressure Drop

Pipe Diameter (inches)	Min. Test Time (min:sec)	Length for Min. Time (ft)	Time for Longer Length (sec)	Minimum Test Time (min:sec) for Specific Length (L)						
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft
4	3:46	597	0.380L	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42
8	7:34	298	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08
12	11:20	199	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47
15	14:10	159	5.342L	14:10	14:10	17:48	22:15	26:42	31:09	35:36
18	17:00	133	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16

- 2. Plugs used to close the sewer pipe for the air test must be securely braced to prevent the unintentional release of a plug, which can become a high velocity projectile. Locate gauges, air piping manifolds, and valves at the top of the ground. No one shall be permitted to enter a manhole where a plugged pipe is under pressure. Four (4) pounds per square inch air pressure (gauge) develops a force against the plug in a 12 inch pipe of approximately 450 pounds. Pipes more than 30 inches in diameter shall not be air tested because of the difficulty of adequately blocking the plugs. Provide a safety release device set to release at ten (10) psi between the air supply and the sewer under test.
- 3. All new pipe including new services will be required to be air tested. If existing sewage flow has been restored, temporary flow control will be required while air testing is performed. New services will be plugged at the curbside cleanout and tested at the same time as the main sewer line.

Length of service lines can be ignored in the determination of line lengths noted in Table 1.

#### C. INFILTRATION TESTING

1. Ground water above the pipe will reduce air loss. If the section of line under test shows significant infiltration, the Contractor, at no added compensation over the Contract price for the sewers, shall furnish, install and maintain a V-notch sharp crested weir in a wood frame tightly secured at the low end of each sewer lateral and at locations on the main sewers directed by the Owner. Maximum allowable infiltration shall be 25 gallons per mile per inch of diameter of sewer per 24-hour day at any time. The joints shall be tight and visible leakage in the joints or leakage in excess of that specified above shall be repaired at the Contractor's expense by any means found to be necessary.
2. When infiltration is demonstrated to be within the allowable limits, the Contractor shall remove such weirs.
3. Infiltration tests may be required for the complete line or any portion thereof. Failure of any part of the line to pass an infiltration test shall be sufficient reason to require additional work by the Contractor to reduce the amount of infiltration in such portion of the line tested.
4. The passing of an infiltration test shall in no way relieve the Contractor of any responsibility to repair visible leaks found during the visual inspection.

#### D. REPAIRS

1. Regardless of the outcome of any tests, repair any noticeable leak.

### 3.05 CLEANUP

- A. After completing each section of the sewer line, remove all debris, construction materials, and equipment from the site of the work, grade and smooth over the surface on both sides of the line, and leave the entire area in a clean, neat, and serviceable condition.

**END OF SECTION**

## SECTION 02762

### SANITARY SEWER LINE AND MANHOLE CLEANING

#### PART 1 – GENERAL

##### 1.01 SCOPE OF WORK

- A. The Contractor shall provide all labor, materials, equipment, and incidentals necessary to perform the cleaning of sewer lines and manholes as specified in this section.
- B. The intent of sewer line cleaning is to remove obstructions such as sludge, dirt, sand, rocks, grease, and other solids or semisolid material from the pipe so that defects are not obscured and to allow the water level to drop so that defects are visible. The pipe shall be clean enough to allow CCTV viewing of the entire pipe and manhole interior during inspection in accordance with Section 02764.
- C. Preparatory cleaning shall be performed on all sewer lines within the project boundary prior to closed circuit television inspection. This preparatory cleaning shall be accomplished by use of the cleaning equipment specified in subsection 02762-2.01.
- D. Standard Sewer Line Cleaning is defined as cleaning which is accomplished by the use of hydraulically propelled cleaning equipment (movable dam type) or high velocity jet equipment. When using high velocity jetting equipment, cleaning shall include up to two (2) passes of jetting and is expected to match the quantity measured for Television Inspection.
- E. Heavy Sewer Line Cleaning is any additional cleaning over and above Standard Sewer Line Cleaning to facilitate passage of the Television Camera and will be performed where directed by the Engineer. Heavy cleaning shall remove all roots and foreign materials from the lines that would prevent passage of the television camera.

##### 1.02 SECTION INCLUDES

- A. Standard sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity.
- B. Specifications for the cleaning of all sewer lines and manholes within the project boundary.

## **PART 2 – PRODUCTS**

### **2.01 CLEANING EQUIPMENT**

#### Standard Sewer Line Cleaning Equipment & Manhole Cleaning Equipment

- A. Hydraulically Propelled Equipment: The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment which cannot be collapsed is used, special precautions to prevent flooding of the sewers and public or private property shall be taken.
- B. High-Velocity Jet (Hydrocleaning) Equipment: All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Cleaning shall be accomplished by using a pump capable of delivering water from 800 to 1500 psi to the self-propelled nozzles. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor and produce at least 2,000 psi pressure. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

#### Heavy Sewer Line Cleaning Equipment

- A. Mechanically Powered Equipment: Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed.
- B. Power rodding machines shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To insure safe operation, the machine shall be fully enclosed and have an automatic safety throw-out clutch or relief valve.
- C. Contractor may recommend other heavy cleaning equipment for use with approval of the Engineer.

## **PART 3 – EXECUTION**

### **3.01 FIELD RECORDS**

- A. The Contractor shall maintain a record of work performed. It shall include an update of the drawings if discrepancies are found during evaluation. It shall include a notation when a line segment could not be completed and a reason for

incompletion. This is not to be construed as a substitution for any other deliverable identified herein this section or in other sections.

### 3.02 CLEANING

#### A. Cleaning Precautions

1. During sewer cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulically propelled cleaning tools (which depend upon water pressure to provide their cleaning force) or tools which retard the flow in the sewer line are used, precautions shall be taken to insure that the water pressure created does not damage or cause flooding of public or private property being served by the sewer.
2. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. All connections made for additional water shall be metered and at no additional cost to the Contractor. The Contractor shall notify the Owner if additional water is needed so a metered connection can be made.
3. a. No fire hydrant shall be obstructed by the contractor's equipment.  
b. No connection to fire hydrants or other public water sources shall be undertaken without a backflow prevention device being installed between the water system and the sewer cleaning equipment.

#### B. Sewer Line Cleaning

1. The designated sewer line sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of the equipment used shall be based on the conditions of lines at the time the work commences.
2. The equipment and methods selected shall be satisfactory to the Owner's Representative. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes.
3. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed after attempts with other equipment, including power rodding, or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the Owner shall be notified and the cleaning operation shall be terminated.

### C. Manhole Cleaning

1. All manholes shall be cleaned with a high velocity water jetting gun, previously described in this section. The purpose of manhole cleaning is to remove sludge, dirt, grease, etc. from the benches and inverts of the manhole so that defects are visible. No wall cleaning is required in order to maintain any visible stains that have resulted from water inflow through manhole walls.
2. Any debris or grease that is attached to the manhole steps which would ultimately impede access to the bottom of the manhole shall be removed.
3. The contractor shall operate the equipment so that the pressurized nozzle continues to move at all times. If, at any time the hose is held or delayed, the pressurized nozzle shall be turned off to prevent damage to the manhole.

#### 3.03 ROOT REMOVAL

Roots shall be removed from sections where camera passage is prevented due to root intrusion. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners.

#### 3.04 MATERIAL REMOVAL

All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of debris in wet wells, or damage pumping equipment, shall not be permitted. Under no circumstances shall sewage or solids removed during the cleaning operation be dumped onto the streets or in ditches, catch basins or storm drains.

#### 3.05 DISPOSAL OF MATERIALS

All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of at a legally permitted site for that purpose. The Owner shall notify the Contractor prior to the project start date with a proper disposal site location. In particular, debris shall not be allowed to remain in the manhole bench or trough to create a clogged sewer. All materials shall be removed from the site no less often than at the end of each workday. Under no circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work beyond the stated time, except in totally enclosed containers and as approved by the Owner. Contractor shall take all material removed as a result of line and manhole cleaning to the Owner's Wastewater Treatment Plant for disposal.

#### 3.06 EASEMENT RESTORATION

Contractor shall restore all easement and rights-of-way areas upon completion of

inspection of lines and manholes to a pre-existing condition. This shall include debris removal, filling of any ruts caused by equipment access, re-establishment of ground cover and any other damage caused by the work activity.

### 3.07 FINAL ACCEPTANCE

Acceptance of sewer line cleaning shall be made upon the successful completion of the television inspection and shall be to the satisfaction of the Owner's Representative.

**END OF SECTION**





## SECTION 02764

### SANITARY SEWER TELEVISION INSPECTION

#### PART 1 – GENERAL

##### 1.01 SCOPE OF WORK

- A. Contractor shall utilize a closed circuit color video system (CCTV) to remotely inspect and defect code all sewer lines indicated on the drawings or as directed by the Engineer.
- B. Contractor shall be responsible for locating and recording all defects, material changes, and other distinct features as well as all services – active and inactive. As such, the Contractor shall internally inspect by the methods described herein each line that has been designated for inspection on the plans. The resulting data/information will be used to determine the sewer rehabilitation required. **Accuracy of data is critical to overall success.**
- C. The Contractor shall not proceed with the sewer pipe inspection until the sewer lines have been cleaned in accordance with Section 02762.
- D. All inspections shall provide a live-feed above ground so the inspection can be viewed as it is being performed.
- E. All data collected and documented shall be in accordance with the latest revision of the Pipeline Assessment and Certification Program (PACP) as approved by the National Association of Sewer Service Companies (NASSCO) and approved by the Owner prior to beginning the inspection.

##### 1.02 SECTION INCLUDES

- A. Specifications for CCTV inspection of sewer lines that have been cleaned in accordance with Section 02762.

#### PART 2 – PRODUCTS

##### 2.01 CCTV INSPECTION EQUIPMENT

- A. The basic equipment for use in inspection operations shall consist of a self-propelled full color television inspection camera with footage meter, pan, and tilt functions.
- B. The television camera use for the inspection shall be specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear color picture of the entire periphery of the pipe. The camera shall be

capable of a 360° viewing area. Backup camera shall be available on the project site. The camera shall be operative in 100% humidity conditions. Camera shall be operable in a hazardous and/or corrosive environment.

- C. The camera, television monitor, and other components of the video system shall be capable of producing color picture quality to the satisfaction of the Owner. All line pictures shall be free of electrical interference, “snow”, or haze. Line pictures are to be clear, legible, and stable at all times.
- D. The television inspection equipment shall have an accurate footage counter that shall display on the monitor the exact distance of the camera, where a distance of 0 ft. corresponds to the intersection of the manhole edge and pipe invert of the starting manhole.
- E. Camera shall have a digital zoom feature to allow operator to zoom to specific points of interest.
- F. Contractor’s equipment shall be standardized and include a database and data dictionary that allows for the use of any of the NASSCO PACP certified software vendors.

### **PART 3 – EXECUTION**

#### **3.01 CCTV EXECUTION**

##### **A. FIELD RECORDS**

- 1. The Contractor shall maintain a record of work performed. It shall include an update of the drawings if discrepancies are found during evaluation. It shall include a notation when a line segment could not be completed and a reason for incompleteness. This is not to be construed as a substitution for any other deliverable identified herein this section or in other sections.

##### **B. CCTV INSPECTION**

- 1. Prior to televising, Contractor shall thoroughly clean the pipelines of debris, grease, roots, sediment or other obstructions that could retard the movement of the television camera. This cleaning shall be done in accordance with Section 02762.
- 2. Immediately after cleaning, 100% of the line segments designated by the Owner shall be visually inspected by means of CCTV to verify cleaning results, the condition of the line and to locate existing service connections. The inspection will be done from manhole to manhole, one section at a time, and the flow in the section being inspected will be suitably controlled as specified in Section 02766.
- 3. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer line conditions. The contractor shall inspect all pipe segments in a downstream

direction, unless conditions warrant a reverse set-up. In no case will the television camera be at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions may be used to move the camera through the sewer line.

4. When manually operated winches are used to pull the television camera through the line, telephones, 2-way walkie talkies or other suitable means of communication shall be set up between the two manholes of the section being inspected to insure good communications between members of the crew.
5. The importance of accurate distance measurements is emphasized. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be permitted. Accuracy of the distance meter shall be measured from the edge of MH to edge of MH and shall be checked by use of a walking meter, roll-a-tape, or other suitable device. The accuracy shall be satisfactory to the Owner.
6. The camera height shall be adjusted such that the camera lens is always centered in the pipe being televised.
7. Lighting system shall be adequate to insure quality pictures. A reflector in front of the camera may be required to enhance lighting in black pipe.
8. The digital video shall be recorded at Standard Play rate and each digital video shall be permanently labeled with the following information and description in such a manner as to be electronically attached to the inspection file for easy access.
9. If video is of such poor quality that the Owner is unable to evaluate the condition of the sanitary sewer main, locate the sewer service connections, or verify the cleaning, Contractor shall be required to re-televiser the sanitary sewer and provide a new digital video of good quality at no additional cost to the Owner. No payment will be made for unacceptable video quality.
10. All digital videos will become the property of the Owner.
11. Contractor shall provide a mobile vehicle with video monitoring equipment specifically compatible with the camera equipment being used. The equipment shall include video recorders, monitors and picture capture capability. The vehicle shall be large enough to accommodate at least three (3) persons at any time for viewing of the monitor. Owner shall have unrestricted access to observe the television screen and all other operation at all times.

#### C. CCTV INSPECTION LOGGING REPORT (DATA COLLECTION)

1. The software's core module shall be capable of providing complete survey reports

and be PACP certified by NASSCO.

2. There shall be PACP Compliant codes pre-programmed and grouped by PACP groups.
3. The software shall be capable of customization with the ability to modify or add to the pipeline condition and group them for ease of use.
4. The footage reading from the camera equipment shall be automatically entered into the Survey Log and shall directly correspond to the noted defect location throughout the pipe graphic and tabular reports generated.
5. The inspection and reporting software program shall be menu driven.
6. The Browser screen shall allow quick viewing of:
  - a. Sequential survey/segment as setup number.
  - b. User-selected categories.
  - c. Up-stream and down-stream manhole numbers.
  - d. Street name.
  - e. Pipe segment details.
  - f. Drainage basin number.
7. All relevant pipe segment information shall be entered prior to the actual survey. The below listed minimum pipe details must be supplied in the software for proper system management. The graphic and tabular survey reports shall include the following information:
  - a. Who performed survey [PACP REQUIRED]
  - b. Surveyors PACP Certificate No. [PACP REQUIRED]
  - c. Sheet No. [PACP REQUIRED]
  - d. Inspection Date [PACP REQUIRED]
  - e. Street (Road Name)/Address and City [PACP REQUIRED]
  - f. Starting and ending manhole numbers [PACP REQUIRED]
  - g. Direction of survey [PACP REQUIRED]
  - h. Pipe diameter or height/width and pipe shape [PACP REQUIRED]
  - i. Pipe material [PACP REQUIRED] and manhole material
  - j. Appropriate Pre-Cleaning code [PACP REQUIRED]
  - k. Starting and ending manhole Rim to Invert depth
  - l. Starting and ending manhole Rim to Grade depth
  - m. Total surveyed length
  - n. Pipe section length
  - o. Video number or Media Label
  - p. Owner
  - q. Drainage Area or Basin #
8. A scoring system incorporated into the software will assist the user in making proper assessment of the pipe conditions. PACP guidelines for scoring must be

adhered to. The software should be able to produce the following PACP scores or ratings: Segment Grade Scores, Structural Pipe Rating, O&M Pipe Rating, and Overall Pipe Rating.

9. The software shall also have the capability to import and export survey results in a variety of industry standard formats (excel, etc).

#### D. PASSAGE OF CCTV CAMERA

1. There may be occasions during TV inspection of a sewer line when the camera will be unable to pass an obstruction even though flow is continuing. Contractor shall televise the manhole section from the other direction in order to obtain a “full” video of this manhole section. Whenever such conditions arise, Owner shall be notified to determine if a point repair is necessary. No additional payment shall be made for reverse set-ups required due to an obstruction.
2. TV videos shall be submitted in one continuous section from manhole to manhole and not in broken pieces, unless specifically approved by the Owner.
3. When the camera is being pulled from the “other end” and a second repair location is encountered away from the first repair/obstruction location, the Owner shall be notified and allowed to review the TV video at the site in a timely manner. No downtime will be allowed.
4. Owner makes no guarantees that all of the sanitary sewer mains proposed to be TV inspected after the cleaning, are clear for the passage of the camera set-up. The equipment, tools and method(s) used for securing the passage of the camera are to be at the discretion of the Contractor.
5. The television camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to insure proper documentation of the sewer’s condition, but in **no case shall the television camera travel at a speed greater than 30 feet per minute.**
6. At all service laterals the camera shall be stopped and panned to such an angle that an internal view of the service lateral is available to determine if the lateral is active, dead or plugged. Where other pipe deficiencies are noted, the camera shall be stopped to observe the conditions, record information and take photographs.

#### 3.04 CCTV DELIVERABLES

- A. Summary reports compiling data from multiple inspections shall be available. Such reports shall indicate individual survey results in tabular form and list (sort) surveys based on a user-defined field.
- B. Defect report shall be programmable to list specific defects observed with corresponding footage, starting and ending manhole number, structural crack defects and service oriented defects.

- C. A drainage schedule report shall include starting and ending manhole numbers, depths, pipe materials, total survey length and pipe diameter.
- D. The grading score report shall summarize the manhole numbers, pipe material, pipe diameter and the Segment Grade Scores, Structural Pipe Rating, O&M Pipe Rating, and Overall Pipe Rating for each survey/pipe segment.
- E. Service and structural aspect scoring reports are to list the pipe segment, total observed length, number of defects and total score with reference to the condition of the total pipe, average of the pipe, total defects and average of defects.
- F. Contractor shall include the cost of providing the Owner with a copy of the survey software.
- G. The Contractor shall provide the Evaluation Reports in a manner that enables the Owner to create Summary Reporting when the Contractor submits the evaluation reports.

### 3.05 CCTV EVALUATION REPORTS

- A. Each video shall be accompanied by a TV inspection report, which shall be an electronic log of all pipe defects, sags, service connection locations and conditions, etc., recorded on a footage basis. Report shall be provided in an electronic (computer usable) format that is transferable to a Microsoft Excel database by way of an external hard drive.
- B. The pipe defects shall include separate codes for the following: Radial Cracks, Longitudinal Cracks, Misaligned Joints, Broken Joints, Root Intrusion, Laterals, and Infiltration. The size/length of the defects shall be reported. The beginning of all sags of the pipe, the length that camera is underwater as well as where the camera pulls out of the sag shall be reported. The clock position of each lateral service connection and the condition shall be reported. The condition of each lateral service will include the distance protruding (when applicable). All other information required for analysis such as degrees of deterioration, deformation or collapsed pipe shall be reported. All reports and/or submittal shall adhere to the Pipeline Assessment Certification Program (PACP) Standards.
- C. This log shall also identify the section being televised, flow and camera direction, type of pipe, pipe condition, weather conditions, type of surface cover, or any other information required by the Owner.
- D. Evaluation Reports shall be submitted on a weekly or bi-weekly basis, whichever is determined most effective by the Engineer.
- E. Updated/Modified drawings or plans that reflect actual field alignments shall be submitted to the Engineer when evaluation reports are submitted.

- F. The Contractor shall coordinate with the Engineer prior to the start of televising and provide an example submittal of an evaluation report. This report, including all videos and photographs, shall be submitted in a manner that allows integration into the Owners GIS system.
- G. At the end of the project, the Contractor shall provide a summary listing of all videos provided under this project in excel format.

### 3.06 SAFETY

- A. Contractor shall provide all safety equipment necessary to comply with OSHA standards and regulations for Confined Space Entry into the sewer system.
- B. Contractor shall provide all traffic control devices including but not limited to flagmen, barricades, message boards, warning lights, etc. necessary to protect the workmen and equipment while cleaning, televising and inspection is underway.

### 3.07 TRAFFIC CONTROL

- A. Contractor shall adhere to the latest edition of the Manual on Uniform Traffic Control Devices for all traffic control set-up in roadway areas.
- B. Contractor shall notify the Owner at least 24 hours in advance of proposed work in roadway areas.
- C. Contractor shall comply with any specific site requirements for traffic control as dictated by the local police authority.
- D. When local officials or traffic conditions dictate, Contractor shall supply uniformed, registered Law Enforcement personnel to assist with traffic control at no additional cost to the Owner. Law Enforcement Officer's provided for traffic control shall be in addition to normal traffic control such as flaggers, signs, barricades, cones, etc.

### 3.08 EASEMENT RESTORATION

- A. Contractor shall restore all easement areas upon completion of inspection, televising and cleaning to a pre-existing condition. This shall include debris removal, filling of any ruts caused by equipment access, reestablishment of ground cover and any other damage caused by the work.

**END OF SECTION**





## SECTION 02767

### SEWAGE FLOW CONTROL

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. This Section includes all materials, labor, and equipment required to provide bypass flow control for sanitary sewer line and manhole construction, upgrade, or rehabilitation.
- B. Contractor to furnish all power, maintenance, etc. to implement the bypass flow control and diversion pumping to divert the existing flow around the work area for the work's duration.
- C. The design, installation, and operation for the temporary bypass pumping system shall be solely the Contractor's responsibility.

##### 1.02 PERFORMANCE AND PENALTIES

- A. The Contractor shall ensure:
  - 1. All temporary sewer bypass pumping activities for the work are completed in full compliance with the Owner's, local and State requirements and no water quality or quantity compliance issues are encountered.
  - 2. No illicit pollutant discharges to (or to a location that would create contaminated water runoff to) a storm sewer, a stormwater conveyance, or a water body within the State.
  - 3. All temporary sewer bypass pumping activities for the work are completed in full compliance with the Tennessee Department of Environment and Conservation and the U.S. EPA regulations, and no water quality or quantity compliance issues are encountered.
- B. No discharge of sewage or debris shall be released to the environment. Should the Contractor's actions cause a sewage or debris overflow or bypass to the environment, site cleanup will be the Contractor's responsibility consistent with Owner and State regulators directions. All overflow or bypass environmental cleanup activities shall be immediately commenced and prosecuted continuously by the Contractor. Any associated fines or penalties enacted by the Tennessee Department of Environment and Conservation, the U.S. EPA, and/or any other regulatory groups or programs will be borne solely by the Contractor.

### 1.03 SUBMITTALS

A. The Contractor shall prepare and maintain a detailed Bypass Sewage Pumping Plan (Plan), as further described in these specifications. Plan shall be available to Owner and Engineer upon request.

1. *Bypass Sewage Pumping Plan.* Plan shall contain, at minimum, the following:

- a. Staging areas for pumps
- b. Sewer plugging method and plug types
- c. Size and location for manholes or access points for suction and discharge hose or piping
- d. Size for pipeline or conveyance system to be bypassed
- e. Number, size, material, location, and method for installing suction piping
- f. Number, size, material, location, and method for installing discharge piping
- g. Provide bypass pump sizes, capacity, number of each size to be on site, and power requirements. Pump sizing shall clearly indicate compliance with requirements in this Section.
- h. Calculations for static lift, friction losses, and flow velocity (pump curves showing pump operating range)
- i. Standby power generator size, location, and spill prevention and control measures
- j. Downstream discharge plan
- k. Method to protect discharge manholes or structures from erosion and damage
- l. Thrust and restraint block sizes and locations
- m. Sections showing suction and discharge pipe depth, embedment, select fill, and special backfill
- n. Noise control method for each pump and/or generator
- o. Any temporary pipe supports and anchoring required
- p. Design plans and computations for access to bypass pumping locations indicated on the Drawings

- q. Calculations for selecting bypass pumping pipe size
- r. Schedule for installing and maintaining bypass pumping lines
- s. Plan indicating selection for bypass pumping line locations
- t. All items related to testing, inspection, maintenance, and monitoring as described in this Section
- u. All other incidental items necessary and/or required to ensure facilities are properly protected including protecting the access and bypass pumping locations from damage due to the discharge flows and compliance with the requirements and permit conditions specified in the Contract Documents
- v. For sewer rehabilitation by lining methods, generic plans may be developed for typical situations and various sizes to be implemented.

## **PART 2 - PRODUCTS**

### **2.01 BYPASS EQUIPMENT**

- A. All equipment used for bypass pumping shall be specifically designed for intended purpose. All piping, pumps, etc. in contact with sanitary sewage shall be manufactured with materials designed for use in a sewage environment.
- B. All pumps used shall be fully automatic self-priming units which do not require foot valves or vacuum pumps in the priming system.
- C. The pumps shall be electric, hydraulic, or diesel powered.
- D. All pumps used shall be constructed to allow dry running for long time periods to accommodate effluent flows cyclical nature.
- E. Above-ground pumps and/or power units shall be located inside a temporary portable berm to contain any fuel or sewage that may spill during the normal course of operation.
- F. Hard discharge piping shall be butt-welded HDPE with a minimum pressure rating of 2.5 times the total dynamic pump head.
- G. Under no circumstances will irrigation type piping or glued PVC pipe be allowed.
- H. Discharge hose may be allowed on rehabilitation projects for short-term setups (less than or equal to 48 hours) on short sections with approval from the Owner. Hoses shall have no leaks, and all couplings shall be quick connecting with gaskets.

- I. The multiple pump header system shall check valves to facilitate pump removal, service, and/or replacement while the system remains operational.
- J. All above ground pumps and/or power units shall be equipped with sound attenuation measures which reduce noise levels to 75-decibels maximum at a 30-foot distance from the equipment during all operation periods. If equipment is operated between 8:00 PM and 6:00 AM, this equipment shall also be provided with a sound attenuation 3-sided enclosure including a roof constructed of 2 X 4 lumber frame with ½-inch plywood sheathing and 2-inch extruded polystyrene foam panels attached to the inside of the entire enclosure. The enclosure shall be portable to allow the enclosure to be moved when bypass pumping equipment is moved.
- K. The discharge location (the point where the bypass main reenters the gravity sewer system) shall be constructed with adequate sealant materials to minimize sewer gas and odor release to the maximum extent possible.

## **PART 3 - EXECUTION**

### **3.01 GENERAL REQUIREMENTS**

- A. Provide bypass sewage pumping, as required, around the section in which work is to be performed. Bypass pumping shall be the Contractor's full responsibility. The bypass system shall be a sufficient capacity to handle 2.0 times the peak flow of the pipeline section being bypassed.
- B. Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert sewage flow around the section in which work is to be performed. Backup pumps shall be online and isolated from the primary system by valves. Include 100% mechanical redundancy installed online with a float or ultrasonic type system to switch to the standby system automatically if the primary system fails.
- C. Piping redundancy may be required for relatively long bypass piping lengths or large diameter bypass pipes as deemed necessary by the Owner. Special design considerations shall be made for pump suction lifts greater than 23 feet.
- D. Make all arrangements for bypass pumping when the main is shut down for any reason. The system shall overcome any existing force main pressure on discharge.
- E. Suction and discharge points shall only be located at manholes.
- F. If at any time the Contractor is unable to properly bypass pump the sewage, construction will be stopped until the Contractor can continue work in an

acceptable manner. Additional contract time for delays caused by improper equipment, labor, or breakdowns will not be considered.

- G. Service shall be maintained at all times. Surcharges due to plugging the sewer line for bypass pumping shall be maintained to prevent service backups and overflows at any point in the system.
- H. For rehabilitation projects, hose may be used for short runs with the Owner's approval. If the anticipated bypass time exceeds 48-hours, use hard piping only. If using hose and the bypass time reaches 48-hours, the Contractor may either install hard piping to accomplish the bypass or restore flow until an approved bypass method can be employed.
- I. The bypass or diversion pumping system shall be able to pump all the sewage in the existing line under all weather and seasonal conditions. All pumping equipment to be used shall be submitted to the Owner for review and approval.
- J. Bypass pumping systems are required to be operated and continuously monitored 24-hours per day for flow diversion.
- K. The bypass pumping must be done one manhole upstream and continue for one manhole downstream of the line being rehabilitated in order to use flow through plugs at the insertion and end points. The liner bag may not be used as part of the bypass pumping system or as a plug in the line.
- L. For bypass or diversion pumping in overnight operations greater than 2 days, provide and maintain portable lighting systems as needed for monitoring and operation activities at the bypass pumping site(s).
- M. The temporary diversion pumping system shall be placed in operation prior to the commencement of work in the areas being bypassed. Minimum times of operation prior to the commencement of work are 1 hour for small diameter CIPP lining and 4 hours for any other major system work such as trunk sewer diversion, large diameter sewer lining, or pumping station work.
- N. Protect the bypass lines from damage in the areas of backhoe and excavation operations.
- O. Provide the necessary stop/start controls and a visual alarm indicating a pump malfunction for each pump. Each pump shall have a 0-30 inch Hg vacuum gauge on the inlet and a 0-60 psi pressure gauge on the outlet.

### 3.02 PERFORMANCE REQUIREMENTS

- A. It is essential for operating the existing system being bypassed that no interruptions in the flow occur throughout the project's duration. Provide, maintain, and operate all temporary facilities such as dams, plugs, pumping equipment (primary and backup units as required), conduits, all necessary power,

and all other labor and equipment necessary to intercept the incoming flow before it reaches the point where it would interfere with the work, carry it past the work area, and return it to the existing system downstream of the work.

- B. The temporary pumping system's design, installation, and operation shall be the Contractor's responsibility. The bypass system shall meet all codes and requirements for regulatory agencies having jurisdiction.
- C. Provide all necessary means to safely convey the sewage past the work area. The Contractor will not be permitted to stop or impede the sewer main flows under any circumstances.
- D. No flow diversion around the work area shall be performed in a manner that will cause damage to or surcharging of Owner's system. The diversion shall protect public and private property from damage and flooding.
- E. Protect water resources, wetlands, and other natural resources.

### 3.03 FIELD QUALITY CONTROL AND MAINTENANCE

- A. **Testing:** Prior to actual operation, test the bypass pumping discharge hard piping system for leaks and pressure using clean water. Bypass hard piping shall be hydrostatically tested following each setup and prior to flow diversion or bypass to a minimum pressure 2.5 times the pump(s) total dynamic head. The Owner shall be given a 24-hour notice prior to testing.
- B. **Inspection:** Inspect the bypass pumping system on a continuous basis to ensure the system is working properly. A daily checklist for physically inspecting the piping shall be required. The checklist shall contain all bypass pumping system components and shall be specifically developed to address aspects for the individual project. The daily checklist shall be submitted to and approved by the Owner. The completed daily checklists will be maintained, available for review, and on-site for the project's duration. A sample checklist is included in this Section.
- C. **Maintenance Service:** Ensure the temporary bypass pumping system is properly maintained and that a responsible operator shall be readily available at all times when pumps are operating.
- D. **Monitoring**
  - 1. During bypass pumping, continuously monitor all bypass pumping system components.
  - 2. A telemetry system or designated personnel to maintain 24-hour onsite monitoring shall be required to alert the Contractor to system malfunctions or high liquid levels in manholes.

E. Additional Materials

1. Spare parts for pumps and piping shall be kept on site as required.
2. Adequate hoisting equipment for each pump and accessories shall be maintained on site.
3. Keep an HDPE fusion machine on site for the duration of bypass pumping to facilitate immediate repairs to hard piping.

F. Preparations and Precautions

1. Locate any existing utilities in the area selected for the bypass pipelines. Locate the bypass pipelines to minimize any disturbance to existing utilities and obtain approval for the pipeline locations. Pay all costs associated with relocating utilities and obtaining all approvals.
2. During all bypass pumping operations, protect the Owner's system (pumping station, conveyance system, etc.) as applicable from damage inflicted by any equipment. The Contractor is responsible for all physical damage to the system caused by human or mechanical failure.

G. Installation and Removal

1. Remove manhole sections or make connections to the existing conveyance system. Construct temporary bypass pumping structures only at the access location(s) indicated on the Drawings and as may be required with Owner's approval to provide adequate suction conduit.
2. Plugging or blocking flows shall incorporate a primary or secondary plugging device. When plugging or blocking is no longer needed for work performance and acceptance, it is to be removed in a manner that permits the sewage flow to slowly return to normal without surge flows to prevent surcharging or causing other major disturbances downstream.
3. When working inside manholes, sewers, or force mains, exercise caution and comply with all applicable OSHA requirements.
4. Bypass pipeline installation is prohibited in all wetland areas. The pipeline shall be located, if possible, off streets and sidewalks and on road shoulders. If in easements, the bypass pipeline shall be within the easement area acquired for the project.
5. When the bypass pipeline crosses local streets and private driveways, place the bypass pipelines in trenches and cover with temporary pavement. Obtain any property owner approvals for placing the temporary pipeline.



3.04 CLEANUP

- A. Upon acceptance of the installation work and testing, restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

3.05 CLOSEOUT ACTIVITIES

- A. Provide in accordance with Owner requirements.

**END OF SECTION**

## SECTION 02768

### PIPE BURSTING

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. Restoration of existing sanitary sewers by installation of a high density polyethylene pipe into the existing sewer line by bursting/crushing in place to produce a continuous, watertight length between adjacent manholes. The process involves the use of a static, hydraulic, or pneumatic hammer “moling” device, suitably sized to break out the old pipe or using a modified boring “knife” with a flared plug that crushes the existing sewer pipe. Forward progress of the “mole” or the “knife” may be aided by the use of hydraulic equipment or other apparatus, as specified in the approved methods. The replacement pipe is either pulled or pushed into the bore.

##### 1.02 REFERENCES

- A. Guideline Specification for Replacement of Mainline Sewer Pipes by Pipe Bursting published by the International Pipe Bursting Association, a Division of NAASCO.
- B. American Society for Testing and Materials (ASTM) Standards:
  - ASTM D 1238-99            ASTM D 638-99            ASTM D 618-99
  - ASTM D 1505-98            ASTM D 1693-00            ASTM D 2837-98a
  - ASTM D 790-00            ASTM D 3350-99            ASTM D 575
- C. Related Sections:
  - 1. Section 01026 - Measurement and Payment
  - 2. Section 01340 - Shop Drawings, Product Data and Samples
  - 3. Section 02221 - Trenching, Backfilling and Compaction for Utilities
  - 4. Section 02722 - Sanitary Sewers (Gravity)
  - 5. Section 02762 – Sanitary Sewer Line Cleaning
  - 6. Section 02764 – Sanitary Sewer Television Inspection
  - 5. Section 02766 - Sewer Flow Control

##### 1.03 SUBMITTALS

- A. Submit the following:
  - 1. Manufacturer's Certificate of Compliance certifying compliance with the applicable specifications and standards.
  - 2. Certified copies of test reports of factory tests required by the applicable standards and this Section.

3. Manufacturer's installation instructions and procedures.
4. Contractor's procedures and materials for service renewal including time and duration of sewer service unavailability.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall be responsible for the delivery, storage, and handling of products.
- B. Keep products safe from damage. Promptly remove damaged products from the job site. Replace damaged products with undamaged products.

### **PART 2 – PRODUCTS**

#### 2.01 HDPE PIPE

- A. Pipe: Pipe shall be DR-17 manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material shall meet the specifications of ASTM D3350 with a minimum cell classification of PE445574. Pipe O.D. sizes 4” to 24” shall be ductile iron pipe sizes (DIPS). Pipe shall have a manufacturing standard of ASTM F714 and be manufactured by an ISO 9001 certified manufacturer. The pipe shall contain no recycled compounds except that generated in the manufacturer’s own plant from resin of the same specification from the same raw material. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, voids, or other injurious defects.
- B. Take all necessary field measurements of the existing pipe (including diameter, ovality and length) prior to manufacturing liners.
- C. The minimum length shall be that deemed necessary by the Contractor to effectively span the distance from the inlet to the outlet of the respective manholes unless otherwise specified. The Contractor shall verify the lengths in the field before manufacturing.
- D. Pipe shall be black in color with green longitudinal striping to indicate use for sanitary sewer. Four (4) equally spaced stripes per pipe segment are required.

### **PART 3 – EXECUTION**

#### 3.01 PREPARATION

- A. The following installation procedures shall be adhered to unless otherwise approved by the Owner's representative.
  1. The Contractor shall carry out his operations in strict accordance with all OSHA, and manufacturer's safety requirements. Particular attention is

drawn to those safety requirements involving entering confined spaces and trench excavations.

2. Inspection of existing sewer lines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television. The interior of the line shall be carefully inspected to determine the location of any conditions that may prevent proper installation of the pipe into the lines, and such conditions shall be noted so they can be corrected. If requested, an electronic copy of the inspection including video and log shall be provided to the Engineer.
3. The Contractor shall provide for the flow of sewage around the section or sections of pipe designated for lining as specified in Section 02766- Sewer Flow Control.
4. The Contractor shall clear the line of obstructions such as solids, dropped joints, protruding service connections or collapsed pipe that will prevent the pipe bursting application, as noted on the Drawings and TV Logs attached. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Contractor shall notify the Engineer immediately.

### 3.02 INSTALLATION

- A. Excavations for insertion of the HDPE pipe are made in a line section between two manholes. Contractor shall determine the location of the insertion pits based on the length of the line being pulled, the existing backfill conditions, and the traffic conditions. Insertion pits shall be long enough to avoid imposing a bending radius of less than 35 times the outside diameter of the pipe during insertion. Insertion pits shall be sloped gradually from the ground surface to the top of the sewer. The width of the insertion pit shall be sufficient to allow the entry of the workmen in accordance with applicable safety requirements. Sheathing and bracing requirements will depend on depth and ground conditions. Contractor shall be responsible for providing adequate bracing. The top of the existing sewer shall be exposed to the spring line and the crown of the pipe shall be removed as necessary for insertion of the liner. Care shall be taken to not disturb the bottom of the sewer.
- B. Section of the HDPE pipe shall be assembled and joined together prior to insertion of the pipe. Assembly shall be accomplished above ground, either at the job site or a remote location.
- C. Joining shall be accomplished by the thermal butt fusion method, in strict accordance with the manufacturer's recommendations and in accordance with applicable specifications of ASTM D 2657. Only trained and qualified personnel shall weld pipe. Only equipment designed for thermal butt fusion welding shall

be used.

- D. The HDPE pipe shall be inserted into the sewer line and advanced by a pneumatic or hydraulic powered pipe bursting head. Powered winches may be used to assist the travel of the pipe bursting head. Length of the HDPE pipe to be inserted at any one time shall be governed by the power available and consideration of size and condition of sewer. Note that any HDPE – to-HDPE connections required along a segment shall be subject to the same pipe joining requirements outlined in Paragraph 3.02.C above. The Contractor shall not use couplings unless he receives permission from the Engineer.
- E. Take necessary precautions to protect the HDPE pipe from scoring during bursting applications.
- F. A 48 hour or longer (if recommended by manufacturer) relaxation period shall be required to allow the HDPE to stabilize.
  - 1. A minimum of 12-inches of HDPE pipe shall be left to protrude inside the wall of the manhole prior to relaxation.
  - 2. No lateral connections shall be made prior to relaxation.
- G. After relaxation of the HDPE pipe, seal the annular space between the pipe and the manhole per the manufacturer's recommendation.
- H. Foam sealant shall not protrude into the manhole and should be finished over with a quick-set non-shrink type of cement grout. Finishing inside the manhole shall be accomplished using a quick-set cement type grout to raise the manhole trough to the invert of the liner pipe. Only the upstream seal should be made prior to connecting services.
- I. Service laterals shall be replaced with an approved flexible sewer saddle. Service laterals shall be connected to the liner pipe using strap-on saddles. Strap-on saddles shall be secured to the HDPE pipe using stainless steel bands as manufactured by DFW Plastics, or equal. A PC\_11 white epoxy paste-bonding agent shall be used between the HDPE and the saddle, manufactured by Protective Coating So., or approved equal. Contractor shall install a cleanout assembly at the property line or where designated by the Owner.
- J. All service line and fittings shall be PVC (SDR-26) or SDR 17 HDPE per Section 02722.
- K. Backfill all excavations (service line or insertion pits) as specified in Section 02221- Trenching, Backfilling and Compaction for Utilities.
- L. The Contractor shall be responsible for determination of active services. No payment shall be made for reconnection of inactive services. Damages or fines resulting from failure to reconnect any active service(s) shall be Contractor's

responsibility.

### 3.03 POST INSTALLATION

- A. Outside drop assemblies shall be reinstated after processing the main.
- B. Each HDPE pipe segment shall be cleaned and CCTV inspected as soon as practical following service reconnections.

### 3.04 TESTING & ACCEPTANCE

- A. After pipe bursting installation, perform a low pressure test on the sewer line in accordance with the requirement outlined in Specification Section 02722 – Sanitary Sewers (Gravity). This testing shall be done prior to reinstating services.
- B. Each rehabilitated line segment shall be inspected via closed circuit television (CCTV) in accordance with the CCTV requirements outlined in Specification Section 02764 – Sanitary Sewer Inspection.
- C. It is the intent of these specifications that the completed HDPE pipe with all appurtenances shall be essentially equivalent in final quality and appearance to new sewer installation.
- D. The finished installation shall be continuous over the entire segment between manholes and homogenous throughout.
- E. There shall be no visible infiltration through the pipe, around the pipe at manhole connections, at service connections, etc. Contractor shall repair any visible leaks, regardless of the results of the leakage testing.

### 3.06 CLEAN-UP AND RESTORATION

- A. The Contractor shall not allow the site of the work to become littered with trash and waste material, but shall maintain the site in a neat and orderly condition throughout the construction period.
- B. On or before completion, the Contractor shall clean and remove from the site of the work all surplus and discarded materials, temporary structures, stumps and portions of trees, and debris of any kind. He shall leave the site of work in a neat and orderly condition, similar or equal to that prior to construction.
- C. Upon completion of cleanup and backfill operations and before final acceptance by the Owner, the Contractor shall replace and/or restore any trees, shrubbery, fences, driveways, sidewalks, culverts, bridges, houses or buildings and all water, sewer, gas, telephone and electrical lines thereto, and all other private and public property along or adjacent to the work that may have been disturbed by

construction operations.

- D. All private and public property along or adjacent to the work disturbed by construction operations shall be restored to a condition similar or equal to that existing prior to construction.
- E. Before final acceptance by the Owner, the Contractor shall replace and/or restore any water, sewer, drain, and gas lines and appurtenances; electrical, telephone, telegraph conduits and wires, both underground and aboveground, and appurtenances; traffic signals, fire and police alarm systems and appurtenances; sidewalks, curbs, gutter, drainage ditches and pavements and all other public utility facilities and appurtenances along or adjacent to the work that may have been disturbed by construction operations.
- F. Any repairs required because of unsatisfactory backfill operations shall be at the expense of the Contractor.

### 3.07 PATENTS

- A. The Contractor shall warrant and save harmless the Owner and Engineer against all claims for patent infringement and any loss resulting there from.

### 3.08 PRIVATE SERVICE LINE SHUTDOWN

- A. When it is necessary to shutdown a private sewer service line while work is in progress and before the service lines are reconnected, the residents are to be notified by the Contractor at least one week prior to the shutdown. No sewer or water service is to remain shutdown for more than a period of eight (8) hours unless the Contractor provides substitute services for the residents. Commercial sewer services shall be maintained at all times that the business is open. No sewage from the services or main line shall be allowed to be discharged on the ground or in waterways. Holding pits or tanks are not allowed.

### 3.09 PROSECUTION OF WORK

- A. The Contractor is cautioned that only those sewer services that are live and active shall be repaired or reinstated after the sewer main has been rehabilitated.
- B. The Contractor shall be responsible for all pre-construction CCTV inspection and utility locates required to facilitate sewer rehabilitation, including but not limited to locating existing sewer laterals, locating existing obstacles inside the sewer line, locating existing utilities that may be impacted by bursting operations, and any other items required to facilitate sewer rehabilitation.

**END OF SECTION**

## **SECTION 03303**

### **CONCRETE FOR UTILITY LINES**

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Furnishing and installing concrete blocking, cradles, anchors, caps, pipe protection, and/or encasement at the locations shown on the drawings and/or as directed by the Engineer.

#### **PART 2 – PRODUCTS**

##### **2.01 MATERIALS**

- A. Concrete work shall conform to ACI 301, latest edition, as modified by the supplemental requirements below:
  - 1. Strength: The strength of concrete shall be 3,000 psi unless otherwise shown on the drawings or stated differently in other sections for specific applications.
  - 2. Durability: All concrete exposed to weather shall be air entrained.
  - 3. Slump: Concrete shall be proportional and produced to have a slump of three (3) inches with a one (1) inch tolerance.
  - 4. Admixtures: Air entrainment, mandatory for concrete exposed to weather, may be used. A water reducing admixture (retarding, normal, or accelerating, depending on placing temperature), may be used if approved by the Engineer.
  - 5. Reinforcing Steel: Yield strength of reinforcing steel shall be 60,000 psi.

#### **PART 3 – EXECUTION**

##### **3.01 INSTALLATION**

- A. Perform concrete work in accordance with recommendations of ACI-301.

**END OF SECTION**





**SECTION 08305**  
**ACCESS HATCHES**

**PART 1 - GENERAL**

1.01 SUBMITTALS

- A. Submit under provisions of Section 01340.
- B. Shop Drawings: Indicate exact position of all access units.
- C. Product Data: Include sizes, types, finishes, scheduled locations, and details of adjoining work.

1.02 QUALITY ASSURANCE

- A. Furnish inserts and anchoring devices which must be built into other work for installation of access doors. Coordinate delivery with other work to avoid delay.

1.03 WARRANTY

- A. Provide warranty under provisions of Section 01700. Warrant products of this Section against defects in material and workmanship for a period of five years.

**PART 2 - PRODUCTS**

2.01 ACCEPTABLE MANUFACTURERS - FLOOR DOORS

- A. Halliday Products, Orlando, FL, Bilco Company, New Haven, CT or approved equal.
- B. Substitutions: Under provisions of Section 01630.

2.02 MATERIALS - FLOOR DOORS

- A. Frame: Extruded aluminum, 1/4 inch thick, with anchors around to exterior; 1-1/2" drainage coupling located in the corner of frame.
  - 1. Size: As shown.
- B. Door Leaf: Aluminum diamond plate, 1/4 inch thick, reinforced with aluminum stiffeners; designed to open 90 degrees and lock automatically in that position; built to withstand live load of 300 pounds per square foot.

- C. Hinges: T-316 stainless steel, tamper-proof.
- D. Handle: Removable, equipped with snap lock.
- E. Latching Devices: Recessed hasp covered by a hinged lid flush with surface for Owner-provided padlock.
- F. Hold-open arm: Positive locking, automatic hold-open arm.

#### 2.03 FABRICATION

- A. Weld, fill, and grind joints to assure flush and square unit.

#### 2.04 FINISH

- A. Finish: Mill finish with bituminous coating applied to frame exterior.
- B. Hardware: Zinc plated, chromate sealed.

### **PART 3 - EXECUTION**

#### 3.01 INSPECTION

- A. Verify rough openings for door and frame are correctly sized and located.
- B. Beginning of installation means acceptance of existing conditions.

#### 3.02 INSTALLATION

- A. Install frame plumb and level in openings.
- B. Position to provide convenient access to concealed work requiring access.
- C. Secure rigidly in place in accordance with manufacturer's instructions.

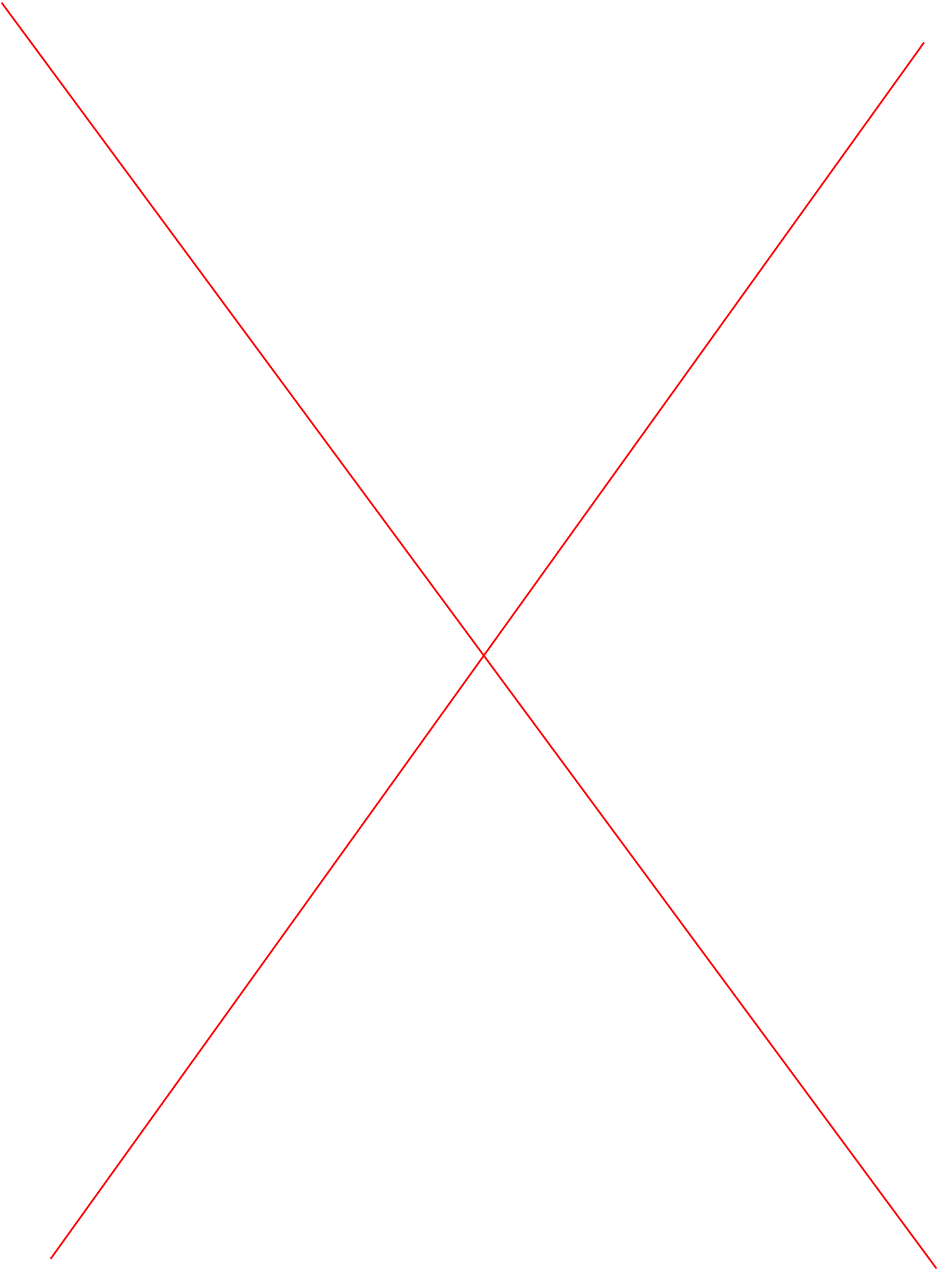
#### 3.03 ADJUSTING AND CLEANING

- A. Adjust latching and locking mechanisms to operate smoothly.
- B. Leave work area clean and free of debris.
- C. Remove and replace panels or frames which are bowed, warped or damaged.

3.04 WARRANTY

- A. Lifetime guarantee against defects in materials and workmanship.

**END OF SECTION**



**SECTION 11200**  
**SEWAGE VALVES**

**PART 1 – GENERAL**

1.01 SECTION INCLUDES

- A. Installation of valves as specified below.

**PART 2 – PRODUCTS**

2.01 PLUG VALVES

- A. All plug valves shall be eccentric plug valves with 100% full port unless otherwise specified.
- B. Valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall be furnished with mechanical joint end connections.
- C. Valve bodies shall be of ASTM A126 Class B cast iron. Bodies in 4" and larger valves shall be furnished with a 1/8" welded overlay seat of not less than 90% pure nickel. Seat area shall be raised, with raised surface completely covered with weld to insure that the plug face contacts only nickel. Screwed-in seats shall not be acceptable.
- D. Plugs shall be of ASTM A126 Class B cast iron. The plug shall have a cylindrical seating surface eccentrically offset from the center of the plug shaft. The interference between the plug face and body seat, with the plug in the closed position, shall be externally adjustable in the field with the valve in the line under pressure. Plug shall be resilient faced with neoprene or hycar, suitable for use with sewage.
- E. Valves shall have sleeve type metal bearings and shall be of sintered, oil impregnated permanently lubricated Type 316 ASTM A743 Grade CF-8M or AISI Type 317L stainless steel. Non-metallic bearings shall not be acceptable.
- F. Valve shaft seals shall be of the multiple V-ring type and shall be externally adjustable and repackable without removing the bonnet or actuator from the valve under pressure. Valves utilizing O-ring seals or non-adjustable packing shall not be acceptable.
- G. Valve pressure ratings shall be 175 psi through 12" and 150 psi for 14" through 72". Each valve shall be given a hydrostatic and seat test with test results being certified when required by the specifications.

- H. Non-buried manual valves shall have handwheel gear actuators. Buried valves shall be provided with tee wrenches and extension stems. All valves 6" and smaller may be equipped with gear actuators. All manual actuators shall be rated for the full pressure rating of the valve. All gearing shall be enclosed in a semi-steel housing and be suitable for running in a lubricant with seals provided on all shafts to prevent entry of dirt and water into the actuator. The actuator shaft and the quadrant shall be supported on permanently lubricated bronze bearings. Actuators shall clearly indicate valve position and an adjustable stop shall be provided to set closing torque and to provide seat adjustments to compensate for change in pressure differential or flow direction change. All exposed nuts, bolts and washers shall be zinc plated.
- I. Valves and gear actuators for buried or submerged service shall have seals on all shafts and gaskets on the valve and actuator covers to prevent the entry of water. Actuator mounting brackets for buried or submerged service shall be totally enclosed and shall have gasket seals. All exposed nuts, bolts, springs and washers shall be stainless steel.
- J. All valves shall be as manufactured by DeZURIK or approved equal.

#### 2.03 FLANGED COUPLING ADAPTERS

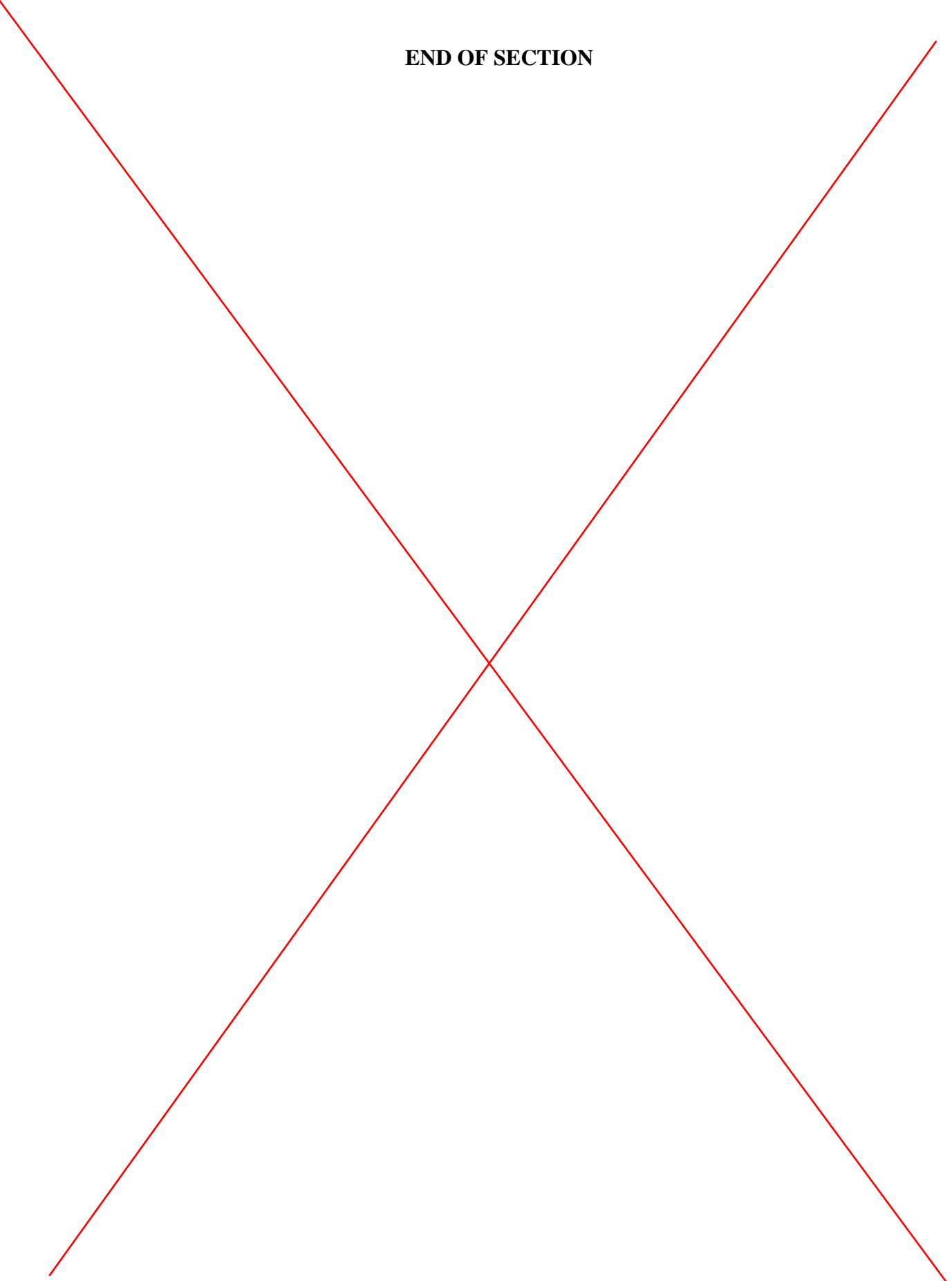
- A. Flanged coupling adapters shall be ductile iron with high strength low alloy steel bolts.
- B. Coupling gaskets shall be Styrene-Butadiene Rubber (SBR) per ASTM D-2000.
- C. Flanged coupling adapters shall be manufactured by Ford, JCM or approved equal.

### **PART 3 – EXECUTION**

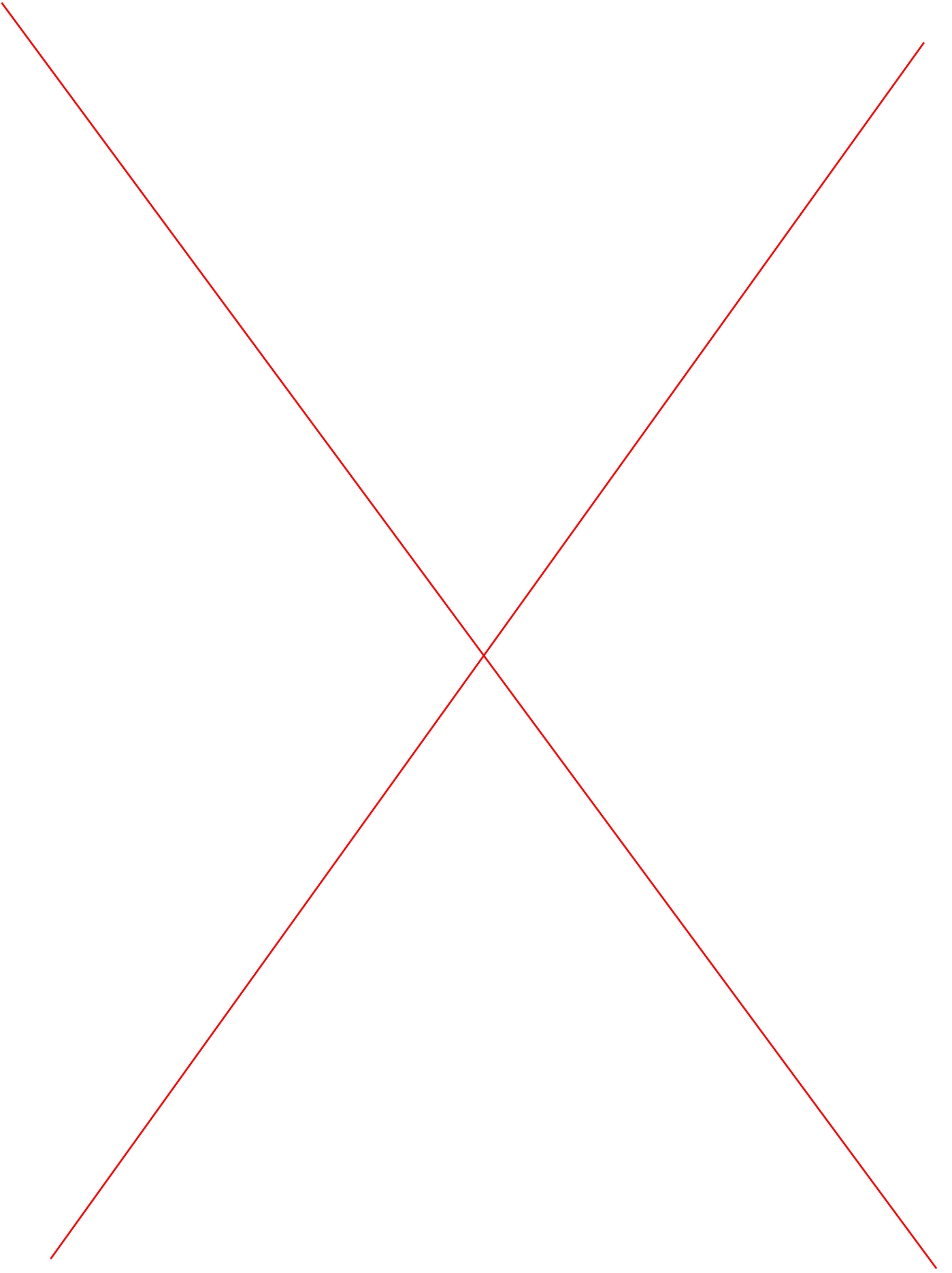
#### 3.01 GENERAL INSTALLATION

- A. Valves shall be installed per manufacturer's recommendations.
- B. Buried plug valves shall be installed with a cast iron valve box.
- C. Buried valves shall include mechanical joint ends. All valves for aboveground or vault installation shall include flanged ends.
- D. Valves shall be plumbed for level installation so as not to place end connection in a bind.
- E. Valves in vault shall be equipped with removable operating handles.

**END OF SECTION**







## SECTION 11395

### SUBMERSIBLE SEWAGE GRINDER PUMPS

#### PART 1 – GENERAL

##### 1.01 DESCRIPTION

- A. The contractor shall furnish and install all labor, materials, equipment and incidentals required to provide two (2) submersible centrifugal grinder pumps in a precast wet well as shown on the Contract Drawings.
- B. The Contractor shall supply a control panel which contains all necessary components for proper starting and operation of the pump including start capacitors, start relays, and run capacitors for single phase pumps. This panel shall provide a circuit that monitors the seal sensors and heat sensors in the pump.
- C. Each pump shall be equipped with a stainless steel nameplate.

##### 1.02 OPERATING CONDITIONS

- A. Each pump shall be rated 3 HP, 230 volts, single phase, 60 hertz, 3490 rpm.
- B. Each pump unit shall produce 30 gpm at 80 feet TDH.

##### 1.03 GUARANTEE

- A. The manufacturer of the pump station shall have a minimum of five years experience in the design and manufacture of vacuum priming type factory-built automatic pump stations and shall guarantee the structure and all equipment to be free from defects in materials and workmanship for a period up to one year from the date of start-up, not to exceed 18 months from the date of shipment.
- B. Warranties and guarantees of suppliers of various components in lieu of a single source responsibility by the pump station manufacturer will not be accepted. The pump station manufacturer shall be solely responsible for the guarantee of the station and all components.

In the event a component fails to perform as specified or is proven defective in service during the guarantee period, the pump station manufacturer shall provide a replacement part without cost to the owner. He shall further provide, without cost, such labor as may be required to

replace, repair or modify major components such as pumps, pump motors or controls.

## **PART 2 – PRODUCTS**

### **2.01 DESIGN**

- A. Each pump shall be a centrifugal, submersible, grinder, wastewater type, model SEG.A20.40 as manufactured by Grundfos, or approved equal.
- B. Discharge shall be 1-1/4" NPT.
- C. Each pump shall have a guide claw attached to the pump discharge flange. A replaceable nitrile rubber seal shall be provided as an integral part of the guide claw to form a seal with the base plate. Metal to metal contact surfaces at pump discharge are not acceptable.
- D. The guide claw shall direct the pump down by two vertical guide rails to the discharge connection in a simple linear movement. The pump shall fit the base plate in a tilted position to prevent air in the pump housing. No portion of the pump shall be supported directly on the bottom of the wetwell, guide rails or lifting chain.
- E. A cast iron or stainless steel base plat with integral guide rail holders shall be provided. The base plate shall be designed with an integral 90° elbow, or adapt to a commercially available elbow.
- F. For each pump, adequate length of lifting chain shall be included. The lifting chain must be dimensioned with a 2:1 safety factor.

### **2.02 PUMP CONSTRUCTION**

- A. The pump housing shall be of cast iron according to ASTM A48, Class 25B. Without the use of tools, the pump housing shall be easily removable from the motor housing for full inspection of impeller and/or shaft seal.
- B. The grinder system shall have two primary cutter blades in front of the inlet to the pump and two secondary cutter blades inside the pump housing for sufficient grinding of destructible items. Pump free passage of impurities shall not be less than 0.2 inch spherical.
- C. The impeller design shall be semi-open centrifugal flow design, with trimming system for adjustable impeller clearance back to factory settings. Impeller material shall be cast iron, according to ASTM A48, Class 25B.
- D. Other major pump components shall be of cast iron ASTM A48, Class 25B.

Lifting bracket and all exposed fasteners and lock washers shall be of stainless steel.

## 2.03 MOTOR

- A. The motor shall be watertight, totally encapsulated according to IEC class IP 68 and NEMA MG1, Part 31, and incorporate Class F insulation materials rated for 311°F (155°C).
- B. The pump and motor shall be able to operate continuously submerged and capable of handling liquids with a maximum temperature of 104°F (40°C).
- C. Stator housing shall be of cast iron according to ASTM A48 Class 25B. The rotor shall be solid cast and dynamically balanced. Shaft ends shall be with adjusting system for trimming of impeller clearance.
- D. The pump shaft shall be of stainless steel or high-tensile steel in which case the shaft shall be fully protected against contact with the pumped liquid. Shaft bearings shall be permanently grease lubricated and sealed.
- E. Double mechanical shaft seals of the cartridge type shall be provided in stainless steel housing and positioned inside the oil chamber. The seals shall be oil-lubricated and the seal springs shall be operating in the oil fully protected against contact with the pumped liquid. The seals shall allow for rotation in either direction. All static seals at watertight joints shall be of nitrile O-ring type.
- F. The pump shall be equipped with a moisture-proof stainless steel cable plug where the unscreened conductors of the cable are cast into the plug by means of a two-component sealant to prevent moisture from entering the motor via the cable core. The use of supply cable with leads that are not unscreened and embedded into a moisture-proof two-component sealant is not acceptable as water can flow directly into the terminal box during a flooding situation. The pump and electric cables shall be capable of continuous submergence without loss of waterproof integrity to a depth of 65 feet.
- G. The motor shall have internal protection devices consisting of thermo switches embedded in the stator windings. A mechanically activated moisture switch shall be positioned in the lower part of the stator housing for FM-approved motors.
- H. The service factor shall be a minimum of 1.15. A voltage tolerance of plus or minus 10% shall be allowed for the motor. Operation up to 104°F ambient temperature with a motor temperature rise not to exceed 239°F shall be acceptable.

- I. Design of power cable shall be according to UL Standard 62, ASTM B3 and ASTM B8 and NEMA standards. The length of the power cable shall be sufficient in order to reach the junction box without the needs to splice it with another cable.
- J. The power provided by the motor shall be adequate. That is providing enough power to ensure that the pump is not overloading throughout the pump performance curve from 0 to maximum flow rate.

#### 2.04 GRINDER SYSTEM

- A. The grinder system shall be easy replaceable and consist of a stationary ring and a rotation head made of hardened stainless steel AISI 630. The stationary ring shall be easily replaceable with only one screw and it shall have two guiding channels and two primary cutter blades on the inlet side. On the back side the stationary ring shall have two guiding channels and two secondary cutter blades. The rotating head shall have two long spiral cutting edges to make the two primary and the two secondary cut in each rotation. The rotation head shall keep the impeller in the exact trimmed position and fastened with only one screw.

#### 2.05 POWER CABLE

- A. The power cable shall include all sensor leads when additional sensors are required and must be designed for use with submersible pumps and shall be capable of continuous submergence without loss of waterproof integrity to a depth of 65 feet. The cable shall allow a maximum conductor temperature of +194°F and a minimum temperature of -58°F. The conductor shall be stranded plain copper conductor according to UL Standard 62, ASTM B3, and ASTM B8. The insulation shall be extruded rubber compound according to UL Standard 62, ASTM B3 and ASTM B8.

#### 2.06 BEARINGS

- A. Rotation of pump shaft shall be by means of ball bearings. Motor bearings shall be permanently greased for life.
- B. The main bearing and the support bearing shall be single-row deep-groove ball bearing.

#### 2.07 SHAFT SEAL

- A. Double mechanical shaft seals of the cartridge type shall be provided in stainless steel housing and positioned inside the oil chamber. Materials of polymer shall not be accepted.

- B. The pump shall have a primary and secondary shaft seal capable of rotating in both directions.
- C. The materials combination of the primary shaft seal shall be silicon carbide/ silicon carbide (SiC/SiC). For the secondary shaft seal, the material combination shall be carbon/ ceramic.
- D. Sealing between the seal faces shall be based on extremely smooth and flat contact surfaces. The surfaces shall be in such close contact that no or only a minute leakage can pass between them. The flatness and smoothness of the seal faces shall be in the magnitude of 0.0005 mm and the faces shall be finished by lapping.
- E. The shaft seal shall be placed in the oil chamber of the pump. The oil chamber shall provide a reliable sealing between the pumped liquid and the motor.

## 2.08 IMPELLER

- A. The impeller shall be of cast iron according to ASTM A48, Class 25B. The impeller shall be designed as symmetrical multi-vane winglets impeller of the semi-open design capable of running against at maximum capacity without overloading the motor. To ensure high efficiency over time and low overall operational and running costs, grinder pumps fitted with semi-open impeller shall be equipped with a trimming system for adjusting impeller clearance.
- B. The impeller shall be keyed to the shaft and have an impeller bolt for locking the impeller to the shaft. The impeller shall be capable of passing a minimum of 0.2 inch diameter solid spherical.

## 2.09 VOLUTE

- A. The volute shall be a single-piece cast iron according to ASTM A48, Class 25B. The volute must be non-concentric design with smooth passages large enough to pass any solids that may pass the grinder system. The inlet and discharge size shall be according to the requirements.

## 2.10 PROTECTION

- A. The motor shall have internal protection devices consisting of thermo switches embedded in the stator windings. These shall open at 275°F thus stopping the motor.

## **PART 3 – EXECUTION**

### **3.01 FACTORY TESTS**

- A. All components of the pump station shall be given an operational test at the pump station manufacturer's facility to check for excessive vibration or leaks in the piping or seals, and to correct operation of the automatic control and vacuum priming systems and all auxiliary equipment. Installed pumps shall take suction from a deep wet well, simulating actual service conditions. The control panel shall undergo both a dry logic test and a full operational test with all systems operating.
- B. Factory test instrumentation must include flow measuring with indicator; compound suction gauge; bourdon tube type discharge pressure gauge; electrical meters to measure amperes, volts, kilowatts and power factor; speed indicator; and a vibrometer capable of measuring both amplitude and frequency.

### **3.02 INSTALLATION AND OPERATING INSTRUCTIONS**

- A. Installation of the pump chamber shall be done in accordance with the written instructions provided by the manufacturer.
- B. The Manufacturer shall supply three (3) copies of Operation and Maintenance manuals shall be furnished which will include parts lists of components and complete service procedures and troubleshooting guide.

### **3.03 START-UP**

- A. The pump station manufacturer shall provide complete start-up services. The pump station manufacturer representative or factory service technician will inspect the completed installation to determine if the installed equipment meets the purpose and intent of the specifications. Tests shall demonstrate that all equipment is electrically, mechanically, structurally and otherwise acceptable; the station installation is safe and in optimum working condition; and conforms to the specified operating conditions. The start-up technician shall instruct the Owner's personnel in the proper operation and maintenance procedures.

**END OF SECTION**

## SECTION 26 05 00

### COMMON WORK RESULTS FOR ELECTRICAL

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Basic electrical requirements specifically applicable to Divisions 26, (27 and 28 if included) in addition to General Requirements.

##### 1.02 WORK INCLUDED

- A. Provide all material, labor, and equipment required to furnish and install a complete electrical system as indicated on Drawings and as specified herein.
- B. Electrical work includes, but is not limited to, the following:
  - 1. Complete distribution system for lighting and power including necessary switchboards, secondary transformers, feeders, panelboards, branch circuits, lighting fixtures, control switches and receptacles, control systems, and motor controllers.
  - 2. Excavation, trenching, backfilling, and concrete encasement for conduits and/or cables.
  - 3. Grounding and bonding.
  - 4. Raceways for telephone, telemetry, security, entry, and communication systems.
  - 5. Power wiring for and connecting to the equipment which is furnished under Division 26. All control equipment, control wiring, and associated conduit shall be provided and installed under Division 26. Where substitutions are made by Division 26 trade, any relative cost changes for Division 26 shall be the responsibility of Division 26.
  - 6. Rough-in and make final connections for all equipment furnished by the Owner and under other divisions.



### 1.03 RELATED WORK

- A. The following work shall be furnished under other Divisions of these Specifications but shall be coordinated with said Divisions by Division 26 tradesman prior to bid.
  - 1. Flashing of conduits into roofing and outside walls.
  - 2. Routing of conduits/raceways to avoid interferences with other Divisions.
  - 3. Concrete foundations, curbs and pads.
  - 4. Painting, including outside lighting standards and poles.
  - 5. Cutting and patching.

### 1.04 DEFINITIONS

- A. Provide: As used shall mean “furnish, install and connect, test, and put in good working order.”
- B. Wiring: As used shall mean “wire and cable, installed in raceway with all required boxes, fittings, connectors, etc. completely installed.”
- C. Engineer: As used shall mean “Engineer of record whose seal is affixed to the contract specifications and/or drawings of Division 26”

### 1.05 REGULATORY REQUIREMENTS

- A. Equipment furnished shall be UL listed where such label is available. Installation shall conform to UL Standards where applicable.
- B. Electrical work shall be installed in accordance with Drawings and Specifications, compliant with the current edition of NEC in effect at project location, all applicable NFPA codes, state and local electrical and building codes and special codes having jurisdiction over specific portions within complete installation. This includes, but is not limited to the following:

National Electrical Code, NFPA 70 (2017 or Latest adopted version)  
Life Safety Code, NFPA 101  
NFPA Specific Applicable Codes (i.e. NFPA 79, NFPA 495, et al.)  
Standard Building Code and Amendments

In the event of conflict between Drawings, Specifications and such codes, Engineer shall be notified in writing prior to bid. A ruling will then be made by Engineer in writing.

- C. Installation compliant with to governing codes shall be the sole responsibility of the contractor.
- D. Obtain permits and certificates of approval from all authorities having jurisdiction over the installation and pay all fees required.

#### 1.06 SUBMITTALS

- A. Provide cover sheet with section number and name at top of the page. Cover sheet shall be used for stamping submittals and for comments. Provide separate cover sheet for each section.
- B. Submit list of materials and equipment prior to manufacture, order or installation and within twenty days after award of contract for approval. Include each item of material and equipment whether or not shop drawings are also required. List shall include manufacturer's name, catalog number and other complete identification as well as dimensions and detailed data.
- C. Submit at least four sets of specification sheets, blue line prints or data sheets for the following items, bound and identified according to Drawings and Specifications. Reproducibles shall be marked and returned for proper distribution. There shall be separate submittal section or brochure for each product listed below with all sections or brochures submitted for each product listed below submitted at the same time in one package. The first sheet in each product section or brochure shall summarize and list all components, manufacturer's name, and catalog number. Submittals shall include but not be limited to the following:

Lighting fixtures, bulbs, and poles

Transformers

Wiring devices and plates

Panelboards

Safety switches, Transfer switches, and Disconnects

Circuit breakers

Motor controls such as motor control centers, Variable frequency drives,  
Reduced voltage soft starters, and starters/contactors

Surge protective devices

Wire and Conduit

Screw/Tension connectors and terminal/splice blocks

- D. Certified shop drawings and submittals shall bear stamp of approval of Contractor as evidence that Drawings have been checked. Stamp shall identify Contractor's employee responsible for the stamp of approval. Drawings submitted without this stamp of approval or responsible employee's name will not be considered and will be returned for proper resubmission.
- E. If submittals show variances from the requirements of Contract, Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment. Otherwise Contractor shall not be relieved of responsibility for executing work in accordance with Contract even though such submittals have been approved.
- F. If shop drawings/submittals are returned to Contractor and stamped "Rejected, Revise, and/or Resubmit," the Contractor shall resubmit with appropriate corrections made to the shop drawings/submittals. If the shop drawings/submittals must be resubmitted more than twice, the cost of the Engineer's time to review the second resubmittal shall be paid by the Contractor based on the Engineer's published hourly rates.

#### 1.07 SITE VISIT

- A. Contractor shall visit job site prior to bid date to determine actual conditions under which work shall be done to familiarize oneself with project and to verify total scope of work required. Failure to do so shall not constitute a reason for any extra charge.

#### 1.08 TESTING AND INSPECTIONS

- A. Contractor shall assist in making periodic inspections or tests as required by the Engineer. When required, Contractor shall provide the assistance of supervisor and qualified personnel for reasonable duration of each test, etc. Cooperate with other Contractors in preventing premature operation of equipment like water process equipment, etc., which should be first run in presence of personnel responsible for each item.
- B. After wiring is completed, the Contractor shall test for shorts and open circuits and both intentional and unintentional grounds. All shorts, open circuits, and unintentional grounds shall be corrected.

#### 1.09 GUARANTEE

- A. Workmanship and materials shall be guaranteed for period of one year from date of official acceptance of contract. Be responsible for any adjustments, replacements, and corrections necessary to restore project to

first-class condition if deficiency is due to faulty workmanship or materials.

#### 1.10 EXCAVATION AND BACKFILLING

- A. Excavate trenches for underground conduit or cable to required depth and width. After conduit or cable has been installed, inspected, and approved, backfill trench with earth free of trash, rock, brick and debris, and compact as required. Under slab, follow compaction rules for general work on this project. Underground workmanship applies under slab; depth can be reduced, but provide full and complete encasement. Bond conduit to any membrane passed through.

#### 1.11 WORKMANSHIP

- A. All work shall be done in a thorough, substantial, and skillful manner by competent workers. Applicable rules of the latest adopted version of the National Electric Code apply as minimum standard for this contract but do not replace or reduce any specific requirement herein.

#### 1.12 INTERFERENCES

- A. The drawings are generally diagrammatic. Cooperate with other trades so that interferences of conduit, equipment, piping, etc., will be avoided. If interference develops, refer promptly to Engineer for decision.

### **PART 2 – PRODUCTS**

#### 2.01 CONDUCTORS AND GENERAL WIRING METHODS

- A. The contractor will use the following color convention:

DC Voltage – BLUE Colored insulation  
DC Ground – BLUE with WHITE STRIPE Colored insulation  
120VAC – RED and BLACK Colored insulation  
120/208VAC WYE - BLACK, RED, and BLUE Colored insulation  
240VAC, 3Ø - BLACK with tape or Colored insulation  
480VAC, 3Ø - BLACK with tape or Colored insulation  
Neutral – WHITE  
Ground – GREEN  
Foreign Power – YELLOW

1. Wires will be labeled at each termination point.
2. Wire labels will be machine-printed black lettering on white background. A clear film shall protect printing on each label. Hand written wire labels will not be permitted.
3. A standard panel/device label is: ABS Laminate, 1/16" layers, white face, black core, reversed engraved. A self-adhesive backing shall be provided on each label.
4. All labels shall have black lettering on a white background.
5. Lettering shall be 1/4" high on labels located inside panels.
6. Lettering shall be 1/2" high on labels identifying enclosures.
7. Lettering shall be 1/8" high on labels identifying operator switches, buttons, and indicators except emergency stop devices which shall be 1/4" high.
8. VDVE cables shall be shielded CAT6+ and shielded RG6 or better.
9. Fiber Optic connectors shall be Type SC.

C. Underground communications cabling located in a common trench shall be separated from other underground conduits by a minimum distance of 12 inches or per utility requirements - whichever is greater. Communications cables shall be bonded every 1,000 feet.

D. All Analog cabling shall be shielded. Attach cable shield to ground at Source end **ONLY**. Analog wiring shall be run in a separate wireway from digital and power wiring.

E. The contractor is responsible for supplying and installing components necessary to make a complete working system. This includes, but is not limited to transformers, conduit, wire, boxes, receptacles, wireway, covers, contact blocks, terminals, appropriately sized lugs, connectors, etc.

F. Remove/Demolish any unused wiring.

## 2.02 MOTOR WIRING METHODS

A. All motors, except plug and cord devices as defined in NFPA 70, shall have appropriate starting devices (motor starters, variable frequency drives, etc.) and overcurrent and overload protection.

## 2.03 GROUNDING AND BONDING

A. Ground and Bond the electrical system in accordance with the National Electric Code (NEC), along with any local and state codes.

## 2.04 CLEANING

- A. As required, clean all equipment or exposed material provided or installed under this section. Protect from any normal use of paint, mortar, etc.

## 2.05 MOTORS - GENERAL

- A. Electrical drawings/specifications show number and horsepower rating of motors furnished by this Contractor, together with their actuating devices if these devices are furnished by the Electrical Contractor. Should any discrepancy in size, horsepower rating, electrical characteristics or means of control be found for any motor or other electrical equipment after contracts are awarded, Contractor is to immediately notify the architect/engineer of such discrepancy. Costs involved in any changes required due to equipment substitutions initiated by this contractor will be the responsibility of this contractor.

## 2.06 THREE PHASE, SINGLE SPEED MOTORS

- A. Use NEMA rated, three phase, 60 hertz motors for all motors 1 HP and larger unless specifically indicated otherwise.
- B. Use NEMA general purpose, continuous duty, Design B , normal starting torque, T-frame or U-frame motors with Class B or better insulation unless the manufacturer of the equipment on which the motor is being used has different requirements. Use open drip-proof motors unless totally enclosed fan-cooled, totally enclosed non-ventilated, explosion-proof, or encapsulated motors are specified in the equipment sections.
- C. Use grease lubricated anti-friction ball bearings with housings equipped with plugged/capped provision for relubrication, rated for minimum AFBMA 9, L-10 life of 20,000 hours. Calculate bearing load with NEMA minimum V-belt pulley with belt center line at the end of NEMA standard shaft extension. Stamp bearing sizes on nameplate.
- D. All motors 1 HP and larger, except specially wound motors and inline pump motors 56 frame and smaller, to be high efficiency design with full load efficiencies which meet or exceed the values listed below when tested in accordance with NEMA MG 1.
- A. Provide IMI 640B01 4-20mA accelerometers/vibration sensors with necessary accessories for each non-submersible motor over 25HP. Connect to PLC/SCADA system as directed.

- B. Provide Integrated thermistors/temp overloads within windings capable of opening the contact of high temperature condition exists.

2.07 MOTORS USED ON SOLID STATE CONTROLLERS (SOFT STARTS OR VARIABLE FREQUENCY DRIVES)

- A. In addition to the requirements specified above, the motor must be suitable for use with the drive specified in Section 26 29 23.x, including but not limited to motor cooling. Motor shall comply with NEMA MG1 Part 31 to provide windings capable to withstand up to 1600 peak Volts with a rise time of 0.1  $\mu$ s.
- B. Provide AEGIS or approved equal bearing protection grounding rings to bleed current from the motor shaft to the motor ground for all motors 1 HP and larger unless specifically indicated otherwise.
- C. Feeder Conductors from controller to motor shall be UL-listed suitable for operation at 600 volts or less in wet or dry locations, at temperatures not to exceed 90°C. Conductors shall be annealed copper, as manufactured by Southwire Company, Simpull, or approved equal.

**PART 3 – EXECUTION**

- 3.01 Protect conduits against entry of debris; keep ends capped during construction; clear or replace obstructed conduits.
- 3.02 Size and install conduits so that conductors may be installed without damage or excessive strain, using NEC as a minimum standard. For rigid conduit, use double lock nut and bushings. For all conduits larger than 1", use grounding type insulation bushing. Entire conduit system shall provide a dependable path to ground. EMT fittings shall be watertight compression fittings. Crimped or setscrew types are not acceptable.
- 3.03 Ream ends after threading; make bends with an approved bending tool. Replace deformed bends or offsets. Avoid hot water pipes, stay at least 3" from covering of hot pipes except as crossing, then at least 1".
- 3.04 Install wire in conduit after all conduit work is completed. Powdered talc or other approved compound may be used as lubricant where necessary.
- 3.05 Make joints and splices in conductors with approved insulating type compression fittings, T&B, Sta-kon, or equal splice caps. Wire-nuts are not acceptable.
- 3.06 Conduit work, motor, panelboards, and electrical equipment are to be effectively and permanently grounded. Feeder conduits shall provide a good path to system ground.

3.07 The grounding screw on all grounding type receptacles shall be securely grounded to the outlet box with lug and screw or use self-grounding types.

3.08 Verify electrical continuity of all conduit runs and correct any discrepancies.

3.09 Use a properly calibrated tool when tightening or torquing terminal connections.

### 3.10 MOTOR INSPECTION

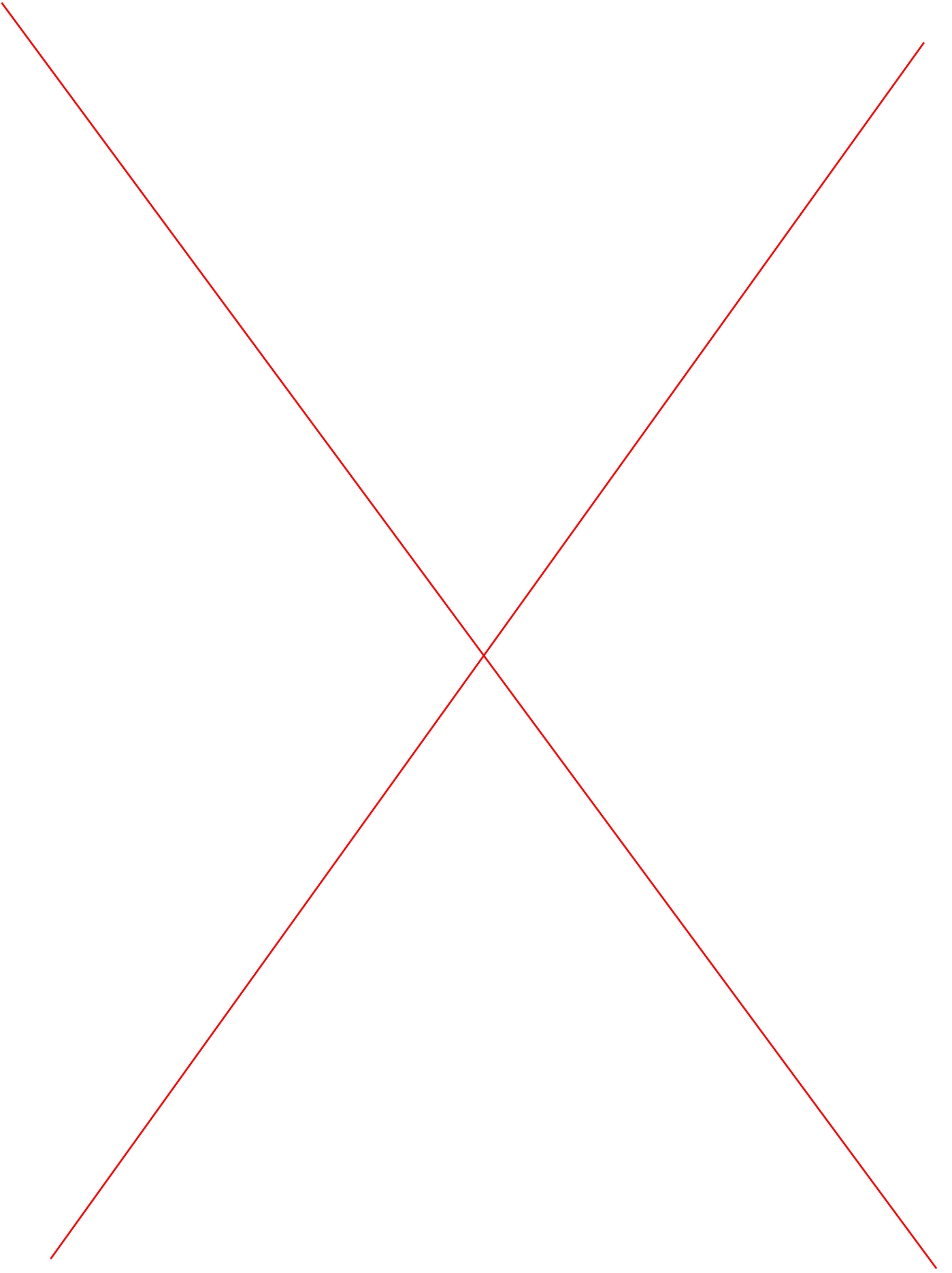
- A. Mount motors on a rigid base designed to accept a motor, using shims if required under each mounting foot to get a secure installation.
- B. When motor will be flexible coupled to the driven device, mount coupling to the shafts in accordance with the coupling manufacturer's recommendations. Using a dial indicator, check angular misalignment of the two shafts; adjust motor position as necessary so that the angular misalignment of the shafts does not exceed 0.002 inches per inch diameter of the coupling hub. Check the shaft for run-out to assure concentricity of the shafts; adjust as necessary so that run-out does not exceed 0.002 inch.
- C. Verify the proper rotation of each three-phase motor as it is being wired or before the motor is energized for any reason.
- C. Lubricate all motors requiring lubrication. Record lubrication material used and the frequency of use. Include this information in the maintenance manuals.

### 3.11 MOTOR INSTALLATION

- A. Proceed with installation only after unsatisfactory conditions have been corrected in manner acceptable to Engineer.
- B. Do not install Motors until the building environment can be maintained within the service conditions required by the manufacturer.
- C. Installation shall comply with manufacturer's instructions, drawings, and recommendations. Attach by bolting.
- D. Motor feeders shall be an uninterrupted, solid pull from the motor controller to the motor or motor disconnect. Splices in the motor feeder wires will not be accepted.

**END OF SECTION**





## SECTION 26 05 19

### LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

#### PART 1 - GENERAL

##### 1.01 PROVIDE SUBMITTALS

##### 1.02 SECTION INCLUDES

- A. All work specified in this section shall comply with the provisions of Section 26 05 00.
- B. Provide a complete system of conductors for lighting and power throughout building.
- C. All conductors shall be continuous from origin to panel or equipment termination without splices where possible. Where splices and taps are necessary or are required, they shall be made in splice boxes with suitable connectors by properly trained personnel.
- D. Refer to schedules and drawings for sizes of conductors.

##### 1.03 RELATED SECTIONS

- A. 26 05 33

#### PART 2 - PRODUCTS

##### 2.01 CONDUCTORS

- A. Provide 98% conductivity copper conductors with 600-volt insulation. All conductors shall have THHN/THWN 90° C insulation except motor feeders and unless noted otherwise. Type THHW 600-Volt copper wire for general use and types THHN 600-volt copper for High Ambient Temperature; where Contractor sizes conduit based on conductor required, basis is type THHW. Approved manufacturers are Southwire, Southwire Simpull, Allied Wire and Cable, or approved equal. Size, type, and trade name shall be stamped permanently at regular intervals on all conductors.
- B. Aluminum conductors shall not be used.

- C. Provide appropriately sized white colored neutral conductors where needed as neutrals may not specifically be shown on drawings.
- D. Provide appropriate color coded phase conductors for 120/240V single-phase wiring (red, white, black) and 120/208V wye conductors as black, red, and blue. Insulation shall be the necessary color. Colored tape on black wire is not permitted for these two voltages and systems.
- E. 480V wiring may be black with appropriately-colored marking tape.
- F. All ground wires shall have green insulation for all installations except grounding counterpoise wire which shall be bare copper.

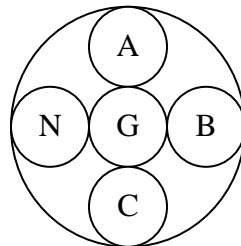
## 2.02 CABLE

- A. Type NM -"Romex", AC, BX shall not be used.

## PART 3 - EXECUTION

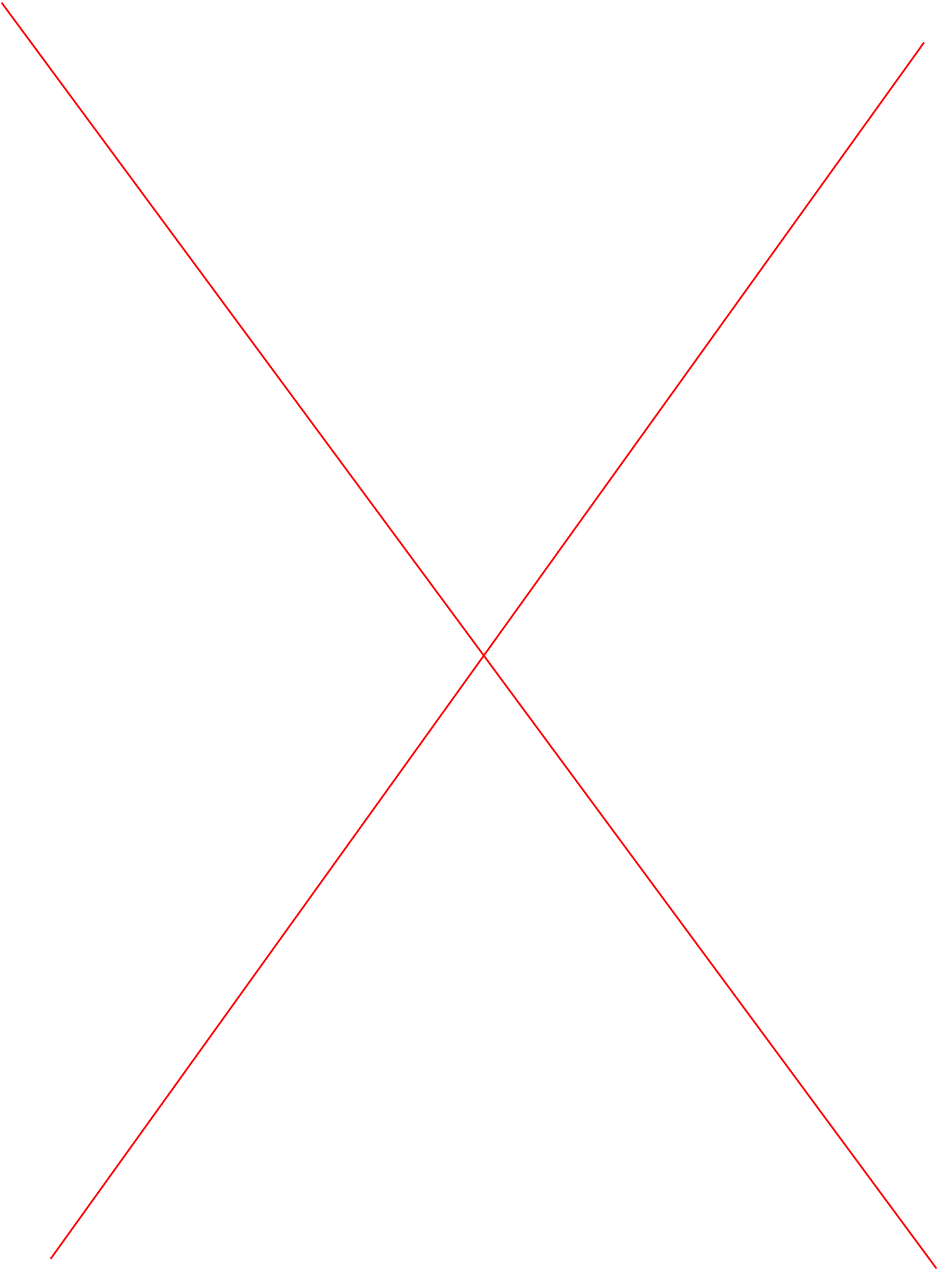
### 3.01 INSTALLATION

- A. Install pull boxes in circuits or feeders over 100' long.
- B. Make all splices or connection only at outlet, pull, or junction boxes.
- C. Use pulling compound to pull conductors. Pull all conductors into raceway at the same time.
- D. Deliver all conductors to jobsite new and in original wrapping, package, or reel.
- E. All conductors and connections shall test free of grounds, shorts, an opens.
- F. Primary feeder wiring shall be installed such that the phase and neutral conductors surround the ground conductor within the conduit.



- G. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100' linear length to prevent excessive voltage drop.
- H. Where wire nuts must be used for connections, use performance plus wire nut connectors with the following colors: Red/Yellow for sizes 22-8 AWG, Blue/Gray for sizes 14-6 AWG. Use ground nuts for grounds size 14-10 AWG.
- I. Make feeder taps and joints with type T, PT, PM, or PTS, or approved equivalent clamp connectors or with approved compression sleeves. Wrap connector with No. 10 approved plastic filler and vinyl tape.
- J. Leave a minimum of 8" slack wire in every outlet box whether it be in use or left for future use.
- K. Parallel conductors shall be grouped per CODE.

**END OF SECTION**



## SECTION 26 05 26

### GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

#### PART 1 – GENERAL

##### 1.01 DESCRIPTION

- A. This section specifies the general grounding and bonding requirements for electrical equipment and operations to provide a low impedance path for possible ground fault currents.
- B. “Grounding electrode system” refers to all electrodes required by NEC as well as made, supplementary, and lightning protection system grounding electrodes. The terms “connect” and “bond” are used interchangeably in this specification and have the same meaning.

##### 1.02 RELATED WORK

- A. All Electrical Specifications

##### 1.03 SUBMITTALS

- A. Shop Drawings:
  - 1. Clearly present enough information to determine compliance with drawings and specifications.
  - 2. Include the location of system grounding electrode connections and the routing of aboveground and underground grounding electrode conductors.
- B. Test Reports: Provide certified test reports of ground resistance.

##### 1.04 APPLICABLE PUBLICATIONS

The latest editions of the Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.

- A. American Society for Testing and Materials (ASTM):
  - B1.....Standard Specification for Hard-Drawn Copper Wire
  - B3.....Standard Specification for Soft or Annealed Copper Wire
  - B8.....Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
- B. Institute of Electrical and Electronics Engineers, Inc. (IEEE):

- 81.....IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
- 142.....Recommended Practice for Grounding of Industrial and Commercial Power Systems
- 1100.....IEEE Recommended Practice for Powering and Grounding Electronic Equipment
- C. National Fire Protection Association (NFPA):
  - 70.....National Electrical Code (NEC)
  - 70E.....National Electrical Safety Code (NEC)
- D. Underwriters Laboratories, Inc. (UL):
  - 44.....Thermoset-Insulated Wires and Cables
  - 83.....Thermoplastic-Insulated Wires and Cables
  - 467.....Grounding and Bonding Equipment
  - 486A/B.....Wire Connectors

## **PART 2 – PRODUCTS**

### **2.01 GROUNDING AND BONDING CONDUCTORS**

- A. Equipment grounding conductors shall be UL 44 or UL 83 insulated stranded copper, except that sizes No. 10 AWG and smaller shall be solid copper. Insulation color shall be continuous green for all equipment grounding conductors with sizes as shown on drawings.
- B. Bonding conductors shall be ASTM B8 bare stranded copper, except that sizes No. 10 AWG and smaller shall be ASTM B1 bare drawn solid copper wire (BDSC).
- C. Conductor sizes shall not be less than shown on the drawings, or not less than required by the NEC - whichever is greater.
- D. Isolated Power Systems (if applicable): Type THHN insulation with a dielectric constant of 3.5 or less.
- E. Grounding Electrode Conductors exposed to physical damage as in NEC 2017 250.64 shall be protected within PVC 80 conduit.

### **2.02 GROUND RODS**

- A. Copper clad steel, 10 mil minimum cladding, 0.75 inches in diameter by 10 ft long, conforming to UL 467.

- B. Quantity of rods shall be as required to obtain the specified ground resistance. Layout as shown on the drawings.

#### 2.03 ELECTRODES NOT ALLOWED

Concrete encased electrodes shall not be allowed as the sole means of grounding/earthing. Structural steel or steel structures shall not be used as a grounding electrode. Underground metallic gas piping shall not be used as a grounding electrode.

#### 2.04 CONNECTIONS

- A. Below Grade Rods: Exothermic-welded type connectors covered with lightweight polymer concrete 6"x6" open bottom box with removable top access cover for ground rod inspection.

- B. Above Grade:

1. Bonding Jumpers: Compression-type connectors using copper or copper clad fasteners and external tooth lock washers.
2. Connection to Building Steel: Exothermic-welded type connectors.
3. Ground Busbars: Two-hole compression type lugs, using tin-plated copper or copper alloy bolts and nuts.
4. Rack and Cabinet Ground Bars: One-hole compression-type lugs, using zinc-plated or copper alloy fasteners.

- C. Coat all welded and mechanical connections with Copper Surface Treatment to prevent oxidation. Mechanical connections shall be applied after coating is applied.

#### 2.05 EQUIPMENT RACK AND CABINET GROUND BARS

- A. Provide solid copper ground bars designed for mounting on the framework of open or cabinet-enclosed equipment racks with minimum dimensions of 0.375 in thick x 0.75 in wide.

#### 2.06 GROUND TERMINAL BLOCKS

- A. Provide screw lug-type terminal blocks at any equipment mounting location (e.g., backboards and hinged cover enclosures) where rack-type ground bars cannot be mounted. Tighten per manufacturer's recommended specifications.



## 2.07 GROUNDING BUS

- A. Pre-drilled rectangular copper bar with stand-off insulators, minimum 0.25 in thick x 4 in high in cross-section, length as shown on drawings, with 0.281 in holes spaced 1.125 in apart.

## 2.08 MOTOR GROUNDING

- A. Bond motor case to nearest ground using appropriately sized solid bonding conductor. (minimum #8.) Bond rings using appropriately sized solid bonding conductor (minimum #8.)

## 2.09 EXISTING GROUNDING EQUIPMENT

- A. Bonding buried steel to buried copper conductors and ground rods sets up a galvanic cell which will corrode steel. If contractor finds existing grounding components to remain in materials other than copper, notify engineer immediately.

## **PART 3 – EXECUTION**

### 3.01 GENERAL

- A. Ground in accordance with the NEC, as shown on drawings, and as specified herein.
- B. System Grounding:
  - 1. Secondary service neutrals: Ground at the supply side of the secondary disconnecting means and at the related transformers.
  - 2. Separately derived systems (transformers downstream from the service entrance): Ground the secondary neutral.
- C. Equipment Grounding: Metallic structures including ductwork, building steel, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits shall be bonded and grounded.

### 3.02 INACCESSIBLE GROUNDING CONNECTIONS

- A. Make grounding connections, which are normally buried or otherwise inaccessible (except connections for which access for periodic testing is required), by exothermic weld.

### 3.03 GROUND RESISTANCE

- A. Grounding system resistance to ground of twenty-five (25) ohms or less shall be considered as the **minimum** and a resistance of five (5) ohms or less shall be the **goal**. Make any modifications or additions to the grounding electrode system necessary for compliance without additional cost to the Customer. Final tests shall ensure that this requirement is met.
- B. Services at power company interface points shall comply with the power company ground resistance requirements.
- C. Below-grade connections shall be visually inspected by the Project Engineer prior to backfilling. The **Contractor** shall notify the Project Engineer 24-hours before the connections are ready for inspection.

### 3.04 GROUND ROD INSTALLATION

- A. For outdoor installations, drive each rod vertically in the earth, until top of rod is 2 inches below final grade.
- B. For indoor installations, leave 4 in of rod exposed.
- C. Where rock prevents the driving of vertical ground rods, install angled ground rods or grounding electrodes in horizontal trenches to achieve the specified resistance.
- D. Where multiple ground rods constituting a grounding counterpoise are specified or required, the linear distance between rods shall be less than the length of the shortest rod but shall in no case be less than six (6) feet. Minimum conductor size for interconnection of multiple ground rods in a ring arrangement for an augmented grounding system shall be not less than #4 AWG.

### 3.05 SECONDARY VOLTAGE EQUIPMENT AND CIRCUITS

- A. Main Bonding Jumper: Bond the secondary service neutral to the ground bus in the service equipment.
- B. Metallic Piping, Building Steel, and Supplemental Electrode(s):
  - 1. Provide a grounding electrode conductor sized per NEC between the service equipment ground bus and all metallic water pipe systems, building steel, and supplemental or made electrodes. Provide jumper insulating joints in the metallic piping. All connections to electrodes shall be made with fittings that conform to UL 467.

2. Provide a supplemental ground electrode and bond to the grounding electrode system.
- C. Service Disconnect (Separate Individual Enclosure): Provide a ground bar bolted to the enclosure with lugs for connecting the various grounding conductors.
- D. Switchgear, Switchboards, Panelboards, Motor Control Centers, Panelboards, Engine-Generators, and Transfer Switches:
1. Connect the various feeder equipment grounding conductors to the ground bus in the enclosure with suitable pressure connectors.
  2. For service entrance equipment, connect the grounding electrode conductor to the ground bus.
  3. Provide ground bars, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.
  4. Connect metallic conduits that terminate without mechanical connection to the housing, by grounding bushings and grounding conductor to the equipment ground bus.
- E. Transformers
1. Exterior: Exterior transformers supplying interior service equipment shall have the neutral grounded at the transformer secondary. Provide a grounding electrode at the transformer.
  2. Separately derived systems (transformers downstream from service equipment): Ground the secondary neutral at the transformer. Provide a grounding electrode conductor from the transformer to the nearest component of the grounding electrode system or to the ground bar at the service equipment.

### 3.06 RACEWAY

- A. Conduit Systems:
1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor.
  2. Non-metallic conduit systems, except non-metallic feeder conduits that carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment, shall contain an equipment grounding conductor.

3. Conduit that only contains a grounding conductor, and is provided for its mechanical protection, shall be bonded to that conductor at the entrance and exit from the conduit.
  4. Metallic conduits which terminate without mechanical connection to electrical equipment housing by means of locknut and bushings or adapters, shall be provided with grounding bushings. Connect bushings with a bare grounding conductor to the equipment ground bus.
- B. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders and power and lighting branch circuits.
- C. Boxes, Cabinets, Enclosures, and Panelboards:
1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes (except for special grounding systems for intensive care units and other critical units shown).
  2. Provide lugs in each box and enclosure for equipment grounding conductor termination.
- D. Wireway Systems:
1. Bond the metallic structures of wireway to provide 100% electrical continuity throughout the wireway system, by connecting a No. 6 AWG bonding jumper at all intermediate metallic enclosures and across all section junctions.
  2. Install insulated No. 6 AWG bonding jumpers between the wireway system, bonded as required above, and the closest building ground at each end and approximately every 50 ft.
  3. Use insulated No. 6 AWG bonding jumpers to ground or bond metallic wireway at each end for all intermediate metallic enclosures and across all section junctions.
  4. Use insulated No. 6 AWG bonding jumpers to ground cable tray to column-mounted building ground plates (pads) at each end and approximately every 49 ft.
- E. Receptacles shall not be grounded through their mounting screws. Ground receptacles with a jumper from the receptacle green ground terminal to the device box ground screw and a jumper to the branch circuit equipment grounding conductor.

- F. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.
- G. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.
- H. Raised Floors: Provide bonding of all raised floor components (if applicable).
- I. Install code size green grounding conductors in all branch circuits feeding receptacles, motors or other permanently wired fixed electrical utilization equipment and all feeder circuits. Bond conductors to chassis of fixed equipment. All grounding conductors shall be bonded to multi-terminal ground bus at panelboard or service wire trough. Grouping of grounding conductors under a single lug is not acceptable.
- J. All separate grounding electrodes shall be bonded together to limit potential differences between them and between their associated wiring systems. This includes the power system, telephone system, fire protection system, etc.
- K. Connect reinforcing steel in foundation footing to ground electrode conductor. Metal cladding (siding) and framework shall be bonded.
- L. Underground metallic gas piping shall not be used as a Grounding Electrode. All metallic gas piping installed above ground shall be bonded after the shutoff valve per NEC 250.104(B).

### 3.07 EXTERIOR LIGHT POLES

- A. Provide 20 ft of No. 4 bare copper coiled at bottom of pole base excavation prior to pour, plus additional unspliced length in and above foundation as required to reach pole ground stud.

**END OF SECTION**

## SECTION 26 05 29

### HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

#### **PART 1 – GENERAL**

##### 1.01 PROVIDE SUBMITTALS

##### 1.02 WORK INCLUDED

- A. Provide a system of supporting devices and hangers to provide secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, outlet boxes, junction boxes, cabinets, etc.

#### **PART 2 - PRODUCTS**

##### 2.01 ACCEPTABLE MANUFACTURERS

- A. Supporting devices and hangers. Provide equipment from the following:
  1. Vertical flange clamps (beam clamps).
  2. “Z” purlin clips.
  3. Conduit clips.
  4. Universal clamps (Beam clamps).
  5. Beam clamps (set screw type).
  6. Combination push-in conduit clips.
  7. Combination conduit hanger clamps.
  8. Flexible conduit clips.
  9. Special combination conduit clips.
  10. One-hole steel straps.
  11. Minerallac conduit hangers.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

- A. Secure conduits to within 3' of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10') and in accordance with currently effective edition of the National Electric Code. In seismic zones, support conduits 1" and under at 6' intervals.
- B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drop rods and hangers or racks to support conduits run apart from the structure.
- C. Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc.
- D. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat if appropriate to match the surrounding metal surfaces.
- E. Use of chains, perforated iron, baling wire, or tie wire for supporting conduit runs will not be permitted.
- F. For support of low voltage wiring not required to be in conduit, Contractor to bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables to be supported with "J" hooks on telephone type bridle rings, a minimum of 6 feet on centers. Contractor to clearly identify all differing types of cables being run and tag them with tape tags regarding telephone, security, data processing, television, etc. for various system utilizing said cable. Identification tape to be provided at minimum intervals of 25 feet on center and within each building space.

**END OF SECTION**

## SECTION 26 05 33

### RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

#### **PART 1 - GENERAL**

##### 1.01 SECTION INCLUDES

- A. Metal conduit
- B. Flexible metal conduit.
- C. Liquidtight flexible metal conduit
- D. Electrical metallic tubing
- E. Nonmetallic conduit
- F. Flexible nonmetallic conduit
- G. Fitting and conduits

#### **PART 2 - PRODUCTS**

##### 2.01 ACCEPTABLE MANUFACTURERS

- A. Rigid, IMC, and EMT conduit shall be hot-dipped, galvanized, or electrogalvanized steel by Allied, Republic, Triangle, Wheatland, or approved equal.
- B. PVC conduit shall be Schedule 80, 90 degrees C rated, unless otherwise noted.
- C. Associated couplings, connectors and fitting shall be steel as manufactured by Raco, Hubbell, or equal. Catalog numbers used below are those of Raco.
- D. Series 1502 couplings shall be used where neither length of conduit can be rotated.
- E. Insulated bushings shall be Series 1402.
- F. EMT box connectors shall be compression fittings ONLY. Set screw couplings shall not be used.



G. Conduit, connectors, couplings and fittings shall be UL listed and labeled.

H. Explosion proof raceways, conduit, and accessories shall be Carton, Raco, or approved equal.

2.02 ELECTRICAL METALLIC TUBING (EMT)

A. Use electric metallic tubing (EMT) where drawings call for conduit to be:

1. Installed above suspended ceilings.

2.03 INTERMEDIATE METAL CONDUIT (IMC)

A. Do not use IMC. See 2.04 RSC.

2.04 RIGID STEEL CONDUIT (RSC)

A. Use rigid steel conduit where drawings call for conduit to be:

1. Exposed to severe mechanical damage.
2. Riser conduit sweeps exiting earth.
3. Installed for panelboard feeders.
4. Installed in hazardous areas.
5. Installed in concrete slabs at ground floor.
6. Installed exposed below 6 feet.
7. Installed in wet locations.

2.05 POLYVINYL CHLORIDE (PVC)

A. Use PVC 80 for:

1. Underground service entrance conduits for power.
2. Underground service entrance conduits for Voice, Data, and Video cabling.
3. Exterior branch circuits installed underground
4. Down conductors for lighting protection system

2.06 FLEXIBLE METAL TUBING

- A. Provide flexible metal conduit for termination at equipment subject to motion and vibration.
- B. Conduit shall be electrically continuous from outlet or conduit end to utilization equipment.
- C. Length shall not exceed 6 feet.
- D. Where exposed to continuous or intermittent moisture, conduit shall be U.L. Type EF liquid tight.

2.07 SURFACE METAL RACEWAYS

- A. Use surface metal raceway systems in areas where multiple outlet assemblies are required by drawings and for extension of circuits along existing walls.

2.08 PULL/JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- B. Surface-Mounted Cast Metal Box: NEMA 250, Type 4; flat-flanged, surface-mounted junction box.
- C. In-Ground Cast Metal Box: NEMA 250, Type 6, inside flanged, recessed cover box for flush mounting.
  - 1. Material: Galvanized cast iron
  - 2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.
  - 3. Cover Legend: ELECTRIC
- D. Fiberglass: Die-molded fiberglass pull/junction boxes installed flush with earth
  - 1. Cover: Fiberglass weatherproof cover with nonskid finish.
  - 2. Cover Legend: ELECTRIC
- E. Manufacturers: Quazite, Hubble or equal.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

- A. Minimum size of conduits shall be  $\frac{3}{4}$  inch.
- B. Conduit joints shall be cut square, threaded, reamed smooth, and drawn tight so conduit ends will butt in couplings, connectors, and fittings.
- C. Make bends or offsets with standard ells or field bends with an approved bender.
- D. Run concealed conduits in direct line with long sweep bends or offsets. Run exposed conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks.
- E. Secure conduits to all boxes and cabinets with double locknuts and bushings so system will be electrically continuous from service to all outlets.
- F. Conductors in metallic raceways shall be grouped to prevent induction per NEC 300.20.
- G. Provide grounding bushings on all conduits in critical areas in accordance with NEC.
- H. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
- I. Complete conduit systems before pulling conductors.
- J. Support conduits as specified in 26 05 29.
- K. Provide cable supports in conduits rising vertically in accordance with the National Electrical Code, Article 300-19.
- L. Provide No. 12 AWG copper pull wires or 1/4" nylon cord in all empty conduits. Steel wire not acceptable as pull wire.
- M. Conduits which pass through floor slabs (except ground floor) shall be sealed with concrete grout. Seal around conduits or other wiring materials passing through partitions, which extend to the underside of the slab above, and those passing through smoke partitions and fire-rated walls. Refer to appropriate details on architectural and mechanical drawings.

- N. Conduits which enter crawl spaces, tunnels, and basements from outside the building shall be grouted-in to prevent entry of gases, vapors, insects, or rodents to these spaces from street mains.
- O. Where IMC conduit is installed in a cabinet, junction box, pull box, or auxiliary gutter conductors shall be protected by an insulated bushing. Locknuts shall be installed on conduit outside and inside enclosure.
- P. In areas where enclosed, gasketed fixtures and weatherproof devices are specified where rigid conduits enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated hub, complete with recessed sealing "O" ring or sealing locknut shall be used.
- Q. Where conduits stub up in conduit space beneath switchgear and do not connect directly to equipment enclosures, use malleable iron nylon insulated ground bushing with a lay-in lug design complete with bonding screw, Raco Series 1212.
- R. In concrete slabs, block up conduit from forms and securely fasten in place. All conduits in slabs shall have a minimum of 1-1/2 inches concrete coverage above and below.
- S. Where conduits running overhead pass through building expansion joints they shall be connected by flexible metal conduit of same size with sufficient slack to allow conduits on either side of expansion joint to move a minimum of 3 inches in any direction. Provide supports as required on each side of expansion joint, all in accordance with seismic requirements of specific area.
- T. Conduits for feeders and branch circuits shall be terminated directly into panelboard enclosure without the use of pull boxes, junction boxes, wireways, or auxiliary gutters, unless the panelboard enclosure does not provide sufficient surface area for all conduits. Where such cases exist, the contractor shall notify the Engineer. In no case shall splices in such boxes, wireways, etc., be permitted.
- U. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit, and fixtures shall fit into available spaces in building and shall not be introduced into building at such time and manner as to cause damage to structure. Equipment requiring servicing shall be readily accessible.

### 3.02 EMT

- A. Do not use electric metallic tubing in cinder concrete or cinder fill or where conduit system is in contact with dissimilar metals or in wet locations.

### 3.03 PVC

- A. Use threaded fittings for all connectors and adapters.
- B. Provide code sized ground conductors in all power conduit runs.
- C. Provide ¼ -inch nylon pull rope in all primary power and incoming telephone service entrance conduits.
- D. Encase all PVC conduits in reinforced concrete with a minimum of 4-inch encasement on all sides except exterior branch circuits or as per drawings.
- E. No PVC shall emerge from the ground or the concrete slab or encasement. PVC shall convert to galvanized rigid metal prior to its emergence.

### 3.04 FLEXIBLE METAL CONDUIT

- A. Conduits shall be ¾ inch minimum size for lighting fixtures and controls and ¾ inch minimum size for utilization equipment other than lighting fixtures and controls.
- B. Where fittings for liquid tight flexible conduit are brought into an enclosure with a knock-out, a gasket assembly, consisting of one piece “O” ring, with Buna-N sealing material, Series 3400, shall be installed on outside of box. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.
- C. In dry locations, where final connections to motors and other equipment may be made with flexible metal conduit, fitting shall be of steel or malleable iron only with insulated throats or insulated bushings, and shall be of wedge and screw type having an angular wedge fitting between convolutions of conduit.
- D. A copper ground wire shall be installed inside of flexible conduit to assure continuity of ground to equipment.
- E. All recessed lighting fixtures shall be connected with flexible metallic conduit from outlet box to fixture. Rigid conduit connections to lighting fixtures are not acceptable.
- F. Install liquid tight flexible conduit in such a manner as to prevent liquids from running on the surface toward fittings.
- G. Allow sufficient slack conduit to reduce the effect of vibration.

**END OF SECTION**

## SECTION 26 08 00

### COMMISSIONING OF ELECTRICAL SYSTEMS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Test, inspect and calibrate electrical equipment and material installed and connected under Division 26. The purposes of these inspections, tests and calibrations are to assure that the installed electrical systems and equipment, both contractor and owner-supplied, are: Installed in accordance with design specifications and manufacturer's instructions, Ready to be energized, Operational and within industry and manufacturer's tolerances.
- B. Provide all material, equipment, labor, and technical supervision to perform specified tests, inspections, studies and calibration.
- C. Harmonic analysis studies based on the installed electrical system and equipment if Variable Frequency Drives over 100HP are present.
- D. The contractor shall inspect, test, calibrate and prove electrically operable all electrical equipment and systems including, but not limited to, the following:
  - Circuit breakers
  - Low Voltage power circuits and connections
  - Grounding system and connections

##### 1.02 REGULATORY REQUIREMENTS

- A. Make inspections and tests in accordance with the applicable codes and standards of the following agencies except as provided otherwise herein:
  1. International Electrical Testing Association - NETA ATS - Acceptance Testing Specifications
  2. ANSI/NFPA 70: National Electrical Code
  3. ANSI/NFPA 70B: Recommended Practice for Electrical Equipment Maintenance
  4. NFPA 70E: Electrical Safety Requirements for Employee Workplaces
  5. ANSI C2-99 National Electrical Safety Code

6. C37.16-88 Low-Voltage Power Circuit Breakers and AC Power Circuit Protectors - Preferred Ratings, Related Requirements and Application Recommendations
7. ATS Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems
8. IEEE 141-86 Recommended Practice for Electric Power Distribution for Industrial Plants
9. IEEE 242-86 Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
10. IEEE 399-90 Recommended Practice for Industrial and Commercial Power System Analysis
11. IEEE 446-87 Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications

#### 1.03 QUALITY ASSURANCE

- A. The testing shall be done by an appropriately trained and experienced Electrical Testing Firm (ETF). The contractor shall submit qualifications of both the firm and employees to conduct electrical acceptance testing.
- B. The ETF shall be regularly engaged in the testing of electrical equipment devices, installations, and systems.
- C. The ETF shall have successfully completed not less than five acceptance testing, inspection and calibration projects of similar scope to this project.
- D. The ETF lead, on-site, technical person shall be currently certified by the International Electrical Testing Association (NETA) or National Institute for Certification in Engineering Technologies (NICET) in electrical power distribution system testing.
- E. The ETF shall only utilize engineers and technicians who are regularly employed by the firm for testing services.
- F. **Contractor may serve as the ETF if properly credentialed.**

#### 1.04 DIVISION OF RESPONSIBILITY

- A. Perform routine insulation-resistance, continuity, and rotation tests for distribution and utilization equipment prior to and in addition to tests performed by the ETF specified in this Section.

- B. Schedule project to allow adequate time for electrical acceptance testing. Notify the Owner and Engineer when equipment becomes available for acceptance tests. Coordinate work to expedite inspection and test scheduling.
- C. Notify the Engineer not less than 72 hours prior to commencement of any testing. All tests will be witnessed by Engineer and designated Owner personnel.
- D. Report to the Engineer any system, material, equipment or workmanship which is found defective on the basis of acceptance tests or inspections by the ETF.
- E. Within 15 days of direction from the Engineer, rework, repair or replace any system, material, equipment or workmanship which is found defective on the basis of acceptance tests or inspections.
- F. Upon direction from the Engineer, re-test any system, material, equipment or workmanship which did not pass acceptance tests or inspections.
- G. Maintain a written record of all tests and, upon completion of project, assemble and submit a certified final test report that includes the test procedures and test results for each system and equipment item.

#### 1.05 SAFETY AND PRECAUTIONS

- A. Comply with required safety practices which include, but are not limited to, the following:
  1. Occupational Safety and Health Act
  2. Accident Prevention Manual for Industrial Operations, National Safety Council
  3. Applicable state and local safety operating procedures
  4. Applicable health and safety permits and procedures



5. National Fire Protection Association - NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces.

6. American National Standards for Personnel Protection

1.06 TEST EQUIPMENT

A. SUITABILITY OF TEST EQUIPMENT

1. Use only test equipment that is in good mechanical and electrical condition.
2. Use true RMS measuring meters.
3. Field test metering used to check power system meter calibration shall have accuracy higher than that of the instrument being checked.
4. Use test equipment with accuracy of metering that is appropriate for the test being performed.
5. Use test equipment with waveshape and frequency output that are appropriate for the test and tested equipment.

1.07 SUBMITTALS

- A. Make submittals in accordance with the other provisions set forth herein.
- B. Within 30 days after Notice to proceed, submit certification of the qualifications of the ETF and personnel as described above.
- C. Submit a final report of the power system studies. Sign the final report.
- D. Submit copies of field reports, test data, calculations, plots and evaluations within 48 hours of the completion of each test for information and project coordination.

E. Submit a final report of testing and inspection at the completion of the project.

Include the following information:

1. Summary of the project
2. Description of the equipment tested
3. Visual inspection report
4. Description of the tests
5. Test results
6. Conclusions and recommendations
7. Appendix including appropriate test forms
8. Identification of the test equipment used and calibration date
9. Signature of personnel performing each test.

## **PART 2 - PRODUCTS**

Not used.

## **PART 3 - EXECUTION**

### 3.01 GENERAL

- A. Test, inspect and calibrate the following electrical equipment in strict accordance with applicable sections of NETA ATS-2009, including applicable optional tests:
  1. Electrical equipment specified in Division 26 of the Specifications.
  2. Electrical equipment shown on the electrical Drawings.
  3. Electrical equipment furnished under other Divisions of the Specifications and connected under Division 26.
- B. Perform acceptance tests and inspections prior to energizing equipment.

C. Final acceptance will not occur before completion of the electrical acceptance tests, inspections and calibrations specified in this Section.

D. Detailed requirements for electrical acceptance tests, inspections and calibrations are specified in the following paragraphs.

### 3.02 TESTED SYSTEMS

A. Test and inspect **secondary circuit breakers and all main circuit breakers** in accordance with NETA ATS Chapter 7.6.1.1, and manufacturer's instructions.

B. Test and inspect **low voltage power cable** in accordance with NETA ATS-2009 Chapter 7.3.1.

C. After instrumentation cable installation and conductor termination, test that **instrumentation cable shields** are grounded only at the designated ground point.

D. Test and inspect **grounding systems** in accordance with NETA ATS-2009 Chapter 7.13.

### 3.03 SYSTEM FUNCTION TESTS

A. Perform function tests on each system provided in this contract and covered by this Section to ensure total system operation.

B. Perform the system functional tests upon satisfactory completion of equipment acceptance tests. It is the intent of system functional tests to prove the proper interaction of all sensing, processing, and action devices to effect the designed end product or result.

C. Test interlocks, safety devices, fail-safe functions, and design functions.

**END OF SECTION**

## SECTION 26 21 00

### LOW VOLTAGE ELECTRICAL SERVICE ENTRANCE

#### **PART 1 - GENERAL**

##### 1.01 SECTION INCLUDES

- A. Utility Company Arrangements
- B. Service Entrance
- C. Metering Equipment
- D. Distribution System

##### 1.02 SYSTEM DESCRIPTION

- A. The incoming electrical service shall be underground and shall extend from pad mounted utility transformer secondary.
- B. System shall be served by the electrical utility having jurisdiction.
- C. Metering of electrical usage will be located per utility requirements.
- D. Distribution system originates at secondary of utility transformer and includes service entrance conduit and conductors, distribution equipment, lighting panelboards, utilization equipment, overcurrent devices, disconnecting means, controls, branch and feeder circuits, etc.

#### **PART 2 - PRODUCTS**

2.01 MANUFACTURERS: EATON POW-R-LINE or approved equal

##### 2.02 MATERIALS

- A. Furnish service entrance conduit, cable, fees, permits and miscellaneous hardware as required by plans and specifications for electrical service entrance and system grounding at main electrical service.

#### **PART 3 - EXECUTION**

##### 3.01 EXAMINATION AND PREPARATION

- A. Verify existing conditions with the local electrical utility company.

- B. Every effort has been made to coordinate site power with utility. Utility requirements and conditions may change. Contractor is responsible for alterations to utility feed should any be required (e.g. overhead vs. underground). Verify with the local utility company that electrical power is available and in locations as shown on drawings. Make provisions in bid for additional or varying requirements.
- C. Coordinate exact locations of electrical service utility transformer, metering equipment, service lateral, etc. prior to commencement of installation. Contact Engineer with conflicts prior to bid.
- D. Ensure pad mounted transformers are not located within roadways, sidewalks, or on fence lines.
- E. Coordinate with local electrical utility for all utility company requirements and provide for the following items and any others required by the utility:
  - 1. Concrete pad for utility transformer with required dimensions and details.
  - 2. Primary underground conduit, excavation, and backfill requirements.
  - 3. Pay for all fees associated with establishment of electrical service.
  - 4. Complete and submit all documents required by electrical utility company for establishment of service.
  - 5. Determine exact location of transformers, sizes of primary conduits, and locations of primary and secondary conduit stub-ups within transformer enclosures.
  - 6. Furnish list of loads to the electrical utility company serving the facility for proper sizing and rating of utility transformer by the utility.
  - 7. Verify that utility company clearances are provided on all sides of utility equipment.
- F. Ensure proper access to utility equipment is maintained.

### 3.02 INSTALLATION

- A. The following utility related items shall be provided under this contract:
  - 1. Meter base of type required by electrical utility company.

2. If service is for MTEMC (Middle Tennessee Electric), Contractor shall supply fused NEMA 3R disconnect ahead of meter and fused disconnect after meter per MTEMC requirements and specifications.
  3. Primary underground conduits, with pull rope, for utility provided conductors.
  4. Transformer secondary conduit, conductors, lugs.
  5. All trenching, backfilling, and concrete encasement of duct runs.
- B. The following items will be furnished by the electrical utility company and installed under this contract.
1. Primary conductors used as tie in to riser or transformer primary.
- C. The electrical utility will make final connections at the following items:
1. Utility transformer primary
  2. Service riser
  3. Current transformer
  4. Meter
- D. Ground electrical service in accordance with the specifications, plans, Article 250 of the latest edition of the National Electrical Code, and any local or state adopted requirements.
- E. Provide pull rope, excavation in accordance with electrical utility company requirements, backfill and concrete envelope for primary in accordance with electrical utility company requirements. Turn conduits up riser pole as described on plans. Cap spare conduits 12 inches above grade with plumbers pipe cap.

**END OF SECTION**

**SECTION 26 28 16.16**  
**ENCLOSED SWITCHES**

**PART 1 – GENERAL**

1.01 SUMMARY

A. Section includes fusible and non-fusible switches.

1.02 REFERENCES

A. NECA (National Electrical Contractors Association). Standard of Installation.

B. NEMA FU1 (National Electrical Contractors Association). Low Voltage Cartridge Fuses.

C. NEMA KS1 (National Electrical Contractors Association). Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).

D. NETA ATS (International Electrical Testing Association). Acceptance Test Specifications for Electrical Power Distribution Equipment and Systems

1.03 SUBMITTALS

A. Product Data: Submit switch ratings and enclosure dimensions.

B. Project Record Documents: Record actual locations of enclosed switches and ratings of installed fuses.

**PART 2 - PRODUCTS**

2.01 MANUFACTURERS

A. EATON, SQUARE D, or approved equal.

2.02 SWITCH ASSEMBLIES FOR MAIN SERVICE ENTRANCE

A. Product Description: disconnect with ratings as specified on drawings with externally operable dual interlocked handle to prevent opening front cover with switch in ON position, or closing switch when door is open. Handle lockable in OFF position. SERVICE ENTRY RATED. NEMA 3R minimum rating. FUSE as required by NEC. Provide additional non-fused disconnect ahead of meter if required by utility company or 2020 NEC.

## 2.03 SWITCH ASSEMBLIES FOR MOTOR DISCONNECTS

- A. Product Description: disconnect with ratings as specified on drawings with externally operable dual interlocked handle to prevent opening front cover with switch in ON position, or closing switch when door is open. Handle lockable in OFF position. Provide Early Break contacts for disconnects with controllers other than starters.

## **PART 3 – EXECUTION**

### 3.01 INSTALLATION

- A. Install in accordance with NECA "Standard of Installation."
- B. Install enclosed switches plumb. Provide supports.
- C. Provide indicating fuses for fusible switches.
- D. Apply adhesive tag on inside door of each switch indicating NEMA fuse class (if applicable) and fuse size installed.

### 3.02 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with latest version of NETA ATS.

**END OF SECTION**



## SECTION 26 29 13.16

### REDUCED VOLTAGE MOTOR CONTROLLERS (RVMC)

#### PART 1 – GENERAL

##### 1.01 SCOPE

- A. This specification describes the requirements for across-the-line motor controllers as specified herein and as shown on the contract drawings.

##### 1.02 RELATED SECTIONS

##### 1.03 REFERENCES

- A. The motor controllers and all components shall be designed, manufactured, and tested in accordance with the latest applicable standards of IEC, UL<sub>C</sub>, UL<sub>US</sub>, and NEMA.

##### 1.04 SUBMITTALS - FOR REVIEW/APPROVAL

- A. Submit six (6) copies of the following information to the Engineer.
  1. Dimensioned outline drawing.
  2. Schematic diagram.
  3. Product sheets

#### PART 2 – PRODUCTS

##### 2.01 MANUFACTURERS

- A. Eaton, ABB, or approved equal.  
(Eaton/Cutler Hammer catalog numbers are used in this section to indicate quality and type.)

##### 2.02 MAGNETIC NON-REVERSING

- A. Description: NEMA ICS 2, ac general-purpose Class A magnetic controller for induction motors rated in horsepower.
  1. Coil operating voltage: Voltage as Required, 60 Hz.
  2. Coil: Encapsulated type.

3. Poles: As indicated or Required
4. Size: As indicated or Required
5. Contacts: Totally enclosed, double break, silver-cadmium-oxide power contacts. Contact inspection and replacement shall be possible without disturbing line or load wiring.
6. Wiring: Straight-through wiring with all terminals clearly marked.
7. Overload Relay: NEMA ICS
  - a. Melting Alloy: One-piece thermal unit construction. Thermal units shall be interchangeable. Overload relay control circuit contact shall be replaceable. Thermal units shall be required for starter to operate.
  - b. Solid State: Trip current rating will be established by selection of overload relay and shall be adjustable (3 to 1 current range). The overload shall be self-powered, provide phase loss and phase unbalance protection, have a permanent tamper guard, and be ambient insensitive. It will also be available in Trip Class 10 or 20 and have a mechanical test function.
  - c. Outputs: Unit will be designed for addition of either a normally open or normally closed auxiliary contact and be field convertible.
  - d. Reset: Unit shall offer both manual reset and remote reset using an external module.
8. Enclosure: ANSI/NEMA ICS 6, Type as required to meet conditions of installation.
9. Description: NEMA ICS 2, ac general-purpose Class A magnetic controller for induction motors rated in horsepower.

## 2.03 PRODUCT OPTIONS AND FEATURES

- A. Auxiliary Contacts: NEMA ICS 2, 2 each NO/NC contacts in addition to seal-in contact.

**END OF SECTION**

## SECTION 26 43 13

### SURGE PROTECTIVE DEVICES FOR LOW VOLTAGE ELECTRICAL POWER CIRCUITS

#### PART 1 – GENERAL

##### 1.01 SUMMARY

- A. This section describes the materials and installation requirements for surge protective devices (SPD) for the protection of all AC electrical circuits.
- B. The manufacturer shall furnish, field test, adjust and certify all installed SPD devices for satisfactory operation.
- C. Any exceptions or deviations to this specification shall be indicated in writing and submitted with the quotation.

##### 1.02 REFERENCES

- A. ANSI<sup>®</sup>/NFPA<sup>®</sup> 70 - National Electrical Code<sup>®</sup> (NEC<sup>®</sup>)
- B. NEMA 250 Enclosures for Electrical Equipment
- C. IEEE C62.41.1, IEEE Guide on the Surge Environment in Low-Voltage (1000 V and Less) AC Power Circuits
- D. IEEE C62.41.2, IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and Less) AC Power Circuits
- E. IEEE C62.45, IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000 V and Less) AC Power Circuits.
- F. FIPS Pub 94 (1983) - Guide on Electrical Power for ADP Installation
- G. National Fire Protection Association - NFPA-20, NFPA-70, NFPA-75, NFPA-78
- H. UL 1283 - Electromagnetic Interference Filters
- I. UL 1449 Second Edition Revision Effective Feb 9, 2007 - Transient Voltage Surge Suppressors

J. UL<sup>®</sup> 50 – Enclosures for Electrical Equipment

K. UL 508A – Industrial Control Equipment

L. UL 991 – Safety Tests for Safety Related Controls employing Solid State Devices

### 1.03 SUBMITTALS

A. Six (6) copies of approval drawings shall be furnished for Engineer's approval prior to factory shipment of the SPD. These drawings shall consist of elementary power and control wiring diagrams and enclosure outline drawings. The enclosure drawings shall include front and side views of the enclosures with overall dimensions and weights shown, conduit entrance locations and nameplate legends.

B. Standard catalog sheets showing voltage, maximum current ratings and recommended replacement parts with part numbers shall be furnished for each different SPD.

### 1.04 WARRANTY

A. Contractor shall, without delay and at Contractor's own expense, correct defects or failure of compliance by repairing defective parts, supplying nondefective replacement parts, or correcting defective or deficient design by any other means recommended by SPD manufacturer and accepted by Engineer.

### 1.05 QUALITY ASSURANCE

A. The manufacturer of the SPD shall be a certified ISO 9001 facility that has been operating for at least five (5) years.

B. Store SPD's indoors in clean, dry space with uniform temperature to prevent condensation.

C. Protect SPD's from exposure to dirt, fumes, water, corrosive substances, and physical damage.

## **PART 2 – PRODUCTS**

### **2.01 MANUFACTURERS**

**A. Provide a Surge Protective Device for all control panels and panelboards.**

1. Control Panel SPD's shall be Eaton, or approved equal, for panels and panelboards less than 200A. Appropriate overcurrent protection shall also be provided. Current Technologies SPD's will NOT be accepted.

### **2.02 GENERAL DESCRIPTION**

A. The SPD shall be tested with the Category C high waveform (10kV-1.2/50ms, 10kA-8/20ms) per IEEE C62.41.1 – 2002.

B. SPD shall be a self-contained module design. Each suppression element shall be MOV based. Each phase of the surge current diversion module shall be protected with appropriate surge rated fuses or circuit breaker.

C. SPD shall be UL 1449 Second Edition tested and listed to 200kA Short Circuit Current Rating (SCCR) in compliance with NEC 285.6

D. SPD shall provide surge current diversion paths between each phase conductor and the neutral conductor, between each phase conductor and the ground and between the neutral conductor and ground. For delta configured systems, the SPD shall have components connected between each phase conductor and between each phase conductor and ground.

E. Surge current diversion module shall be connected to the buss of the distribution equipment.

F. A UL approved disconnect switch shall be provided as a means of disconnect.

G. SPD shall be designed to withstand a maximum continuous operating voltage (MCOV) of not less than 115% of nominal RMS voltage.

H. SPD shall be equipped with onboard visual diagnostic monitoring. Indicator lights shall provide full time visual diagnostic monitoring of the operational status of each phase of the surge current diversion module. An indicator light or absence thereof will indicate reduced suppression capability and total loss of suppression capability. An indicator light will indicate fully operational suppression capability. The diagnostic monitoring circuits shall continually monitor the operational status of the surge current diversion module. No other

test equipment shall be required for SPD monitoring or testing before or after installation.

- I. SPD shall have a response time no greater than 1/2 nanosecond.
- J. UL 1449 2nd Edition Listed and Recognized Component Suppression Voltage Ratings shall not exceed the following:

VOLTAGE	L-N	L-G	N-G	L-L	MCOV
208Y/120	330V	330V	330V	700V	150V
480Y/277	700V	700V	700V	1200V	320V

- K. SPD shall have a warranty for a period of **five years**, incorporating unlimited replacements of suppressor parts if they are destroyed by transients during the warranty period.
- L. SPD shall be marked with a short-circuit current rating and not have a short-circuit current rating less than the available fault current at the connection point.

### **PART 3 – EXECUTION**

#### **3.01 INSTALLATION**

- A. Installation shall comply with manufacturer's instructions, drawings and recommendations.

#### **3.02 ADJUSTMENTS AND CLEANING**

- A. Remove debris from installation site and wipe dust and dirt from all components.
- B. Repaint marred and scratched surfaces with touch up paint to match original finish.

#### **3.03 TESTING**

- A. Check tightness of all accessible mechanical and electrical connections to assure they are torqued to the minimum acceptable manufacture's recommendations.
- B. Check all installed panels for proper grounding, fastening and alignment.

**END OF SECTION**