

**Project Manual For**

**RBC Replacement Project**

**Prepared for:**  
**City of Preston, Minnesota**



**September 2025**  
**Stantec Project No. 173420152**

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**SECTION 00 01 05**

**PROFESSIONAL CERTIFICATIONS**

**PROFESSIONAL ENGINEER**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Responsible for Divisions 00, 01, 02, 03, 31, 32, 40, and 46



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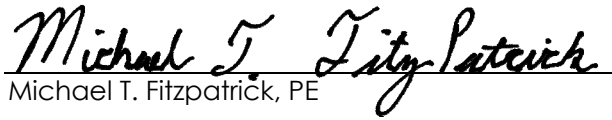
Peter Daniels, PE

Date: October 6, 2025

License # 47543

**PROFESSIONAL ENGINEER**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Responsible for Division 26.



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Michael T. Fitzpatrick, PE

Date: October 6, 2025

License # 53078

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## SECTION 00 01 10

### TABLE OF CONTENTS

#### PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

##### Division 00 - Procurement and Contracting Requirements

###### Introductory Information

00 01 05	Certifications Page
00 01 10	Table of Contents

###### Procurement Requirements

00 11 13	Advertisement for Bids
00 21 13	Instructions to Bidders
00 41 10	Bid Form
00 41 13	Bid Form Attachment A

###### Contracting Requirements

00 43 00	Bid Bond
00 45 49	Responsible Contractor Law
00 51 00	Notice of Award
00 52 00	Agreement Form
00 55 00	Notice to Proceed
00 61 13.13	Performance Bond
00 61 13.16	Payment Bond
00 62 76	Application for Payment Form
00 63 63	Change Order Form
00 65 16	Certificate of Substantial Completion Form
00 65 19	Certificate of Final Approval
00 72 00	EJCDC C-700 General Conditions of the Construction Contract (2018 Edition)
00 73 00	Supplementary Conditions

#### SPECIFICATIONS GROUP

##### GENERAL REQUIREMENTS SUBGROUP

###### Division 01 - General Requirements

01 10 00	Summary
01 25 00	Substitution Procedures
01 29 00	Payment Procedures
01 31 00	Project Management and Coordination
01 33 00	Submittal Procedures
01 35 31	Health and Safety Requirements
01 40 00	Quality Requirements
01 41 00	Regulatory Requirements
01 50 00	Temporary Facilities and Controls
01 55 00	Site Access and Storage
01 57 21	Air, Land and Water Pollution Control
01 57 29	Protection of Existing Facilities
01 61 00	Materials and Equipment
01 70 00	Execution Requirements
01 71 23	Field Engineering
01 73 29	Cutting and Patching
01 78 23	Operation and Maintenance Manuals

01 78 39          Project Record Documents

**Division 02 – Existing Conditions**

02 41 00          Demolition

**Division 03 – Structural**

03 60 00          Grout

**Division 04 to 19 - Not Used**

**FACILITY SERVICES SUBGROUP**

**Division 20 to 25 - Not Used**

**Division 26 - Electrical**

26 05 05          Basic Electrical Materials and Methods

26 05 10          Motors

26 05 19          Low Voltage Electrical Power Conductors and Cables

26 05 33          Raceways and Boxes for Electrical Systems

**Division 27 - 29 Not Used**

**SITE AND INFRASTRUCTURE SUBGROUP**

**Division 30 to 31 - Not Used**

**Division 32 – Exterior Improvements**

32 92 19          Seeding and Restoration

**Division 33 to 39 - Not Used**

**PROCESS EQUIPMENT SUBGROUP**

**Division 40 to 45 - Not Used**

**Division 46 – Water and Wastewater Equipment**

46 53 13          Rotating Biological Contactor

**END OF SECTION**

**SECTION 00 11 13**  
**ADVERTISEMENT FOR BIDS**

Sealed Bids will be received by the City of Preston, Minnesota, in the City Hall at 210 Fillmore Street West, Preston, MN 55965 for the work described in this Advertisement, until **2:00 P.M. Local Time, Wednesday, November 19, 2025**, at which time they will be publicly opened and read aloud.

Direct inquiries to Engineer's Project Manager Peter Daniels at (612) 712-2049 and [peter.daniels@stantec.com](mailto:peter.daniels@stantec.com).

The City of Preston is requesting Bids for the following Project:

**ROTATING BIOLOGICAL CONTACTOR REPLACEMENT PROJECT**

The project includes the following work:

The work generally consists of the replacement of south rotating biological contactor (RBC-2) at the City's wastewater treatment facility as described elsewhere in this contract.

**Obtaining the Bidding Documents**

Complete digital Bidding Documents are available at [www.questcdn.com](http://www.questcdn.com) for \$30 by inputting **QuestCDN eBidDoc #9912786** on the website's Project Search page.

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, lists 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 sources other than the designated website.

**Pre-Bid Conference**

A pre-bid conference for the Project will be held on **Thursday, November 6, 2025 at 10:30 A.M. Local Time at the Preston Wastewater Treatment Plant, 625 River Pl E, Preston, MN 55965**. Attendance at the pre-bid conference is encouraged but not mandatory.

**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.

**Minnesota Responsible Contractor Law**

A contractor responding to this solicitation document shall submit to the city a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in Minnesota Statutes, section 16C.285, subdivision 3. The term 'responsible contractor' as used in this solicitation document means a contractor as defined in Minnesota Statutes, section 16C.285, subdivision 3. Any prime contractor or subcontractor that does not meet the minimum criteria in Minnesota Statutes, section 16C.285, subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded the construction contract for the project or

to perform work on the project. A false statement under oath verifying compliance with any of the minimum criteria shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project and may result in termination of a contract awarded to a prime contractor or subcontractor that submits a false statement. A prime contractor shall submit to the city upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to Minnesota Statutes, section 16C.285, subdivision 3, clause 7. Refer to the contract documents for additional requirements associated with the Responsible Contractor Law.

**This Advertisement is issued by:**

Owner: City of Preston

Date: October 27, 2025



## **SECTION 00 21 13**

### **INSTRUCTIONS TO BIDDERS**

#### **ARTICLE 1 - DEFINED TERMS**

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

- A. Issuing Office – The office from which the Bidding Documents are to be issued and where the Bidding procedures are to be administered.

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

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation for Bids may be obtained from the Issuing Office.
- 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 Neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from Bidder's use of electronic downloadable Bidding Documents (Electronic Bidding Documents). In addition to the above items, Bidders using Electronic Bidding Documents are solely responsible for use of such documents, including, but not limited to:
  - A. It is the responsibility of the Bidder to go to QuestCDN's Projects ([www.questcdn.com](http://www.questcdn.com)), check for the presence of Bidding Documents (including Addenda), and download documents as they become available. Bidder shall regularly check QuestCDN's projects for Addenda or other additions or revisions to the Bidding Documents through the Bid Opening date, whether or not Bidder has received email notice of Addenda from Stantec or Quest CDN. Please contact QuestCDN.com at 952-233-1632 or [info@questcdn.com](mailto:info@questcdn.com) for assistance in free membership registration, downloading, and working with this digital project information.
  - B. It is the responsibility of the Bidder to verify the intended document size (sheet dimensions) and to verify proper colors (color, or black and white) of the Electronic Bidding Documents prior to reproduction. Bidder shall ensure that the Electronic Bidding Documents are reproduced to the correct and exact scale, and correct colors.

#### **ARTICLE 3 - QUALIFICATIONS OF BIDDERS**

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within 5 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below:

- A. Evidence of Bidder's authority to do business in the state where the Project is located.
  - B. Evidence of genuineness of Bid and lack of collusion in conjunction therewith.
- 3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

#### **ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE**

##### **4.01 Subsurface and Physical Conditions**

- A. The Supplementary Conditions identify
  - 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous 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).
- B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of 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.

##### **4.02 Underground Facilities**

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner or others.

##### **4.03 Hazardous Environmental Condition**

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
- B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of 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.

- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any,

and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

- 4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. 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. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.
- 4.06 Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
  - B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
  - C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
  - D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified, if any, in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data;"
  - E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
  - F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
  - H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
  - I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

#### **ARTICLE 5 - PRE-BID CONFERENCE**

- 5.01 A non-mandatory pre-bid conference will be held at the time and location indicated in the Advertisement to Bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.
- A. 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 6 - SITE AND OTHER AREAS**

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner, unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

#### **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. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than 10 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, or change the Bidding Documents as deemed advisable by Owner or Engineer.

## **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 and in the form of a certified check, bank money order, or a Bid Bond issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid Security of the successful Bidder will be retained until 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 returned. 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. The Bid Security of other Bidders whom 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 Agreement or 61 days after the Bid Opening, whereupon Bid Security furnished by such Bidders will be returned.

## **ARTICLE 9 - CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, Milestones are to be achieved and the Work is to be Substantially Completed and ready for Final Payment are set forth in the Agreement.

## **ARTICLE 10 - LIQUIDATED DAMAGES**

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

## **ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS**

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

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

- 12.01 If the Supplementary Conditions require the identity of certain subcontractors, suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent successful Bidder, and any other Bidder so requested, shall within 5 days after Bid Opening, submit to Owner a list of all such subcontractors, suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. 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, individual, or entity if requested by Owner. 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 a substitute, in which case apparent successful Bidder shall submit an acceptable 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, individuals, or entities. Declining to make requested substitutions will not 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 revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.
- 12.03 Contractor shall not be required to employ any subcontractor, supplier, individual, or entity against whom Contractor has reasonable objection.

## **ARTICLE 13 - PREPARATION OF BID**

- 13.01 The Bid Form is included with the Bidding Documents.
- 13.02 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 Bid Unit Price Bid Item, and Bid Unit Price Bid Item listed therein.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 13.04 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 official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone and fax numbers for communications regarding the Bid shall be shown.
- 13.11 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.

13.12 Bidders shall indicate the total add or deduct to the Total Base Bid for each Alternate provided on the Bid Form.

#### **ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS**

##### **14.01 Lump Sum**

A. Bidders must submit a Bid on a lump sum basis as set forth in the Bid Form.

##### **14.02 Allowances**

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

#### **ARTICLE 15 - SUBMITTAL OF BID**

15.01 Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation for Bids 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 Owner's office.

15.02 The Bid shall include the entire Document 00 41 10, Bid Form. This includes all attachments listed in Article 7.01 of the Bid Form and/or all forms included with the Bid Form. The Contractor may remove or copy these sheets from the Project Manual.

15.03 The entire Project Manual should not be submitted with the Bid.

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

16.01 A Bid may be modified or 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.

16.02 Bids may be withdrawn after Bid Opening only in accordance with the law.

#### **ARTICLE 17 - OPENING OF BIDS**

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation for Bids 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 Project is awarded.

#### **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 If the Contract is awarded, award will be made on the basis of the lowest responsive, responsible, qualified Bidder determined by the Total Base Bid or Adjusted Total Base Bid.
- 19.02 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the successful Bidder.
- 19.03 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than 1 Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.04 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such Alternates, Bid Unit Prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.05 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of subcontractors, suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of subcontractors, suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.06 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents. As a condition of its Bid, Bidder is required to waive any and all claims of whatever nature against Owner, Engineer, and their employees and agents which arise out of or relate to such investigations and statements made as a result thereof, except for statements that can be shown by clear and convincing evidence to be intentionally false and made with actual malice. This waiver is not intended to restrict Bidder's rights to challenge a Contract pursuant to law.
- 19.07 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

## **ARTICLE 20 - CONTRACT SECURITY AND INSURANCE**

- 20.01 Article 5 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 executed Agreement to Owner, it shall be accompanied by such bonds.

## **ARTICLE 21 - SIGNING OF AGREEMENT**

- 21.01 When Owner issues a Notice of Award to the successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, successful Bidder shall sign and deliver the required number of counterparts of



the Agreement and attached documents to Owner. Within 10 days thereafter, Owner shall deliver 2 fully signed counterparts to successful Bidder with a complete set of the Drawings with appropriate identification.

## **ARTICLE 22 – RESPONSIBLE CONTRACTOR**

22.01 In accordance with Laws of Minnesota, 2014, chapter 253 (Minnesota Statutes §16C.285), Bidders are hereby advised that the Owner cannot award a construction contract in excess of \$50,000 unless the contractor is a “responsible contractor” as defined in Minnesota Statutes §16C.285, subdivision 3. A bidder submitting a Proposal for this Project must verify that it meets the minimum criteria specified in Minnesota Statutes §16C.285, subdivision 3, by completing the Responsible Contractor Certificate within this Proposal. Statements in the certificate must be certified by a company officer. Bidders are responsible for obtaining verifications of compliance from all subcontractors, using a form provided by the Owner. A bidder must submit signed verifications from subcontractors upon the Owner's request.

A Bidder or subcontractor who does not meet the minimum criteria established in Minnesota Statutes §16C.285, subdivision 3, or who fails to verify compliance with the minimum requirements, will not be a “responsible contractor” and will be ineligible to be awarded the Contract for this Project or to work on this Project. Bidders and subcontractors are also advised that making a false statement verifying compliance with any of the minimum criteria will render the Bidder or subcontractor ineligible to be awarded a construction contract for this Project and may result in the termination of a contract awarded to a Bidder or subcontractor that makes a false statement.

## **END OF SECTION**

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## SECTION 00 41 10

### BID FORM

#### CITY OF PRESTON, MN RBC REPLACEMENT PROJECT

Bid of: \_\_\_\_\_  
name

#### ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to:  
City of Preston  
City Hall  
210 Fillmore Street West  
Preston, MN 55965
- 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. Bid Form Attachment A (Responsible Contractor Documentation).

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

- 3.01 Lump Sum Bids
- A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum price:

Base Bid:

\_\_\_\_\_  
Written amount

\_\_\_\_\_  
Numerical amount

All specified cash allowances are included in the price(s) set forth above, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

**ARTICLE 4—DELETED**

**ARTICLE 5—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 Deleted.
- 6.03 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. The 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 No.	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.
  - 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) \_\_\_\_\_

**END OF SECTION**

## SECTION 00 41 13

### BID FORM ATTACHMENT A

#### RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE

##### PROJECT TITLE: RBC REPLACEMENT PROJECT

Minn. Stat. § 16C.285, Subd. 7. <b>IMPLEMENTATION.</b> ... any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project...	
Minn. Stat. § 16C.285, Subd. 3. <b>RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA.</b> "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:	
(1)	<p>The Contractor:</p> <ul style="list-style-type: none"><li>(i) is in compliance with workers' compensation and unemployment insurance requirements;</li><li>(ii) is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees;</li><li>(iii) has a valid federal tax identification number or a valid Social Security number if an individual; and</li><li>(iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.</li></ul>
(2)	<p>The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:</p> <ul style="list-style-type: none"><li>(i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period;</li><li>(ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final;</li><li>(iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;</li><li>(iv) has been found by the commissioner of Labor and Industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;</li><li>(v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or</li><li>(vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;*</li></ul>

(3)	The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order;*
(4)	The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;*
(5)	The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;*
	* Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.
(6)	The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
(7)	All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. § 16C.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.**

A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.



Minn. Stat. § 16C.285, Subd. 4. **VERIFICATION OF COMPLIANCE.**

A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor failed to verify compliance with the minimum criteria or falsely stated that it meets the minimum criteria.

**CERTIFICATION**

**By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:**

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. § 16C.285,**
- 2) I have included Attachment A-1 with my company's solicitation response, and**
- 3) if my company is awarded a contract, I will also submit Attachment A-2 as required.**

**Authorized Signature of Owner or Officer:**

**Printed Name:**

**Title:**

**Date:**

**Company Name:**

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

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

My Commission Expires: \_\_\_\_\_

PLACE NOTARY SEAL HERE

NOTE: Minn. Stat. § 16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.

**ATTACHMENT A-1**

**FIRST-TIER SUBCONTRACTORS LIST**

**SUBMIT WITH PRIME CONTRACTOR RESPONSE**

**PROJECT TITLE: RBC REPLACEMENT PROJECT**

Minn. Stat. § 16C.285, Subd. 5. A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Submit this form with the Bid Form.

<b>FIRST TIER SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)</b>	<b>Name of city where company home office is located</b>

**ATTACHMENT A-2**

**ADDITIONAL SUBCONTRACTORS LIST**

**PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT**

**PROJECT TITLE: RBC REPLACEMENT PROJECT**

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. § 16C.285, Subd. 5. ... If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors. Submit this form to the Project Manager.

<b>ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)</b>	<b>Name of city where company home office is located</b>

<b>ADDITIONAL SUBCONTRACTOR NAMES</b> <b>(Legal name of company as registered with the Secretary of State)</b>	<b>Name of city where company home office is located</b>

<b>SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2</b>	
<p><b>By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:</b></p> <p>All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet minimum criteria to be a responsible contractor as defined in <b>Minn. Stat. § 16C.285.</b></p>	
<b>Authorized Signature of Owner or Officer:</b>	<b>Printed Name:</b>
<b>Title:</b>	<b>Date:</b>
<b>Company Name:</b>	

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

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

My Commission Expires: \_\_\_\_\_

PLACE NOTARY SEAL HERE

**END OF SECTION**

## SECTION 00 43 00

### 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 Preston, Minnesota</b> Address <i>(principal place of business)</i> : <b>210 Fillmore Street</b> <b>Preston, MN 55965</b>	<b>Bid</b> Project <i>(name and location)</i> : <b>RBC Replacement Project</b> <b>Preston, Minnesota</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	Surety
_____ <i>(Full formal name of Bidder)</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: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

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.

## SECTION 00 45 49

### RESPONSIBLE CONTRACTOR LAW

#### ***Minimum Criteria***

To be eligible to be awarded this contract, each bidder must submit a signed statement, under oath, verifying that it is a "responsible contractor." A responsible contractor is one that meets the definition provided in Minnesota Statutes § 16C.285, subdivision 3, and additional criteria required by the OWNER. To be a "responsible contractor," a contractor must be in compliance with the following minimum criteria:

(1) the contractor:

- (i) is in compliance with workers' compensation and unemployment insurance requirements;
- (ii) is in compliance with Department of Revenue and the Department of Employment and Economic Development registration requirements if it has employees;
- (iii) has a valid federal tax identification number or a valid Social Security number if an individual; and
- (iv) has filed a certificate of authority to transact business in Minnesota with the secretary of state if a foreign corporation or cooperative;

(2) the contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated Minnesota Statutes sections 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated the United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:

- (i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period, provided that a failure to pay is "repeated" only if it involves two or more separate and distinct occurrences of underpayment during the three-year period;
- (ii) has been issued an order to comply by the commissioner of labor and industry that has become final;
- (iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;
- (iv) has been found by the commissioner of labor and industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;
- (v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or
- (vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction.

Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;

(3) the contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated Minnesota Statutes section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order;

(4) the contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under Minnesota Statutes section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;

(5) the contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;

(6) the contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions that have authority to debar a contractor;

(7) during the three-year period before submitting the verification, the contractor or related entity has not been sanctioned by the Minnesota Pollution Control Agency or the United States Environmental Protection Agency for violation of state or federal environmental laws or regulations enforced by those agencies, including but not limited to administrative enforcement orders, fines, damages or other civil penalties, injunctions, or criminal penalties;

(8) during the three-year period before submitting the verification, the contractor or related entity has not unlawfully failed to pay its subcontractors or suppliers or violated the prompt payment requirements of Minnesota Statutes section 471.425, as determined by a court proceeding, arbitration panel, or other binding adjudication;

(9) during the three-year period before submitting the verification, no construction contract awarded to the contractor or a related entity has been lawfully terminated because of the default of the contractor or related entity; and

(10) all subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (9).



Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5) and (7) through (10), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.

Any prime contractor, subcontractor, or motor carrier that does not meet the minimum criteria in Minn. Stat. § 16C.285, subd. 3, which section is set forth above, fails to verify compliance with any one of the required minimum criteria, or makes a false statement under oath verifying compliance is not a "responsible contractor" and is not eligible to be awarded a construction contract for the project or to perform work on the project.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a contract awarded to a prime contractor, subcontractor, or motor carrier that submits a false statement.

A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Prior to execution of a construction contract, and as a condition precedent to the execution of a construction contract, the apparent successful prime contractor shall submit to the contracting authority a supplemental verification under oath confirming compliance with subdivision 3, clause (7). Each contractor or subcontractor shall obtain from all subcontractors with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each subcontractor. If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verification of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to Minn. Stat. § 16C.285, subd. 3(7).

Contractor warrants under oath that Contractor is in compliance with the minimum criteria required of a "responsible contractor" as that term is defined in Minnesota Statutes § 16C.285, subd. 3. Contractor has provided to OWNER a list of all of its first-tier subcontractors and motor carriers that it intends to retain for work on the project. The Contractor has obtained from all subcontractors and motor carriers with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that the subcontractor or motor carrier meets all of the minimum criteria in § 16C.285, subd. 3. If Contractor retains additional subcontractors or motor carriers on the project after submitting its verification of compliance, the Contractor shall obtain verification of compliance from each additional subcontractor and motor carrier with which it has a direct contractual relationship and shall submit to the OWNER a supplemental verification confirming the subcontractor's and motor carrier's compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors or motor carriers. Contractor shall submit to the OWNER upon request copies of the signed verifications of compliance from all subcontractors and motor carriers of any tier pursuant to Minn. Stat. § 16C.285, subd. 3(7). A false statement under oath, by Contractor, subcontractor, or motor carrier, verifying compliance with any of the minimum criteria may result in termination of the Contract.

A Responsible Contractor Verification form is provided with the bid documents. Each bidder must submit the form with its proposal.

**END OF SECTION**

**SECTION 00 51 00**

**NOTICE OF AWARD**

**To:**

**Date:**

**Project Title:** RBC Replacement Project

**Project Description:** The WORK, in accordance with the Project Manual, consists of all labor, materials, tools, permits, bonds, machinery, equipment, and services including utility and transportation services necessary for the construction of the Wastewater Treatment Plant Improvements.

The OWNER has considered the Bid submitted by you for the above-described work in response to its Advertisement of Bids dated \_\_\_\_\_, 20\_\_, and Instructions to Bidders.

You are hereby notified that your Bid has been accepted for items in the Amount of \$\_\_\_\_\_.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance Bond and Payment Bond, and certificates of insurance within ten (10) calendar days from the date of this notice to you.

If you fail to execute said agreement and to furnish said bonds and certificates within ten (10) calendar days from the date of this notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The OWNER will be entitled to such other rights as may be granted by law.

This Notice of Award is NOT a notice to proceed with the work. CONTRACTOR shall not commence work (other than as specified above) until a Notice to Proceed is issued by OWNER.

You are required to return an acknowledged copy of this Notice of Award to the OWNER.

Dated this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(OWNER)

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

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

**ACCEPTANCE OF NOTICE**

Receipt of the above Notice of Award is hereby acknowledged by \_\_\_\_\_  
\_\_\_\_\_ this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

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

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

## SECTION 00 52 10

### AGREEMENT FORM

THIS AGREEMENT is by and between the City of Preston, Minnesota (hereinafter called Owner) and CONTRACTOR NAME (hereinafter called Contractor). Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, 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: 2025 RBC Replacement Project.

#### ARTICLE 2 – THE PROJECT

- 2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: 2025 RBC Replacement for the City of Preston, Minnesota.

#### ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Stantec Consulting Services Inc. (Engineer), who is to act as Owner's representative, assume all duties and responsibilities, and will 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 *Time 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 *Dates for Substantial Completion and Final Payment*

- A. The Work will be substantially completed on or before 260 days from Notice to Proceed and completed and ready for Final Payment in accordance with Paragraph 15.06 of the General Conditions on or before 280 days from Notice to Proceed.

##### 4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1500 for each day that expires after the time specified in Paragraph 4.02 for Milestones and Substantial Completion until the Work is

Substantially Complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$1500 for each day that expires after the time specified in Paragraph 4.02 for completion and readiness for Final Payment until the Work is completed and ready for Final Payment.

## **ARTICLE 5 – CONTRACT PRICE**

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

A. For all Work a **lump sum Total Base Bid of (\$xxx,xxx.xx).**

All specific cash allowances are included in the above price in accordance with the General Conditions.

B. 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 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, monthly during performance of the Work as provided in Paragraphs 6.02.A1 and 6.02.A2 below. All such payments will be measured by the Schedule of Values established in the General Conditions (and in the case of Bid Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided in the General Requirements:
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 Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:
    - a. 95 percent of Work completed (with the balance being retainage).
    - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
  2. 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 250 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. Release of retainage shall also be in accordance with Minnesota Statute 15.72, Subdivision 2.

#### 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.

#### 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, as provided in Article 14 of the General Conditions, shall bear interest at the maximum rate allowed by law at the place of the Project

### **ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS**

#### 7.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site 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 federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site, and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Supplementary Conditions as containing reliable "technical data."
- E. Contractor considered the information known to Contractor, 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, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precaution programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that any 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 Documents.

- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **ARTICLE 8 – CONTRACT DOCUMENTS**

### **8.01 Contents**

- A. The Contract Documents consist of the following:
  - 1. This Agreement.
  - 2. Performance Bond, Payment Bond, and other Bonds.
  - 3. General Conditions.
  - 4. Supplementary Conditions.
  - 5. Specifications as listed in the table of contents of the Project Manual.
  - 6. Drawings bearing the following general title: 2025 RBC Replacement Project.
  - 7. Addenda (Numbers \_\_\_\_ to \_\_\_\_, inclusive).
  - 8. Exhibits to this Agreement (enumerated as follows):
    - a. Contractor's Bid Form.
    - b. Documentation submitted by Contractor prior to Notice of Award.
  - 9. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
    - a. Notice to Proceed.
    - b. Work Change Directives.
    - c. Change Order(s).
- B. The documents listed in Paragraph 8.01.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 8.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

## **ARTICLE 9 – MISCELLANEOUS**

### **9.01 Terms**

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

### **9.02 Assignment of Contract**

- A. 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, moneys that may become due and moneys that are 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.

#### 9.03 *Successors and Assigns*

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

#### 9.04 *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.

#### 9.05 *Contractor's Certifications*

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

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on \_\_\_\_\_, 2025 (which is the Effective Date of the Agreement).

**Owner:**

**Contractor:**

**City of Preston, Minnesota**

By:

By:

Attest:

Attest:

Address for giving notices:

Address for giving notices:

License No.:

(Where Applicable)

Designated Representative:

Designated Representative:

Name:

Name:

Title:

Title:

Address:

Address:

Phone:

Phone:

Facsimile:

Facsimile:

**END OF SECTION**

**SECTION 00 55 00**  
**NOTICE TO PROCEED**

**To:**

**Date:**

**Project Title:** RBC Replacement Project

You are hereby notified to commence WORK in accordance with the Agreement dated \_\_\_\_\_, 20\_\_\_\_.

The contract times will commence to run on \_\_\_\_\_, 20\_\_\_\_, and you are to achieve substantial completion of the WORK within \_\_\_\_\_ consecutive calendar days thereafter.

The date of substantial completion of all work is therefore \_\_\_\_\_, 20\_\_\_\_.

City of Preston \_\_\_\_\_  
(OWNER)

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

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

**END OF SECTION**

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## PERFORMANCE BOND

<b>Contractor</b> <i>(Full formal name of Contractor)</i> Name: _____ Address <i>(principal place of business)</i> : _____  	<b>Surety</b> <i>(Full formal name of Surety)</i> Name: _____ Address <i>(principal place of business)</i> : _____  
<b>Owner</b> <i>(Full formal name of Owner)</i> Name: _____ Mailing address <i>(principal place of business)</i> : _____  	<b>Contract</b> <i>(Owner's project name and location)</i> Description: _____  Contract Price: _____ Effective Date of Contract: _____ 
<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 16	
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.	
Contractor as Principal	Surety
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<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>	

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

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

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

14. Definitions

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



## PAYMENT BOND

<b>Contractor</b> <i>(Full formal name of Contractor)</i> Name: _____ Address <i>(principal place of business)</i> : _____  	<b>Surety</b> <i>(Full formal name of Surety)</i> Name: _____ Address <i>(principal place of business)</i> : _____  
<b>Owner</b> <i>(Full formal name of Owner)</i> Name: _____ Mailing address <i>(principal place of business)</i> : _____  	<b>Contract</b> <i>(Owner's project name, and location of the project)</i> Description: _____  Contract Price: _____ Effective Date of Contract: _____
<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	
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.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<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>	

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".

**SECTION 00 62 76**  
**APPLICATION FOR PAYMENT FORM**

OWNER: City of Preston  
PROJECT: RBC Replacement Project  
CONTRACTOR: \_\_\_\_\_

PAY ESTIMATE NO. \_\_\_\_\_

Original Contract Amount	\$.....
Contract Changes approved to Date (List Change Order Numbers)	\$.....
Revised Contract Price	\$.....
Work Completed to Date (attached)	\$.....
Retainage to Date, 5%	\$.....
Work Completed to Date Less Retainage to Date	\$.....
Total Amount Previously Certified	\$.....
Payment Request This Estimate	\$.....

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

\_\_\_\_\_  
CONTRACTOR

**CERTIFICATE OF CONTRACTOR**

I hereby certify that the work and the materials supplied to date, as shown on the request for payment, represents the actual value of accomplishment under the terms of the contract dated

\_\_\_\_\_, 20\_\_ between the City of Preston (OWNER)

and \_\_\_\_\_ (CONTRACTOR) and all authorized changes thereto.

\_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Approval:

CONTRACTOR \_\_\_\_\_ Date \_\_\_\_\_

ENGINEER \_\_\_\_\_ Date \_\_\_\_\_

OWNER \_\_\_\_\_ Date \_\_\_\_\_

END OF SECTION

**SECTION 00 63 63**  
**CHANGE ORDER FORM**

Change Order No. \_\_\_\_\_

Date \_\_\_\_\_

Effective Date \_\_\_\_\_

Name of Project: RBC REPLACEMENT PROJECT

Owner: City of Preston

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

The following changes are hereby made to the Contract Documents:

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

Justification: \_\_\_\_\_

\_\_\_\_\_

Original Contract Price: \$ \_\_\_\_\_

Current Contract Price adjusted to previous Change Order(s): \$ \_\_\_\_\_

The Contract Price due to this Change Order will be (increased) (decreased) by \$

\_\_\_\_\_.

The new Contract Price including this Change Order will be \$ \_\_\_\_\_

Original Contract-Required Completion Date: \_\_\_\_\_

Current Contract Completion Date adjusted to previous Change Order: \_\_\_\_\_

The Contract Time will be (increased) (decreased) by \_\_\_\_\_ calendar days.

The revised Contract Completion Date for completion of Work will be \_\_\_\_\_

Approvals Required:

To be effective, this Order must be approved by the Owner and the Contractor if it changes the scope of objective of the Project, or as may otherwise be required by the Supplemental General Conditions.

Recommended: \_\_\_\_\_  
Engineer (Authorized Signature)

Accepted: \_\_\_\_\_  
Owner (Authorized Signature)

Accepted: \_\_\_\_\_  
Contractor (Authorized Signature)

**END OF SECTION**



**SECTION 00 65 16**  
**CERTIFICATE OF SUBSTANTIAL COMPLETION**

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:

**This [tentative] [definitive] Certificate of Substantial Completion applies to:**

☐ All Work under the Contract Documents:

☐ 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 Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. 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.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities

☐ Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

---

The following documents are attached to and made 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.

---

Executed by Engineer

---

Date

---

Accepted by Contractor

---

Date

---

Accepted by Owner

---

Date

SECTION 00 65 19

CERTIFICATE OF FINAL APPROVAL

As Project Engineer for \_\_\_\_\_(Owner), and as a Registered Professional Engineer in the State of Minnesota, I do hereby certify that I have inspected the improvements for the \_\_\_\_\_ Project performed by \_\_\_\_\_ (Contractor) and find them accomplished according to the plans, specifications and duly authorized change orders. I do hereby approve the above-mentioned improvements and recommend acceptance of this work. (If applicable: I also hereby certify that all correction's listed on the Certificate of Substantial Completion "Punch List" have been completed in satisfactory manner and in accordance with all Contract requirements.)

---

THE WARRANTY PERIOD BEGAN \_\_\_\_\_ AND ENDS \_\_\_\_\_.

(IF REQUIRED: THE LETTER OF INITIATION OF OPERATIONS WAS SENT TO MPCA OR MDH DATED \_\_\_\_\_.)

\_\_\_\_\_  
DATE

\_\_\_\_\_  
PROJECT ENGINEER

\_\_\_\_\_  
FIRM

---

I HEREBY CERTIFY THAT THE WORK DONE BY THE ABOVE-MENTIONED CONTRACTOR HAS BEEN ACCEPTED BY FORMAL COUNCIL RESOLUTION DATED \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
CLERK

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

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By





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National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

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1801 Alexander Bell Drive, Reston, VA 20191-4400  
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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology .....	6
Article 2—Preliminary Matters .....	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents .....	7
2.03 Before Starting Construction .....	8
2.04 Preconstruction Conference; Designation of Authorized Representatives.....	8
2.05 Acceptance of Schedules .....	8
2.06 Electronic Transmittals .....	9
Article 3—Contract Documents: Intent, Requirements, Reuse .....	9
3.01 Intent.....	9
3.02 Reference Standards .....	10
3.03 Reporting and Resolving Discrepancies .....	10
3.04 Requirements of the Contract Documents.....	11
3.05 Reuse of Documents .....	11
Article 4—Commencement and Progress of the Work .....	12
4.01 Commencement of Contract Times; Notice to Proceed .....	12
4.02 Starting the Work.....	12
4.03 Reference Points .....	12
4.04 Progress Schedule .....	12
4.05 Delays in Contractor’s Progress .....	12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions .....	14
5.01 Availability of Lands .....	14
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	15
5.04 Differing Subsurface or Physical Conditions .....	16



5.05	Underground Facilities .....	18
5.06	Hazardous Environmental Conditions at Site .....	20
Article 6—Bonds and Insurance.....		22
6.01	Performance, Payment, and Other Bonds .....	22
6.02	Insurance—General Provisions .....	23
6.03	Contractor’s Insurance .....	24
6.04	Builder’s Risk and Other Property Insurance .....	25
6.05	Property Losses; Subrogation .....	26
6.06	Receipt and Application of Property Insurance Proceeds .....	27
Article 7—Contractor’s Responsibilities .....		28
7.01	Contractor’s Means and Methods of Construction .....	28
7.02	Supervision and Superintendence .....	28
7.03	Labor; Working Hours .....	28
7.04	Services, Materials, and Equipment .....	28
7.05	“Or Equals” .....	29
7.06	Substitutes .....	30
7.07	Concerning Subcontractors and Suppliers .....	31
7.08	Patent Fees and Royalties .....	33
7.09	Permits .....	33
7.10	Taxes .....	33
7.11	Laws and Regulations.....	34
7.12	Record Documents.....	34
7.13	Safety and Protection.....	34
7.14	Hazard Communication Programs .....	35
7.15	Emergencies .....	36
7.16	Submittals .....	36
7.17	Contractor’s General Warranty and Guarantee .....	39
7.18	Indemnification .....	40
7.19	Delegation of Professional Design Services .....	40
Article 8—Other Work at the Site .....		41
8.01	Other Work .....	41
8.02	Coordination .....	42

8.03	Legal Relationships.....	42
Article 9—Owner’s Responsibilities .....		43
9.01	Communications to Contractor .....	43
9.02	Replacement of Engineer .....	43
9.03	Furnish Data .....	43
9.04	Pay When Due.....	43
9.05	Lands and Easements; Reports, Tests, and Drawings .....	43
9.06	Insurance.....	44
9.07	Change Orders .....	44
9.08	Inspections, Tests, and Approvals.....	44
9.09	Limitations on Owner’s Responsibilities .....	44
9.10	Undisclosed Hazardous Environmental Condition.....	44
9.11	Evidence of Financial Arrangements.....	44
9.12	Safety Programs .....	44
Article 10—Engineer’s Status During Construction .....		44
10.01	Owner’s Representative.....	44
10.02	Visits to Site.....	45
10.03	Resident Project Representative.....	45
10.04	Engineer’s Authority .....	45
10.05	Determinations for Unit Price Work .....	45
10.06	Decisions on Requirements of Contract Documents and Acceptability of Work .....	46
10.07	Limitations on Engineer’s Authority and Responsibilities .....	46
10.08	Compliance with Safety Program.....	46
Article 11—Changes to the Contract .....		46
11.01	Amending and Supplementing the Contract .....	46
11.02	Change Orders .....	47
11.03	Work Change Directives.....	47
11.04	Field Orders.....	48
11.05	Owner-Authorized Changes in the Work .....	48
11.06	Unauthorized Changes in the Work.....	48
11.07	Change of Contract Price .....	48
11.08	Change of Contract Times.....	49

11.09	Change Proposals.....	50
11.10	Notification to Surety.....	51
Article 12—Claims.....		51
12.01	Claims .....	51
Article 13—Cost of the Work; Allowances; Unit Price Work .....		52
13.01	Cost of the Work .....	52
13.02	Allowances .....	56
13.03	Unit Price Work.....	56
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work .....		57
14.01	Access to Work.....	57
14.02	Tests, Inspections, and Approvals.....	57
14.03	Defective Work .....	58
14.04	Acceptance of Defective Work.....	59
14.05	Uncovering Work .....	59
14.06	Owner May Stop the Work .....	60
14.07	Owner May Correct Defective Work.....	60
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period .....		60
15.01	Progress Payments .....	60
15.02	Contractor’s Warranty of Title .....	64
15.03	Substantial Completion.....	64
15.04	Partial Use or Occupancy .....	65
15.05	Final Inspection .....	65
15.06	Final Payment.....	65
15.07	Waiver of Claims .....	67
15.08	Correction Period .....	67
Article 16—Suspension of Work and Termination .....		68
16.01	Owner May Suspend Work .....	68
16.02	Owner May Terminate for Cause.....	68
16.03	Owner May Terminate for Convenience.....	69
16.04	Contractor May Stop Work or Terminate .....	70
Article 17—Final Resolution of Disputes .....		70
17.01	Methods and Procedures.....	70

Article 18—Miscellaneous .....	71
18.01 Giving Notice .....	71
18.02 Computation of Times .....	71
18.03 Cumulative Remedies .....	71
18.04 Limitation of Damages .....	71
18.05 No Waiver .....	71
18.06 Survival of Obligations .....	71
18.07 Controlling Law .....	71
18.08 Assignment of Contract .....	72
18.09 Successors and Assigns .....	72
18.10 Headings.....	72

# 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 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**

## **TABLE OF CONTENTS**

	<b>Page</b>
Article 1— Definitions and Terminology.....	2
Article 2— Preliminary Matters .....	2
Article 3— Contract Documents: Intent, Requirements, Reuse .....	3
Article 4— Commencement and Progress of the Work .....	3
Article 5— Site, Subsurface and Physical Conditions, Hazardous Environmental Conditions.....	3
Article 6— Bonds and Insurance .....	4
Article 7— Contractor’s Responsibilities .....	8
Article 8— Other Work at the Site .....	8
Article 9— Owner’s Responsibilities .....	8
Article 10— Engineer’s Status During Construction .....	8
Article 11— Changes to the Contract .....	12
Article 12— Claims .....	12
Article 13— Cost of the Work; Allowances; Unit Price Work .....	12
Article 14— Tests and Inspections; Correction, Removal, or ACCEPTANCE of Defective Work.....	13
Article 15— Payments to Contractor, Set Offs; Completions; Correction Period .....	13
Article 16— Suspension of Work and Termination .....	14
Article 17— Final Resolutions of Disputes .....	14
Article 18— Miscellaneous .....	15

## SECTION 00 73 00

### 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 SC-4.05."

#### ARTICLE 1—DEFINITIONS AND TERMINOLOGY

##### 1.01 *Defined Terms*

SC-1.01.A10 Modify paragraph 1.01.A.10.a as follows:

In the second line after "set forth herein," delete "seeking an adjustment of Contract Price or Contract Times;" and in the fifth line after "under the Contract Documents;" add "or" and place a period after "regarding a Change Proposal;" and delete the remainder of the paragraph.

SC-1.01.A42 Add the following language at the end of the definition of Substantial Completion:

The RBC System is installed, tested, and fully operable, and capable of continuous operation to meet treatment performance. All critical components and controls shall be fully functional

##### 1.02 *Terminology*

SC-1.02 Add the following new paragraph immediately after Paragraph 1.02.G

- H. The Specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

#### ARTICLE 2—PRELIMINARY MATTERS

##### 2.02 *Copies of Documents*

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

Owner shall furnish to Contractor **one** electronic PDF copy of the Contract Documents.

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

### 3.03 *Reporting and Resolving Discrepancies*

SC-3.03 Add the following after paragraph 3.03.B.1

1. The precedent of the Construction Documents is in the following sequence:
  - a. Addenda and Modifications to the Drawings, Specifications take precedence over the original Construction Documents.
  - b. Should there be a conflict within the Specifications, on the Drawings or between the Specifications and the Drawings, the Engineer will decide which stipulation will provide the best installation and its decision will be final.
  - c. In the Drawings, the precedent shall be drawings of larger scale over those of smaller scale, figured dimensions over scaled dimensions and noted materials over graphic indications.

## ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

No Supplementary Conditions in this Article

## 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, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
No Such Report	N/A	None

- 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), and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
No Such Drawings	N/A	None

- 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 by requesting 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 Such Report		None

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 Such Drawings	N/A	None

## ARTICLE 6—BONDS AND INSURANCE

### 6.01 Performance, Payment, and Other Bonds

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

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2018 edition), or a similar bond form if approved by Owner.
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2018 edition), or a similar bond form if approved by Owner.

### 6.03 Contractor's Insurance

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- 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).

Workers' Compensation and Related Policies	Policy limits of not less than:
<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	Not Applicable



<b>Workers' Compensation and Related Policies</b>	<b>Policy limits of not less than:</b>
Bodily injury by disease—aggregate	Not Applicable
<b>Employer's Liability</b>	
Each accident	\$1,000,000
Each employee	\$1,000,000
Policy limit	\$1,000,000
<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:	Not Applicable

- 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
Products—Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$2,000,000

- 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
Each Accident	\$1,000,000
<b>Property Damage</b>	
Each Accident	\$1,000,000
<b>[or]</b>	
<b>Combined Single Limit</b>	
Combined Single Limit (Bodily Injury and Property Damage)	\$2,000,000

- 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.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$1,000,000
General Aggregate	\$1,000,000

- L. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of \$[specify amount] after accounting for partial attribution of its limits to underlying policies, as allowed above.

- 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.

Contractor's Professional Liability	Policy limits of not less than:
Each Claim	\$1,000,000
Annual Aggregate	\$1,000,000

- O. *Railroad Protective Liability Insurance:* Prior to commencing any Work within 50 feet of railroad-owned and controlled property, Contractor shall (1) endorse its commercial general liability policy with ISO CG 24 17, removing the contractual liability exclusion for work within 50 feet of a railroad, (2) purchase and maintain railroad protective liability insurance meeting the following requirements, (3) furnish a copy of the endorsement to Owner, and (4) submit a copy of the railroad protective policy and other railroad-required documentation to the railroad, and notify Owner of such submittal.

<b>Railroad Protective Liability Insurance</b>	<b>Policy limits of not less than:</b>
Each Claim	N/A
Aggregate	N/A

- P. *Unmanned Aerial Vehicle Liability Insurance:* If Contractor uses unmanned aerial vehicles (UAV—commonly referred to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, Engineer, and all individuals and entities identified in the Supplementary Conditions as additional insureds; and provide a certificate to Owner confirming Contractor’s compliance with this requirement. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy.

<b>Unmanned Aerial Vehicle Liability Insurance</b>	<b>Policy limits of not less than:</b>
Each Claim	\$1,000,000
General Aggregate	\$1,000,000

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

No Supplementary Conditions in this Article.

#### **ARTICLE 8—OTHER WORK AT THE SITE**

No Supplementary Conditions in this Article.

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

No Supplementary Conditions in this Article.

#### **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 to assist Engineer in observing progress and quality of the Work. The RPR may provide full time representation or may provide representation to a lesser degree. 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 duties and responsibilities of the RPR are limited to those of the Engineer in the Agreement with the Owner and in the Contract Documents and are further limited and described as follows. The RPR will:

1. *General:* RPR is Engineer's agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Contractor's work in progress shall in general be with Engineer and Contractor, keeping Owner advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.
2. *Schedules:* Review the progress schedule, schedule of Submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
3. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
4. *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.
5. *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.
6. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
7. *Shop Drawings and Samples*
  - a. Record date of receipt of Samples and approved Shop Drawings.
  - b. Receive Samples, which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
  - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
8. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

9. *Review of Work; Rejection of 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.
- d. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

10. *Inspections, Tests and System Startups*

- 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. Consult with Engineer in advance of scheduled major inspections, tests, and systems startups of important phases of the Work.
- c. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
- d. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems startups.
- e. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.

11. *Records*

- a. Maintain at the Site orderly files for correspondence, reports of job conferences, reproductions of original Contract Documents including all Change Orders, Field Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing and Sample submittals received from and delivered to Contractor, and other Project related documents.
- b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

- c. Record names, addresses and telephone numbers of Contractor, subcontractors, and major suppliers of materials and equipment.
- d. Maintain records for use in preparing Project documentation.
- e. Upon completion of the Work, furnish original set of all RPR Project documentation to Engineer.

12. *Reports*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Furnish to Engineer and Owner copies of all inspection, test, and system startup reports.
- d. Report immediately to Engineer the occurrence of any Site accidents, any Hazardous Environmental Conditions, emergencies, or acts of God endangering the Work, and property damaged by fire or other causes.

13. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

14. *Certificates, Operation and Maintenance Manuals:* During the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

15. *Completion*

- a. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- b. Participate in Engineer's visits regarding Substantial Completion.
- c. Observe whether Contractor has arranged for inspections required by Laws and Regulations, including but not limited to those to be performed by public agencies having jurisdiction over the Work.
- d. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed or corrected.
- e. Observe whether all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

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, Suppliers, or Contractor’s superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

**ARTICLE 11—CHANGES TO THE CONTRACT**

No Supplementary Conditions in this Article.

**ARTICLE 12—CLAIMS**

No Supplementary Conditions in this Article.

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

13.03 *Unit Price Work*

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. *Adjustments in Unit Price*

1. Payment for the Bid Items on a Unit Price basis under this Contract shall be on the basis of quantities actually used in the construction, regardless of the estimated quantities shown in the Bid Form. No revision to the Contract Unit Prices for the Bid Items shall be considered or allowed due to variations of the actual quantities from the estimated amounts.



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

### **14.05 *Uncovering Work***

SC-14.05 Delete Paragraph SC 14.05.C.2 in its entirety.

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

### **15.01 *Progress Payments***

SC-15.01 Add the following new Paragraph immediately after Paragraph 15.01.B.4

5. When an out-of-state Contractor enters into a Contract that exceeds \$50,000, Minnesota law requires the Owner to deduct and withhold 8-percent of payments made to the Contractor and forward it to the Department of Revenue.
  - a. The Contractor may apply for an Exemption of this additional withholding by submitting Form SDE, *Exemption from Surety Deposits for Non-Minnesota Contractors*, to the Minnesota Department of Revenue.
  - b. Proof of exemption is required to be submitted to Owner.

SC-15.01 Delete Paragraph 15.01.C.6.a in its entirety and insert the following in its place:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

SC-15.01 Add the following new Paragraph immediately after Paragraph 15.01.C.6.e

- f. Contractor's failure to make acceptable submittals in accordance with the accepted schedules.

### **15.03 *Substantial Completion***

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.

### **15.04 *Partial Use of Occupancy***

SC-15.04 Add the following new Paragraph 15.04.A.5:

Occupancy and use by the Owner shall not constitute, in itself, acceptance of the Work.

### **15.06 *Final Payment***

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

- f. A copy of Form IC134, certified by the Minnesota Department of Revenue. No State Agency or Local Government Unit can make final payment to a Contractor until this Affidavit certifying withholding of income tax on wages at the source, has been received.

## ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

## ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

SC-17.01 Add Paragraph 17.01.C:

- C. If the claim is not resolved by mediation, Engineer's action under Paragraph 11.09.B or a denial pursuant to Paragraphs 11.09.B4 or 11.09.B5 shall become final and binding 30 days after termination of the mediation, unless within that time period Owner or Contractor:
  - 1. elects in writing to demand arbitration of the claim, pursuant to Paragraph SC-17.02, or
  - 2. agrees with the other party to submit the claim to another dispute resolution process.

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

### 17.02 Arbitration

- A. All claims or counterclaims, disputes, or other matters in question between Owner and Contractor arising out of or relating to the Contract Documents or the breach thereof (except for claims which have been waived by the making or acceptance of Final Payment as provided by Paragraph 14.09), including but not limited to those not resolved under the provisions of Paragraphs SC-17.01.A and 17.01.B, will be decided by arbitration in accordance with the Construction Industry Dispute Resolutions Procedures of the American Arbitration Association then in effect subject to the conditions and limitations of this Paragraph SC-17.02. This agreement to arbitrate and any other agreement or consent to arbitrate entered into 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 30-day period specified in Paragraph SC-17.01.C and in all other cases within a reasonable time after the claim or counterclaim, dispute, or other 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 claim or other dispute or matter in question would be barred by the applicable statute of limitations.
- C. No arbitration arising out of or relating to the Contract Documents shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, 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; and

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.
- D. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties in writing and include: (i) a concise breakdown of the award; (ii) a written explanation of the award specifically citing the Contract Document provisions deemed applicable and relied on in making the award.
  - E. 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 Controlling Law relating to vacating or modifying an arbitral award.
  - F. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.

#### **ARTICLE 18—MISCELLANEOUS**

No Supplementary Conditions in this Article.

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## SECTION 01 10 00

### SUMMARY

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. Basic description of the Project and Work restrictions.

##### 1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

##### 1.03 SUMMARY OF WORK

- A. Project Name: RBC Replacement Project for the City of Preston Minnesota.
- B. Description of Work: The project consists of the replacement of the south rotating biological contactor (RBC-2) and related equipment.

##### 1.04 COMPLETION DATES

- A. Substantial Completion: Set forth in the Agreement.
- B. Final Completion: Set forth in the Agreement.

##### 1.05 LIQUIDATED DAMAGES

- A. Provisions for liquidated damages, if any, are set forth in the Agreement.

##### 1.06 WORK RESTRICTIONS

- A. Use of Site
  - 1. Location of construction facilities and staging areas shall be as approved by the Owner and shall be removed upon completion of Work.
  - 2. Contractor responsible for snow removal and disposal from the Owner's property if necessary, to maintain access and working space during construction.
  - 3. Keep existing driveways and entrances clear and available to the Owner.
  - 4. If additional space is needed, obtain and pay for such space off Site.
  - 5. All Work shall be accomplished between the hours of 7 A.M. and 7 P.M., Monday through Friday, and 9 A.M. to 5 P.M. on Saturday, or as allowed by applicable City ordinances.
  - 6. No construction will be permitted on Sundays or holidays, unless necessitated by an emergency or authorized in writing by the Owner or its representative.
  - 7. Road restrictions / weight limits may be in effect during portions of this Project. Contractor shall follow applicable City, County, and State rules and regulations.
  - 8. The Contractor must comply with all applicable rules and regulations to construct this Project.

B. Access to Site

1. No public streets or highways shall be closed or partially closed without prior written approval of the Owner.
2. Owner shall be allowed 24-hour access to site.

C. Existing Utilities Interruptions

1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to the requirements indicated:
  - a. Notify Owner not less than two (2) working days in advance of proposed utility interruptions.
  - b. Do not proceed with utility interruptions without Owner's written permission.

1.07 OTHER WORK AT SITE

- A. Allow private utility crews free access to the Site and a reasonable amount of time to complete their work.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

Not Used.

**END OF SECTION**

## **SECTION 01 25 00**

### **SUBSTITUTION PROCEDURES**

#### **PART 1 - GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes
  - 1. Basic procedures for request for consideration of proposed substitutions after the bidding period.

##### **1.02 SUBMITTALS**

- A. Submit enclosed Substitution request form
  - 1. Attachment 1: After Contract Award.
- B. Procedures for Contractors request for consideration of substitute as an "Approved Equivalent"
  - 1. To consider products of other manufacturers as "Approved Equivalent" CONTRACTOR shall demonstrate the substitution is equal to or better than the specified item. Factors to be addressed are:
    - a. Environment (ambient conditions, climate, etc).
    - b. Quality.
    - c. Dependability.
    - d. Durability.
    - e. Strength.
    - f. Performance.
    - g. Operation Efficiency.
    - h. Maintenance.
    - i. Warranty.
    - j. Overall Cost Effectiveness.
  - 2. CONTRACTOR shall submit only proposed items that duplicate the intended design or function that are currently in satisfactory use at other similar sites. The CONTRACTOR may be asked to provide references to other sites where the proposed substitutions have been installed.
  - 3. Basis of Acceptance: The CONTRACTOR'S provided data as stated in paragraphs 1 and 2 above shall become the basis for accepting the proposed substitution. Substitutions shall not be accepted without the approval of the ENGINEER. Substitutions prior to bid opening are only allowed if issued in an addendum.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

Not Used.

END OF SECTION



## Attachment 1 to Section 01 25 00

### REQUEST FOR DETERMINATION OF APPROVED EQUIVALENT - AFTER CONTRACT AWARD

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Project: \_\_\_\_\_ Substitution Request Number: \_\_\_\_\_  
\_\_\_\_\_  
From: \_\_\_\_\_  
To: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_  
Re: \_\_\_\_\_ Wenck Project #: \_\_\_\_\_

---

Specification Title: \_\_\_\_\_ Description: \_\_\_\_\_  
Drawing #: \_\_\_\_\_ Detail #: \_\_\_\_\_  
Section: \_\_\_\_\_ Page: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

---

Proposed Substitution: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_  
Installer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
History: ☐ New Product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old  
Differences between proposed substitution and specified product: \_\_\_\_\_

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☐ Point-by-point comparative data attached – REQUIRED BY SECTION 01 25 00

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Reason for not providing specified item: \_\_\_\_\_  
Similar Installation:  
Project: \_\_\_\_\_ Engineer: \_\_\_\_\_  
Address: \_\_\_\_\_ Owner: \_\_\_\_\_  
\_\_\_\_\_  
Date Installed: \_\_\_\_\_  
Proposed substitution affects other parts of Work: ☐ No ☐ Yes, explain \_\_\_\_\_

---

Savings to Owner for accepting substitution: \_\_\_\_\_ (\$\_\_\_\_\_).  
Proposed substitution changes Contract Time: ☐ No ☐ Yes \_\_\_\_\_ days.

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Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ \_\_\_\_\_

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## Attachment 1 to Section 01 25 00

### SUBSTITUTION REQUEST (Page 2 of 2) - After Contract Award

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including engineering design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: \_\_\_\_\_

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

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

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

Attachments: \_\_\_\_\_

#### ENGINEERS REVIEW AND ACTION

- ☐ Substitution approved – Make submittals in accordance with Specification Section 01 33 00.
- ☐ Substitution rejected – Use specified materials.
- ☐ Substitution Request received too late – Use specified materials.

Signed by: \_\_\_\_\_ Date: \_\_\_\_\_

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐

Engineer

## SECTION 01 29 00

### PAYMENT PROCEDURES

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. 1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

##### 1.02 APPLICATIONS FOR PAYMENT

- A. Submit schedule of values and payment made off of the schedule of values.
- B. Each Application for Payment shall be consistent with previous applications and payments as recommended by the ENGINEER and approved by OWNER.
- C. Progress payment will be once a month with the date determined at the pre-construction meeting.
- D. Use forms provided by ENGINEER for applications for payment.
- E. Application Preparation Procedures
  - 1. CONTRACTOR shall submit a schedule of values lump sum pay modification request.
    - a. Preliminary determinations will be reviewed with the CONTRACTOR before completing Application for Payment.
    - b. CONTRACTOR will complete the Application for Payment based on CONTRACTOR's estimate on work progress to date.
    - c. CONTRACTOR will submit one (1) electronic PDF of the Application for Payment to the ENGINEER for review and signature.
    - d. ENGINEER shall submit signed Application for payment to OWNER for approval.
  - 2. If payment is requested for materials and equipment not incorporated in the Work, then the following shall be submitted with the Application for Payment:
    - a. Evidence that materials and equipment are suitably stored at the site or at another location agreed to in writing.
    - b. A bill of sale, invoice, or other documentation warranting that the materials and equipment are free and clear of all liens.
    - c. Evidence that the materials and equipment are covered by property insurance.
  - 3. Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of CONTRACTOR.
- F. The following administrative actions and submittals shall precede or coincide with submittal of first Application for Payment:
  - 1. List of subcontractors.
  - 2. CONTRACTOR's construction schedule.
  - 3. Copies of building and other permits.

4. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
- G. Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted including, but not limited, to the following:
  - a. Evidence of completion of Project closeout requirements.
  - b. Insurance certificates for products and completed operations where required and proof that taxes, fees and similar obligations were paid.
  - c. Updated final statement, accounting for final changes to the Contract Sum.
  - d. Consent of Surety to Final Payment.
  - e. Final lien waivers as evidence that claims have been settled.
  - f. Final liquidated damages settlement statement.
  - g. IC-134 Forms

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

Not Used.

**END OF SECTION**

**SECTION 01 31 00**  
**PROJECT MANAGEMENT AND COORDINATION**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Section Includes
  - 1. General requirements for overall Project coordination.

1.02 SURVEYING AND CONSTRUCTION OBSERVATION

- A. Provide Engineer a minimum of 48-hour notice in advance of the need for establishing lines, grades, measurements, grade checks, and observation of Work.

1.03 PROJECT MEETINGS

- A. Administrative Requirements
  - 1. Project Superintendent or persons designated by the Contractor to attend and participate in the Project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the Project meetings.
  - 2. Engineer will set the time, sites, and prepare the agenda for the meetings.
  - 3. Engineer will prepare meeting minutes and distribute 1 copy to Contractor. Notify Engineer of inaccuracies or discrepancies in the meeting minutes within 5 calendar days of receipt of the minutes.
  - 4. The attendance and cooperation of subcontractors and suppliers may be required.
- B. Preconstruction Conference
  - 1. Provisions for the Preconstruction Conference are set forth in the General Conditions.
  - 2. Requirements for preconstruction submittals are set forth in the General Conditions. Submittal procedures shall be consistent with Section 01 33 00.
- C. Progress Meeting Procedures
  - 1. Engineer will schedule construction progress meetings throughout the duration of the Project to assess the progress of the Work, identify and discuss Project related issues, and discuss near-term construction activities.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

Not Used.

**END OF SECTION**

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## SECTION 01 33 00

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. General procedures and requirements for submittals during the course of construction.

##### 1.02 DEFINITIONS

- A. Product Data: Product information that fully describes the product to be incorporated into the Work.
- B. Master Submittal Log: Is a master listing, prepared by the Contractor and approved by the Engineer, of current status of all submittals identifying transmittal dates and review status.
- C. Resubmittal: Is a submittal package with one or more submittals previously receiving a disposition of "Does not conform" (DNC). Non-conforming submittal items must be corrected and the submittal package resubmitted for review. Only nonconforming submittal items need to be resubmitted in the package.
- D. Shop Drawings: Shop Drawings, reports, design calculations, and descriptions, which illustrate fabrication, layout, setting or erection details for some portion of the work. Shop Drawings include all items of construction and materials that become an integral part of the completed project as well as those items that are specifically shown on the Contract Documents.
- E. Working Drawings: Drawings, reports, design calculations, and descriptions, which illustrate facilities, methods, procedures, and equipment not incorporated into finished work (other than those specifically shown or specified).
- F. Submittal Package: Is a group of related submittal items, from same Section, transmitted under a Submittal Package Cover Sheet. Each submittal item is identified with a separate submittal line item. Each line item receives a separate disposition. Submittal package disposition remains open until all line items conform to requirements of Contract Documents.
- G. Submittal Package Cover Sheet: Standard transmittal form required to transmit Submittal Packages. Submittal line-item information is identified on this form.
- H. Submittal Line Item: Referred to as "Submittal" is specific information, which may consist of a listing of related items, used to verify that a particular Product or Work element complies with the Contract Documents.
- I. Submittal Contents Sheet: Is a standard form used to separate submittal packages into segments of reviewable information.

- J. Administrative Submittals: All submittals, permit applications, and certifications required by regulatory and/or public agencies, and various provisions of Division 00 of these Contract Specifications.

### 1.03 SUBMITTALS

- A. Complete Master Submittal List to be completed by Contractor.
  - 1. Identify all submittal packages needed to complete Work.
  - 2. Identify each submittal included in each submittal package.
  - 3. Group submittals in packages containing associated items within a Section. Partial or incomplete submittal packages may be rejected without review.
  - 4. A submittal is required for all Products incorporated into the Work.
- B. The Contractor's Construction Schedule shall include all major product items (equipment or materials) and long lead-time items.
- C. Incomplete or partial submittals, those that do not fully describe the work or comply with the Contract Documents, may be rejected without review.
- D. Cross out, redline, or identify as "does not apply" information not pertinent to submittal.
- E. Do not use a highlighter. Submittals containing highlighter marks will be rejected.

### 1.04 SHOP DRAWINGS AND WORKING DRAWINGS

- A. Equipment and Material layout drawings: Show physical layout, elevations, state plane coordinates, relationship to other structures, all to scale sufficiently large enough to show all pertinent fixtures. Include dimensions, labels, notes, legends, bills of materials and other information to illustrate relationship to Work.
  - 1. Use legends to identify all symbols and abbreviation.
  - 2. Use symbols and abbreviations used in the Contract Documents where practical.
- B. System schematics and diagrams: Show complete relationship of components to its system and to interrelated systems. Use symbols consistent with industry standards. Show flow direction and range, sizes, capacities, settings, and function of all components included in system. Types of systems are:
  - 1. Process piping systems.
  - 2. Process equipment systems.
  - 3. Plumbing and utility piping systems.
  - 4. Heating, ventilating, air conditioning systems.
  - 5. Pneumatic and hydraulic systems.
  - 6. Conveyance systems.
  - 7. Electrical distribution systems.
    - a. Single-line (One-line) Diagrams.
    - b. Conduit and Cable Layout Drawings.
    - c. Grounding System Layout Drawings.
    - d. Lighting Arrangement Layout Drawings.
    - e. Point to Point Wiring Diagrams.
  - 8. Instrumentation and control systems.
    - a. Control Logic Block Diagrams.
    - b. Ladder Logic Diagrams.
    - c. Instrumentation Loop Diagrams.
    - d. Panel Wiring Diagrams.



- e. Control Enclosure Location Plans.
  - f. PLC System I/O Module Loop Wiring Diagrams.
  - g. Printed Circuit Board Layouts.
  - h. Process and Instrumentation Diagrams.
- 9. Communication systems.
- C. Equipment and material schedules:
  - 1. Include schedules on layout drawings or system schematics when appropriate to further define components included on drawings.
  - 2. List all information needed to determine conformance to Contract Documents and to construct, inspect, test, operate and maintain component.
- D. Provide complete and detailed Product or equipment information including:
  - 1. Component description and materials of construction.
  - 2. Supports and bracing.
  - 3. Dimensional and anchor bolt layout drawings.
  - 4. Identify options and accessories in installed location.
  - 5. Identify metal finishes, coating information and colors.
  - 6. Provide operating requirements for electrical service, water, air, pressures and volumes, drains and other supporting utility services.
  - 7. Provide complete drawings and diagrams identifying electrical, instrumentation, and control systems of equipment. Include wiring: sizes, numbering and diagrams; functional description; I/O devices, etc.
  - 8. Shipping, storage, and handling instructions, including weight.
- E. Provide reproducible shop drawings larger than 8 1/2 by 11 inches on standard size sheets of: 11 by 17 or 22 by 34 inches. Odd sized drawings will be rejected.

#### 1.05 PRODUCT DATA

- A. Include sufficient data to fully describe Product to be incorporated in Work. Forms of data are:
  - 1. Catalog cut sheets.
  - 2. Bulletins, brochures, specifications.
  - 3. Materials data.
  - 4. Finish or treatment data.
  - 5. Equipment performance data.
  - 6. Utility or power requirements.
  - 7. Design data and calculations.
  - 8. Other data either specified or needed to describe the Product.
- B. Provide performance, maintenance and operating data to evaluate Product and its operation.
  - 1. Operating sequence descriptions; A complete sequential description of all.
  - 2. operating modes including safety functions.
  - 3. Software and programming documentation: A complete description of program source code and logic diagrams including descriptive documentation.
  - 4. Manufacturer's instructions: Include instructions for shipping, unloading, storage, installation, preventive maintenance, and lubrication.
  - 5. Warranties and Guarantees: Include any special requirements listed in specifications.

## 1.06 QUALITY ASSURANCE

- A. Provide Project information in English.
- B. Provide numerical expressions in United States standard units of measurement and metric equivalents may also be provided.
- C. Provide information neatly arranged and legible:
  - 1. Text size not less than 10-point font. Smaller text may be acceptable for drawing reductions if text is clear and legible.
  - 2. Faded or distorted information not suitable for reproduction will be rejected.
  - 3. Submit information clear, sharp and suitable for legible reproductions.
  - 4. Limit facsimile transmitted information to text. Avoid facsimiles of graphic information.
  - 5. All information shall be arranged on page on drawing so as to be read from bottom or right-hand side.
- D. Letters, certifications, and similar documents for submittal:
  - 1. Type documents on sender's letterhead.
  - 2. Include date, Contract No. and subject description.
  - 3. Handwritten notes, memos or speed memos are not acceptable as a submittal document.
  - 4. Submit all pages of letters. Do not submit with deleted passages or missing pages. Red line portions of letters not relevant to submittal.
  - 5. Nonspecific letters, test reports, material certifications or similar documents that do not fulfill submittal requirements of specifications will be rejected.
- E. The Contractor's Responsibility: Provide quality assurance approval and stamp all submittals before submitting documents:
  - 1. Verify conformance to Contract Documents.
  - 2. Verify field conditions, dimensions, materials and other data.
  - 3. Coordinate with trades and agencies.
  - 4. Complete reviews and approvals from public agencies. Include appropriate letters, signatures and stamps to signify approval.
  - 5. Clearly identify, in writing, in a cover letter or separate typed itemized page, any deviations from Contract Documents and describe reason for deviation.
  - 6. Review submittal package for completeness and conformance to submittal requirements.
  - 7. The Contractor's responsibility for deviations in submittals from Contract Documents requirements is not relieved by the Engineer's or Owner's review of submittals, unless written acceptance is granted by the Engineer or Owner for the specified deviation. All proposed deviations, modifications, and/or substitutions shall be clearly and conspicuously shown in the Contractor's submittal and shall be called out, in writing, on a separate typed itemized page included with the submittal.
  - 8. The Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's or Owner's review of the submittal. It remains the responsibility of the Contractor to perform all Work in full conformance with the Contract Documents and Conforming submittals.
  - 9. Approve and stamp each submittal package. Stamp warrants that the Contractor has checked and approved entire submittal package.

- F. Excess submittal review costs shall be deducted from Contract Sum. Excess costs are:
  - 1. Review costs incurred by City, the Engineer, Construction Manager, and Design Professional associated with completing submittal reviews beyond third review of submittal.
  - 2. Cost incurred to revisit submittals previously given as Conforms or Conforms as Noted disposition.
  - 3. Cost incurred to attend additional submittal meetings to discuss submittals previously discussed in a submittal meeting.
  - 4. Cost to accelerate review for late submittals.
  - 5. Reimbursable costs will be deducted from Contract-by-Contract Modification.

#### 1.07 RESUBMITTAL REQUIREMENTS

- A. Resubmittal requirements include:
  - 1. Corrections or changes in submittals required by Engineer shall be identified.
  - 2. Resubmittals are required until submittal is approved.
  - 3. Resubmittals shall identify Engineer comments on rejected submittals and identify Contractor's/Manufacturer's response to each submittal comment.

#### 1.08 MOCK-UP AND SAMPLES

- A. Provide mock-ups and product samples to demonstrate compliance with specifications and quality standards of construction.
- B. Colors and Patterns
  - 1. Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charges to Engineer for review and selection.

#### 1.09 CHEMICAL LISTS AND SAFETY DATA SHEETS

- A. Prior to the start of any Work, the Contractor shall submit a list of all chemicals to be used on the project. A safety data sheet (SDS) for each chemical must be provided.

#### 1.10 ADMINISTRATIVE SUBMITTALS

- A. Administrative submittals will be required for record-keeping purposes and will not be subject to the review process described in Part 3 of this Section of the Specifications.
- B. Submit a minimum of one (1) copy of all correspondence, notifications, documentation, reports, certifications, citations, payrolls, and alike that the Contractor submits directly to any federal, state, or other regulatory agency.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

#### 3.01 PREPARATION

- A. Conform to the requirements of the General Conditions, except as modified herein.

- B. The minimum sheet size shall be 8.5 inches by 11 inches. Non-legible copies will not be reviewed.
- C. Leave space at least 4 by 4 inches on drawings larger than 8 1/2 by 11 inches for Design Professional's review stamp.
- D. Organize information in a logical and orderly arrangement.
- E. Number all pages consecutively. Begin with page 1 for each submittal line item.
- F. Include submittal index if information is voluminous or complex.
- G. Submittal Numbering System:
  - 1. Submittals shall be numbered according to the 6-digit specification section they apply to.
- H. Prepare Submittal Package Cover Sheet and other Submittal forms. Fill in all information requested. Submit a minimum of one (1) electronic copies of shop drawings. Each copy shall contain the following information:
  - 1. Include Contractor/subcontractor/supplier address and personnel information.
  - 2. Include Submittal Line-Item information, including specification paragraph number and number of pages.
  - 3. Include Submittal Contents Sheet to separate submittals into logical segments for review.
  - 4. Identification of revisions from previous submittals.
  - 5. The Contractor may list each drawing, for Products requiring multiple shop drawings, on the Submittal Contents Sheet and receive separate dispositions for each drawing.
- I. Carefully review, approve and stamp all submittal information before submitting to Engineer and Owner.
- J. Submittals shall be scheduled for enough in advance to provide time for reviews.
- K. Allow 21 Calendar days on the Construction Schedule for review of the submittal by the Engineer for all submittals, except major equipment submittals. Allow 35 calendar days to review major equipment submittals.

### 3.02 SUBMITTAL REVIEW

- A. Engineer's Review Responsibilities are as follows:
  - 1. Review submittals for the limited purpose of checking conformance with design concept of the Project and general intent of the Contract Documents, based on information provided in the Contract Documents. Such review shall not relieve the Contractor for responsibility for complying with the Contract Documents.
  - 2. Review design computations only for design concept and assumptions.
  - 3. Engineer's review of separate items does not constitute review of an assembly of those items.
- B. Each submittal item on Submittal Cover Sheet and the Submittal Package Cover Sheet will be assigned separate dispositions by the Engineer:
  - 1. Submittals found not to have been reviewed by the Contractor or reviewed in a cursory manner will be rejected by the Engineer without review.

2. Review comments will be written on Submittal Contents Sheet and throughout submittal.
  3. All submittal line items must conform before Submittal Package is assigned "Conforms."
- C. Engineer will stamp shop drawings and indicate requirements for Contractor's review or resubmittal as follows:
1. "Reviewed" – Appears that items covered by the submittal will, after installation or incorporation into the Work, conform to the Contract Documents and appears to be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
  2. "Reviewed as Noted" – Appears that items covered by the submittal will, after installation or incorporation into the Work, conform to the Contract Documents and appears to be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, except as noted by Engineer.
  3. "Revise and Resubmit" – Appears that items covered by the submittal will not, after installation or incorporation into the Work, conform to the Contract Documents and will not be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Work cannot proceed until the submittal is revised and resubmitted conforming to the resubmittal procedures described in the General Conditions.
- D. Submittal Hold Notice may be issued by the Engineer if review cannot be completed without specific additional information supplied.
1. Additional information will be identified on Submittal Hold Notice.
  2. Contractor shall attach information requested to Notice and return it to Engineer.
  3. Attach Submittal Contents Sheet to Hold Notice if additional line items are needed to complete request.
  4. Submittal Hold Notice will become permanent attachment to submittal.
- E. Only nonconforming Submittal items need to be resubmitted in the package and shall have the same submittal package number except for the Revision Number. Resubmittals, which are incomplete or do not address previous review comments, will be rejected without review.
- F. "Acceptable disposition" used in Contract Documents means submittal received disposition of Conforms, Conforms as Noted, or No Action Required.

### 3.03 OPERATION AND MAINTENANCE MANUALS

- A. Conform to the requirements of Section 01 78 23.

### 3.04 TEST REPORTS

- A. Submit electronic copies of all inspections, tests, and approvals required in the Specification.

### 3.05 WELDING CERTIFICATES

- A. Submit welding certificates for each person by name assigned to do field welding of materials installed under this Contract. Certificates shall indicate that each person has passed tests specified by AWS and shall be submitted prior to execution of any welding.

### 3.06 SAFETY DATA SHEETS

- A. Furnish Owner with current copies of Safety Data Sheets for all chemicals and products on Site.

## SUBMITTAL NUMBERING SYSTEM EXAMPLE

J033 – 15063 – D – 0004 – 00

1. **Contract No. :**

2. **Contract Specification Section :**

The five digit specification section number taken from the project manual.

If reference is to a specific Contract Drawing only, simply indicate the applicable Contract Drawing Number from left to right, leaving any remaining digits blank

3. **Routing Designation**

See list of standard codes in Subparagraph 3.03 A

4. **Submittal Sequence No.**

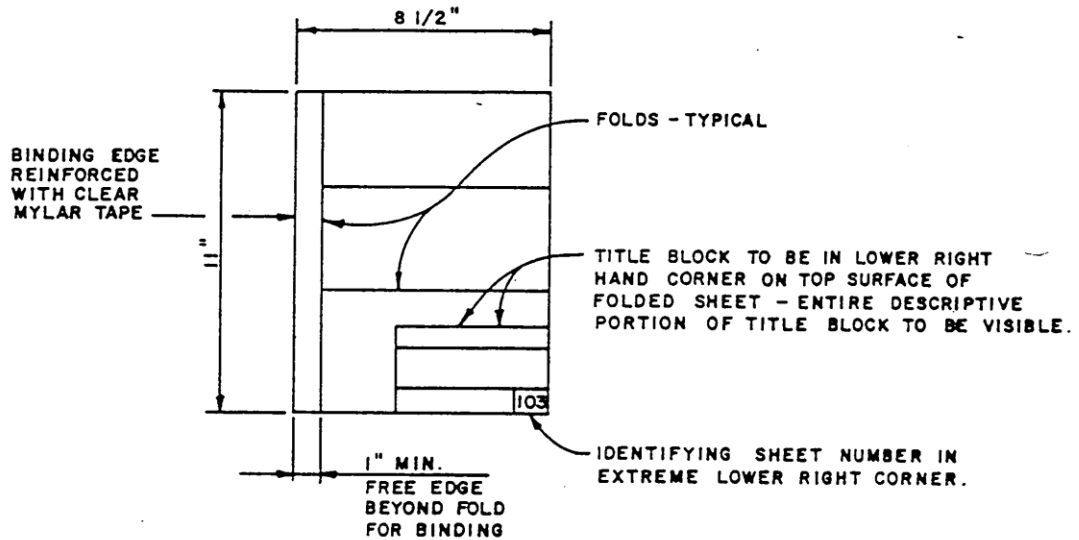
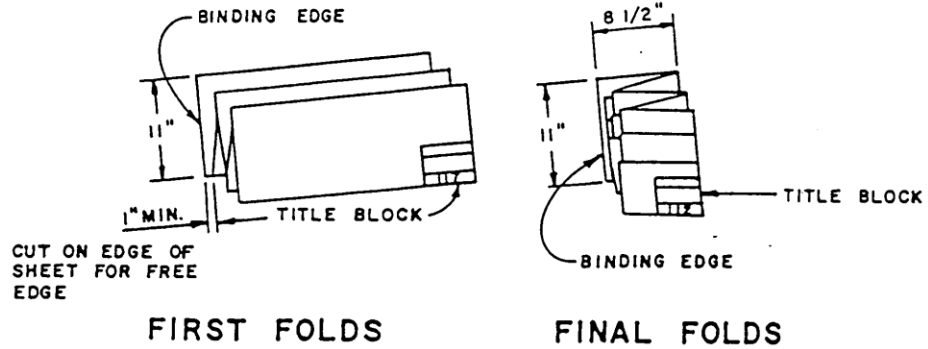
A sequential number assigned by the Contractor to each submittal package numbered 0001 to 9999.

5. **Revision - Level No. :**

The number used to identify the first submittal and each subsequent resubmittal. Numbering format is shown below:

- 00 - Denotes the first Submittal of information for a particular item or items.
- 01 - Denotes the first revision of that Submittal.
- 02 - Denotes the next resubmittal, then 03, 04, ...99.

# F-1 FOLDING DIAGRAM



## TYPICAL FOLDED SHEET

NOTE:  
ALL SHEETS LARGER THAN 8 1/2" BY 11" SHALL BE FOLDED AS SHOWN FOR BINDING ALONG THE LEFT EDGE. CONTENT OF THE SHEETS SHALL BE ARRANGED TO READ FROM THE BOTTOM OR RIGHT SIDES. FIRST FOLDS SHALL BE OMITTED IF HEIGHT OF SHEET IS 11" BEFORE FOLDING.

END OF SECTION



## SECTION 01 35 31

### HEALTH AND SAFETY REQUIREMENTS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section includes health and safety requirements for the Project.
- B. CONTRACTOR shall be responsible for implementation and enforcement of safe Work practices, including, but not limited to personnel monitoring, use of trenching, sheeting, and shoring, scaffolding; materials handling and drilling; operation of equipment; and safety of public during progress of Work.

##### 1.02 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies:
  - 1. CONTRACTOR shall plan for and ensure personnel comply with basic provisions of OSHA Safety and Health Standards (29 CFR 1910) and General Construction Standards (29 CFR 1926) as appropriate.
  - 2. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property.

##### 1.03 OPERATIONS AND EQUIPMENT SAFETY

- A. CONTRACTOR shall be responsible for initiating, maintaining, and supervising safety precautions and programs in connection with Work. CONTRACTOR shall take necessary precautions for safety of employees on project site and other persons and organizations who may be affected by the project.
- B. CONTRACTOR'S duties and responsibilities for safety in connection with Work shall continue until such time as all Work is completed and ENGINEER has issued notice to CONTRACTOR that Work is complete.

##### 1.04 HEALTH AND SAFETY

- A. CONTRACTOR is responsible for implementation and enforcement of health and safety requirements and shall take necessary precautions and provide protection for:
  - 1. All personnel working on or visiting project site, irrespective of employer.
  - 2. Work and materials or equipment to be incorporated in Work area whether on- or off-site.
  - 3. Other property at or adjacent to project site.
  - 4. Public exposed to job-related operations or potential release of toxic or hazardous materials.
- B. CONTRACTOR shall prepare a site-specific Health And Safety Plan (HASP). If CONTRACTOR does not have the capability to prepare HASP, CONTRACTOR shall employ consultants with appropriate capability. CONTRACTOR is solely responsible for the adequacy of the HASP's preparation, monitoring,

management, and enforcement. At a minimum, CONTRACTOR'S HASP shall address the following:

1. Site description and history
  2. Project activities and coordination with other CONTRACTORS.
  3. Hazard evaluation.
  4. On-site safety responsibilities.
  5. Work zones.
  6. Personnel training.
  7. Personal protection, clothing, and equipment.
  8. Emergency procedures.
- C. If OWNER contracts with others for Work on the site, CONTRACTOR shall amend the HASP to include provisions for Work of others. CONTRACTOR shall also manage, enforce, and monitor the health and safety activities of other CONTRACTORS during duration of other CONTRACTORS' Work.
- D. CONTRACTOR shall conduct an on-site safety meeting to review safety procedures with all workers prior to the beginning of construction.

#### 1.05 ENGINEER RESPONSIBILITIES

- A. The ENGINEER is anticipated to be present on Project Site during construction activities. The ENGINEER will comply with CONTRACTOR'S safety plans, programs, and procedures.
- B. If ENGINEER determines CONTRACTOR'S safety plans, programs, and procedures do not provide adequate protection for ENGINEER, ENGINEER may direct its employees to leave Project Site or implement additional safeguards for ENGINEER protection. If taken, these actions will be in furtherance of ENGINEER responsibility to its employees only, and ENGINEER will not assume responsibility for protection of any other persons affected by Work.
- C. If ENGINEER observes situations that appear to have potential for immediate and serious injury to persons, ENGINEER may warn persons who appear to be affected by such situations. Such warnings, if issued, shall be given based on general humanitarian concerns, and ENGINEER will not, by issuance of any such warning, assume any responsibility to issue future warnings or any general responsibility for protection of persons affected by Work.

#### 1.06 SUBMITTALS

- A. Submit copies of HASP to OWNER and ENGINEER.
1. Submit HASP to OWNER and ENGINEER within 7 days after Notice to Proceed. Work on-site shall not proceed until the HASP has been submitted to ENGINEER.
    - a. Submittal of CONTRACTOR'S Health and Safety Plan to ENGINEER is to inform ENGINEER and OWNER so they can comply with HASP during performance of their on-site responsibilities as described in Contract Documents.
    - b. Submittal of CONTRACTOR'S Health and Safety Plan shall neither impose on ENGINEER'S responsibility for adequacy of HASP nor relieve CONTRACTOR from full responsibility therefore.

- B. Submit with HASP list of personnel to perform work on Site and documentation of personnel safety training required.
  - 1. Personnel who supervise on-site work and have the potential to come in contact with waste, hazards or toxic environment shall be safety trained as required under OSHA 29 CFR 1910.120. This does not include personnel whose sole responsibility is the transport of such from one site to another. Such personnel shall remain in vehicle at all times until vehicle loading is complete.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

NOT USED.

**END OF SECTION**

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## **SECTION 01 40 00**

### **QUALITY REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes
  - 1. Information required for conformance to regulatory requirements.
  - 2. Quality assurance.
  - 3. Procedures to measure and report the quality and performance of the Work.

##### **1.02 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

##### **1.03 SUBMITTALS**

- A. Prior to start of Work, submit testing laboratory name for various specified tests for approval by Engineer.
- B. Laboratory test results or analysis.
- C. Manufacturer's certificates of quality control or performance.

##### **1.04 WORKMANSHIP**

- A. Comply with industry standards of the region, except where more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

##### **1.05 TESTS AND INSPECTIONS**

- A. Conform to the requirements of the General Conditions, except as modified herein.
- B. Notify Engineer 48 hours prior to expected time for operations requiring tests and inspections.
- C. Provide incidental labor and facilities to obtain and handle samples at Site or source, transport samples to laboratory, and facilitate tests and inspections for storing and curing of test samples.

##### **1.06 LABORATORY REPORTS**

- A. After each inspection and test, submit a copy of the Laboratory Report to Engineer.
- B. Include: Date issued, Project title and number, name of inspector, date and time of sampling or inspection, identification of product and Specifications Section, location in the Project, type of inspection or test, date of test, results of tests, and conformance with Contract Documents.

#### 1.07 LABORATORY RESPONSIBILITIES

- A. Test samples and perform field tests.
- B. Provide qualified personnel. Cooperate with Engineer and Contractor in performance of services.
- C. Ascertain compliance with the requirements of the Contract Documents.
- D. When requested by Engineer, provide interpretation of test results.

#### 1.08 LIMITS ON TESTING LABORATORY AUTHORITY

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

#### 1.09 MANUFACTURER'S CERTIFICATES

- A. If requested by Engineer, submit manufacturer's certificate with shop drawings certifying that products meet or exceed specified requirements executed by responsible officer.

#### 1.10 MANUFACTURER'S FIELD SERVICES

- A. Provide qualified representative to observe field conditions; conditions of surfaces and installation; quality of workmanship; start-up of equipment; and test, adjust, and balance of equipment.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

**END OF SECTION**

## **SECTION 01 41 00**

### **REGULATORY REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

###### **A. Section Includes**

1. Permit and easement information and requirements for the Project.

##### **1.02 GENERAL**

- A. The CONTRACTOR shall conduct operations in accordance with the provisions of all permits, whether obtained by the CONTRACTOR or provided by the OWNER. Any violations or fines will be the sole responsibility of the CONTRACTOR.
- B. The CONTRACTOR shall complete the WORK in accordance with federal, state, and local codes, laws, regulations, and rules that govern such operations, including public safety, occupational safety and fire codes.
- C. Materials and products are specified herein for their appropriateness in the completed work. The CONTRACTOR is responsible for: providing training and education to the CONTRACTOR's employees and obtaining and distributing information regarding the potential dangers and appropriate safety measures for material and products during the work as required by the Occupational Safety and Health Administration, Hazard Communication Standard and the State of Minnesota.

##### **1.03 PERMITS ACQUIRED BY OWNER**

- A. The OWNER will secure permits listed below. The CONTRACTOR is responsible to comply with the terms and provisions of these permits:
  1. None.

##### **1.04 PERMITS ACQUIRED BY CONTRACTOR**

- A. MPCA NPDES Construction Activity Stormwater Permit (if required).
- B. CONTRACTOR shall secure and pay for any electrical permits/inspections.
- C. CONTRACTOR shall apply for, obtain, and comply with other permits, licenses, and approvals which may be required for the Project.

#### **PART 2 PRODUCTS**

NOT USED.

**PART 3 EXECUTION**

NOT USED.

**END OF SECTION**



**SECTION 01 50 00**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Section Includes
  - 1. Temporary utilities and miscellaneous temporary facilities required during construction.
- B. Products furnished but not installed under this Section or products installed but not furnished under this Section.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All other Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 REFERENCES

- A. Minnesota Department of Transportation "Standard Specifications for Construction, 2025 Edition (MnDOT Spec.).
- B. The Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD), including the Field Manual on Temporary Traffic Control Zone Layouts – Latest edition.
- C. Minnesota Department of Transportation Traffic Engineering Manual.

1.04 SUBMITTALS

- A. Construction Staging Plan consistent with Section 01 33 00, including the following information:
  - 1. Sequence of construction and traffic control.
  - 2. Streets closed or restricted during any stage of construction.
  - 3. Provisions for routing any detoured traffic as permitted.
  - 4. Specific signs, striping, and other traffic control devices to be utilized.
- B. Traffic Management Plan consistent with Section 01 33 00, including the following information:
  - 1. Haul and access routes.
  - 2. Permits or applications required by local authorities.
  - 3. Temporary facilities required.

**PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

### **3.01 MOBILIZATION**

- A. Move personnel, equipment, materials, and all other items required to complete the Work at the Site.
- B. Establish Contractor offices, building, or other facilities necessary for Work on the Project.
- C. Temporarily hold or relocate utilities and any miscellaneous structures, such as signs, power poles, guy wires, and mailboxes disturbed.

### **3.02 SIGNS, MAILBOXES, ETC. REMOVAL AND REPLACEMENT**

- A. Remove, store carefully, and replace all non-City or County owned signs, posts, etc. that may be within the Site as directed by Engineer. Owner will remove and replace Owner's signs.
- B. Remove existing mailboxes and posts, and temporarily install in locations determined by Engineer or as shown on Drawings. Replace mailboxes prior to Substantial Completion. Removal, temporary reinstallation, and replacement shall occur such that mail delivery is not interrupted. Mailboxes, posts, and appurtenances damaged during construction shall be replaced with new at no charge to Owner.

### **3.03 TEMPORARY UTILITIES**

- A. Provide and maintain all temporary facilities, utilities, and controls as long as needed for the safe and proper completion of the Work. Remove all temporary facilities, utilities, and controls as rapidly as progress will permit or as directed by Engineer.
- B. Temporary Water for Construction
  - 1. Use of new or existing hydrants is prohibited, except for testing and flushing of newly installed mains.
  - 2. Obtain water for construction from locations designated by the Owner.
- C. Temporary Water for Construction
  - 1. Obtain water for construction from Owner at a hydrant. Obtain a meter and backflow prevent or assembly from Owner. Return to Owner at completion. There is no charge for meter use during construction.
  - 2. Owner will pay for the costs of the water.
- D. Temporary Water Services
  - 1. Maintain temporary potable water service to the structures identified on the Drawings.
- E. Temporary Sewer Services
  - 1. Maintain temporary sewer service to the structures identified on the Drawings.
- F. Temporary Electricity
  - 1. Provide all necessary temporary electric service and temporary wiring needed for construction activities. Contractor shall pay for all temporary electricity.
  - 2. Contractor may use permanent electric service after service is installed. Contractor shall pay for all electrical usage until Substantial Completion. After Substantial Completion, Owner will pay for electricity.

G. Temporary Heating

1. Provide and pay for temporary heating.
2. Contractor may use permanent HVAC system after Substantial Completion. After Substantial Completion, Owner will pay for heat.

H. Temporary Telephone

1. Provide temporary telephone service to Site.

3.04 CONSTRUCTION FACILITIES

A. Sanitary Facilities

1. Comply with all governing regulations, including safety and health codes, for sanitary fixtures and facilities.
2. Provide self-contained toilet units, or water and sewer connected temporary toilet facilities, consistent with governing regulations. Contractor may not use Owner's toilet facilities.
3. Provide and maintain adequate supply of toilet tissue, paper towels, paper cups, and similar disposable materials appropriate for each facility. Provide appropriate covered waste containers for used material.

3.05 TEMPORARY CONSTRUCTION

A. Bypass Pumping

1. All sanitary flows shall be pumped around areas with no spillage allowed.
2. Any spill needs to be reported as required by law.

B. Pumping and Dewatering

1. Provide draining, pumping, dewatering, and cleaning operations necessary to complete the Work.
2. Provide all necessary pumping to remove all surface water and groundwater from structures as required for the Work. Provide erosion control measures for discharge of water.
3. Protect Site and adjacent property to avoid damage.

3.06 TRAFFIC CONTROL

A. General

1. The Contractor shall provide and maintain all traffic control devices in accordance with the approved Construction Staging Plan. All traffic control devices and other protective measures shall conform to MnMUTCD.
2. The Contractor will not be permitted to park vehicles as to obstruct a traffic control device. The parking of workers' vehicles will not be allowed within the Project limits, unless so approved by the Engineer.
3. The Contractor will not be permitted to store materials or equipment within 30 feet of through traffic, unless approved by the Engineer. If materials or equipment must be stored within 30 feet of through traffic, the Contractor shall provide barricades or barriers, as directed by the Engineer, to warn and protect traffic.
4. The Contractor shall conduct Work in a manner which will allow access to all properties within and adjacent to the Project by fire, police, and emergency vehicles.
5. The Contractor is responsible to maintain all unpaved surfaces. The surface shall be watered and bladed as directed by the Engineer.

B. Construction Staging Plan

1. Within 10 days following the approval of the Contract, the Contractor shall provide the Engineer with a Construction Staging Plan and a Traffic Management Plan. The Engineer may accept, reject, or suggest alterations to the plans. These plans shall reflect the following conditions:
  - a. The Contractor shall provide a method of protecting traffic from open excavation areas.
  - b. Minimum thru-lane lane widths of 10 feet will be maintained at all times.
  - c. 2-way traffic (1 lane in each direction) will be maintained at all times.
  - d. The Contractor may request changes to the Construction Staging Plan at any time. No change or deviation will be permitted without approval of the Engineer.
  - e. Provide access for emergency vehicles and busses to all residences at all times.
  - f. The Contractor will re-establish access to all driveways at the end of each day.
  - g. For all traffic lane switches, interim pavement markings shall be installed in accordance with Chapter 8 of the Traffic Engineering Manual. There will be no direct compensation for interim pavement markings.
  - h. The Contractor shall furnish, install, and maintain "ROAD WORK AHEAD" and "END ROAD WORK" signs in advance of and beyond each end of the construction limits. The Contractor shall also furnish, install, and maintain "ROAD WORK AHEAD" signs in advance of the construction limits on all intersecting roads and streets.
  - i. The staging shall be undertaken to provide street access and local access to adjacent properties as directed by the Engineer. The Engineer may modify the requirements for traffic control as deemed necessary due to field conditions.
  - j. Contractor shall remove traffic control devices at the conclusion of the Work.

### 3.07 TEMPORARY BARRIERS AND ENCLOSURES

A. Temporary Barriers

1. Provide temporary covers, enclosures, markers, and barriers as necessary to protect Work.
2. Damage to the Site caused by removal of temporary fencing, including postholes, shall be promptly repaired by Contractor. During removal at no time shall the Work remain unattended if a dangerous condition exists because of incomplete removal or Site repairing.

B. Temporary Fence

1. Install as shown on the Drawings.
2. Maintain and repair fence throughout the duration of the Project.
3. Provide Owner and Engineer with keys or combinations to any locks that may be used to secure fencing gates.

### 3.08 CONTRACTOR'S OFFICE

- A. Contractor may provide and maintain an office at the Site for the duration of the Project.
- B. Keep 1 complete set of Contract Documents, 1 copy of all approved shop drawings, and 1 complete set of up-to-date Record Drawings on-site for use by the Engineer and Owner.

## END OF SECTION

## SECTION 01 55 00

### SITE ACCESS AND STORAGE

#### PART 1 GENERAL

##### 1.01 SUMMARY

###### A. Section Includes

1. Requirements for site access, storage, staging, parking, traffic control and temporary crossings.

##### 1.02 SITE ACCESS

- A. During the execution of this project, all access, movement of construction equipment, and storage of materials shall be within the work limits identified in the Contract Documents. The CONTRACTOR'S material storage and parking areas shall be as approved by the OWNER and ENGINEER.
- B. The CONTRACTOR's staging, storage, and equipment parking areas shall be restored before final acceptance of the work.
- C. The CONTRACTOR shall be solely responsible for making arrangements for any necessary off-site storage or shop areas.
- D. The CONTRACTOR shall notify the OWNER of any activities that may disrupt access to businesses or facilities or parking areas at the Preconstruction Conference. Additional notification to the OWNER shall occur at least 48 hours prior to activity.
- E. The CONTRACTOR is responsible for keeping streets and roadways clean of dust, dirt, mud and debris both inside and outside the work area.
  1. This may require measures to clean trucks before leaving the site and sweeping paved areas.
  2. Roadways shall be cleaned by a pickup sweeper within 24 hours of direction by the OWNER.
- F. Protect pavements and curb from damage with protection measures/surface treatment as required. Damaged pavement or curb from construction activities shall be replaced at the expense of the CONTRACTOR.

##### 1.03 SITE RESTORATION

- A. Restore site access and staging areas in accordance with Section 32 92 19.

##### 1.04 HIGHWAY LIMITATIONS

- A. The CONTRACTOR shall make an investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the project. It shall be the CONTRACTOR'S responsibility to construct, maintain, and restore any haul roads required for its construction operations in accordance with the provisions of Section 2051.4 of MN/DOT's "Standard Specifications for Construction", latest Edition

with revisions and supplements. CONTRACTOR shall obtain all permits and pay all fees required for oversize loads.

#### 1.05 TEMPORARY LANE CLOSURE

- A. CONTRACTOR shall provide, submit, and obtain approval from OWNER, ENGINEER, and applicable State, County, and/or local agencies for traffic control plans implemented by the CONTRACTOR.
- B. CONTRACTOR shall comply with all required permits.

#### 1.06 TRAFFIC CONTROL

- A. this section of traffic control requirements is applicable to any traffic control devices required to complete the work.
- B. For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).
- C. The CONTRACTOR shall take all necessary precautions for the protection of the WORK and for the safety of the public. All barricades and obstructions shall be illuminated at night, from sunset until sunrise. The CONTRACTOR shall station such guards or flag persons and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.
- D. The CONTRACTOR shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

#### 1.07 TEMPORARY CROSSINGS

- A. General: The CONTRACTOR shall provide continuous, unobstructed, safe, and adequate pedestrian and vehicular access to fire hydrants; sidewalks and trails; commercial, residential, and industrial establishments; agricultural field entrances; and parking lots, as applicable. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential and agricultural driveways shall be maintained, except when necessary construction precludes such access for reasonable periods of time.
- B. Temporary Bridges: Wherever necessary, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases where the CONTRACTOR has secured the written consent of the individuals or authorities of jurisdiction to omit such temporary bridges or steel plates. Such written consent shall be delivered to the ENGINEER prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR

shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.

- C. Fire Hydrants: Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times.
- D. Drainage: Temporary provisions shall be made by the CONTRACTOR to assure the proper functioning of all drainage facilities including but not limited to natural waterways, ditches, culverts, etc.

#### 1.08 PARKING

- A. The CONTRACTOR shall:
  - 1. Direct its employees to park in areas that do not obstruct local traffic or sight lines.
  - 2. Maintain traffic and parking areas in a sound condition, free of excavated material, construction equipment, mud, and construction materials.
  - 3. Repair potholes, low areas that collect standing water, and other deficiencies.
  - 4. Not allow overnight parking of any vehicles or equipment on City, County, Township, or State jurisdictional roadways and streets.
  - 5. Keep roads clean and free of debris, sediment, mud and other material generated or caused by construction activities.

#### **PART 2 PRODUCTS**

Not Used.

#### **PART 3 EXECUTION**

Not Used.

**END OF SECTION**

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**SECTION 01 57 21**  
**AIR, LAND, AND WATER POLLUTION CONTROL**

**PART 1 GENERAL**

1.01 SUMMARY

A. Section Includes

1. General requirements for the control of pollution from construction sites and related activities.

1.02 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Conduct all operations to prevent, control and abate the pollution of air, land, and water in accordance with MnDOT Spec 1717 and all rules, regulations and standards adopted and established by governing agencies, including, but not limited to:
  - a. Minnesota Pollution Control Agency.
  - b. Minnesota Department of Natural Resources.
  - c. U.S. Army Corps of Engineers.
  - d. U.S. Environmental Protection Agency.

1.03 SCHEDULING

- A. Schedule and conduct all operations to minimize soil erosion and prevent siltation and the resultant turbidity of public waters.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

3.01 GENERAL

- A. Review all local conditions and regulations pertaining to air, land, and water pollution prior to commencing operations.

3.02 PROTECTION OF WATERS

- A. Prevent pollution of flowing or impounded waters from particulate or liquid matter that may be harmful to fish and wildlife or detrimental to public use.
- B. Remove sediment from aggregate wash operations by filtration or settlement prior to discharge into public waters.
- C. Do not discharge wash water or waste from concrete mixing operations into live streams.

- D. Fueling operations shall be conducted in a manner to not cause any pollution.
- E. Street sweeping is required daily during trucking operations or as required by OWNER.

### 3.03 EROSION CONTROL

- A. Install and maintain temporary erosion and sediment control devices during the progress of the work and maintain them until permanent soil stabilization (turf establishment, pavement, etc.) has been achieved.
- B. Following construction, repair any eroded areas, remove sediment as necessary, repair eroded soils, and establish turf in accordance with these Contract Documents.
- C. Horizontal slope grading and slope roughening practices shall be performed to reduce the amount of erosion on the slopes. These practices include using bulldozers or other equipment to make tracks perpendicular to the direction of surface water runoff.
- D. Cleanup within 24 hours any sediment on residents' lawns or deposited outside of construction limits.

### 3.04 PROTECTION OF AIR QUALITY

- A. CONTRACTOR shall minimize air pollution by requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by CONTRACTOR, and encouraging shutdown of motorized equipment not actually in use.
- B. Trash burning will not be permitted on construction site.
- C. If temporary heating devices are necessary for protection of Work, they shall be of type that will not cause air pollution.

### 3.05 USE OF CHEMICALS

- A. 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 U.S. EPA or U.S. Department of Agriculture or any other applicable regulatory agency.
- B. The CONTRACTOR's use of such chemicals and disposal of residues shall be in conformance with manufacturer's instructions.
- C. NOISE CONTROL
- D. The CONTRACTOR shall conduct operations in such a manner as to cause least annoyance to residents in vicinity of Work, and comply with applicable local ordinances.
- E. The CONTRACTOR shall equip compressors, hoists, and other apparatus with such mechanical devices as may be necessary to minimize noise and dust. Equip compressors with silencers on intake lines. Noise from dewatering equipment must be mitigated as directed by ENGINEER.

- F. The CONTRACTOR shall equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.
- G. Line storage bins and hoppers with material that will deaden sounds.
- H. The CONTRACTOR shall conduct the operation of dumping rock and hauling rock in trucks so as to minimize noise and dust.
- I. The CONTRACTOR shall route vehicles carrying rock, concrete, or other material over such streets as will cause least annoyance to public and is prohibited from operating on public streets outside the work hours specified in the Contract Documents.

### 3.06 DUST CONTROL

- A. Due to close proximity of this project to other off-site facilities, CONTRACTOR shall take special care in providing and maintaining temporary roadways, access roads, haul roads, and public roads used for construction operations in clean, dust-free conditions during construction operations.
- B. Sweeping shall be performed at the OWNER'S or ENGINEER'S request. The OWNER may sweep at its discretion if CONTRACTOR does not, or is unable to, respond and will deduct at a rate of \$100 per sweeper hour with a 1 (one) hour minimum.
- C. The CONTRACTOR shall provide positive methods and apply dust control water to minimize raising dust from construction operation and provide positive means to prevent airborne dust from dispersing into the atmosphere. Chemical dust suppressant shall not be used. CONTRACTOR shall supply pumping equipment, as needed, to disperse water to control dust.
- D. Comply with local environmental regulations for dust control. If CONTRACTOR'S dust control measures are considered inadequate, ENGINEER will require CONTRACTOR to take additional dust control measures.

### END OF SECTION

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## SECTION 01 57 29

### PROTECTION OF EXISTING FACILITIES

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. Requirements for protection of existing facilities not designated for removal.

##### 1.02 PROTECTION REQUIREMENTS

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore, at CONTRACTOR'S expense, damaged or temporarily re-located utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation.
- B. The CONTRACTOR shall verify the exact locations and depths of all utilities that may interfere with the WORK and, if necessary, shall make exploratory excavations of the interfering utilities. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid delays of the CONTRACTOR'S work. When such exploratory excavations shall show the utility location as shown to be in error, the CONTRACTOR shall so notify the ENGINEER.
- C. The CONTRACTOR is responsible for protecting existing trees, sprinkler systems and other improvements. Any tree roots damaged shall be neatly cut perpendicular to the root.
- D. The CONTRACTOR shall report to the OWNER in writing any undesirable conditions, such as silt or sand in manholes and valve boxes, damaged castings and valve boxes, etc., prior to commencing work on any street. Once work has commenced it will be assumed that all damage to underground installations except that reported above, has been caused by the CONTRACTOR'S operations and it will be the CONTRACTOR'S responsibility to make necessary repairs.

##### 1.03 PROTECTION OF MARKERS (SURVEY, STREET, ROADWAY)

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing private or public survey markers, or existing street or roadway markers, without proper authorization. No excavation shall be started until all survey or other permanent marker points that may be disturbed by the construction operations have been properly referenced. All survey markers disturbed by the CONTRACTOR shall be restored by a land surveyor, registered in the state in which the project is located, at CONTRACTOR'S expense. All street or roadway markers and other public or private signage disturbed by the CONTRACTOR shall be restored at CONTRACTOR'S expense.

#### 1.04 EXISTING UTILITY OPERATIONS

- A. Existing utilities shall not be disrupted during construction.
- B. All underground utilities including manholes and valve boxes shall be maintained in a condition that allows access in case emergency use is required.
- C. Underground utilities shall be maintained in an operable condition. All debris or sediment shall be removed immediately.

#### 1.05 PAVEMENT RESTORATION

- A. General: Utility crossings under roads or driveways that are shown on the Drawings as jacking or boring locations must be installed by the CONTRACTOR without disturbing the pavement/shouldering of such roads/driveways. All paved areas that are specified to be open cut, or that are damaged by the CONTRACTOR during construction, shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in these Contract Documents or in the requirements of the agency issuing the permit. CONTRACTOR shall assist the ENGINEER in coordinating the Work with the affected pavement owner. The joint between new pavement and existing pavement shall be saw cut in straight lines.
- B. Temporary Resurfacing: The CONTRACTOR shall place temporary surfacing promptly after backfilling trenches located in streets, drives, or roadways and shall maintain such surfacing for the period of time fixed by the owner of said streets, drives, or roadways before proceeding with the final restoration of improvements.
- C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut the existing surface to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.
- D. Restoration of Sidewalks or Private Driveways: Wherever private roads, driveways, or field entrances have been removed or damaged for purposes of construction, the CONTRACTOR shall place suitable temporary replacements after trench backfilling and shall maintain them in satisfactory condition until the final restoration thereof has been made.

#### 1.06 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way, the CONTRACTOR shall notify the owner's or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said owner's or agencies can be present during such work if they so desire. The CONTRACTOR shall also contact Gopher State One Call (1-800-252-1166) for locations and physically locate utilities before any excavation is initiated.

- B. Prior to any excavation in the vicinity of any existing aboveground facilities, including all electric power, communications, lines, poles, or television cables; all traffic signal and street lighting facilities; public and private signs, structures, and property; the CONTRACTOR shall notify the respective authorities representing the owner's or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said owner's or agencies can present during such work if they so desire.

#### 1.07 RESTORATION OF VEGETATION AND LANDSCAPING

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any vegetation or landscaping without proper authorization and shall minimize such disturbances to only as much as is reasonably required for completion of the Work. All vegetation and landscaping disturbed by the CONTRACTOR shall be restored at CONTRACTOR'S expense and shall be completed in accordance with the Drawings and Specifications and with the CONTRACTOR'S erosion control plan. Where requirements for restoration are not specifically stated in these Contract Documents, CONTRACTOR shall restore to pre-existing conditions or better.

#### 1.08 PROTECTION OF CONSTRUCTION IN PROGRESS

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage and deterioration when project is complete.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
  - 1. Excessive static or dynamic loading.
  - 2. Excessive internal or external pressures.
  - 3. Excessively high or low temperature.
  - 4. Thermal shock.
  - 5. Excessively high or low humidity.
  - 6. Air contamination or pollution.
  - 7. Water or ice.
  - 8. Solvents.
  - 9. Chemicals.
  - 10. Light.
  - 11. Radiation.
  - 12. Puncture.
  - 13. Abrasion.
  - 14. Heavy traffic.
  - 15. Soiling, staining, and corrosion.
  - 16. Bacteria.
  - 17. Rodent and insect infestation.
  - 18. Combustion.
  - 19. Electrical current.

- 20. High-speed operation.
- 21. Improper lubrication.
- 22. Unusual wear or other misuse.
- 23. Contact between incompatible materials.
- 24. Destructive testing.
- 25. Excessive weathering.
- 26. Unprotected storage.
- 27. Improper shipping or handling.
- 28. Theft.
- 29. Vandalism.

**PART 2    PRODUCTS (NOT USED)**

**PART 3    EXECUTION (NOT USED)**

**END OF SECTION**



## **SECTION 01 61 00**

### **MATERIALS AND EQUIPMENT**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section includes requirements for material and equipment incorporated into Work.

##### **1.02 QUALITY ASSURANCE**

- A. Manufactured and Fabricated Materials and Equipment:
  - 1. Conform to applicable Specifications, Drawings, and standards.
  - 2. Comply with size, make, type, and quality specified or as specifically approved.
  - 3. Design, fabricate, and assemble in accordance with engineering and shop practices standard with industry.
  - 4. Material and equipment shall be suitable for service conditions.
  - 5. Provide new, first quality material for all products specified. No material shall be reused, unless indicated or approved by the ENGINEER.
- B. Do not use material or equipment for purpose other than for which it is designed or specified.

##### **1.03 MANUFACTURER'S INSTRUCTIONS**

- A. Installation of materials shall comply with manufacturer's instructions. Obtain and distribute printed copies of such instructions to parties involved in installation.
  - 1. Maintain one set of complete instructions at job site during installation until completion of entire Project.
- B. Deliver, handle, store, install, connect, clean, condition, and adjust materials in accordance with manufacturer's written instructions and in conformance with Specifications.
  - 1. If job conditions or specified requirements conflict with manufacturer's instructions, consult ENGINEER for further instructions.
    - a. Do not proceed with Work without written instructions.

##### **1.04 PACKAGING**

- A. Deliver products to the job site in manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site and promptly replace with material meeting the specified requirements, at no additional cost to the OWNER.

- B. The ENGINEER may reject as non-complying such material and products that do not bear identification satisfactory to the ENGINEER as to manufacturer, grade, quality, and other pertinent information.

#### 1.05 PROTECTION

- A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the OWNER.

#### 1.06 DELIVERY AND STORAGE

- A. Deliver, store, and handle materials in a manner that will prevent damage. Store materials clear of the ground and protected from water and the elements. Protect finished surfaces from scratching and damage.
- B. Promptly deliver items required to be built into masonry or concrete so they may be built into the work as work progresses. Furnish templates showing exact locations.
- C. Do not deliver materials that are subject to damage too much in advance of when they are required for the work, or before suitable storage facilities are available
- D. Store pumps, motors, and electrical equipment in weather tight areas and maintain temperature of 50 degrees minimum F.
- E. Rotating equipment in storage shall be rotated by hand weekly to protect life of new bearings.

#### 1.07 REPAIRS AND REPLACEMENTS

- A. Promptly make replacements and repairs to the approval of the ENGINEER at no cost to OWNER.
- B. Additional time required to secure replacements and to make repairs will not be considered by the ENGINEER to justify an extension in the Contract Time of Completion.

#### 1.08 INSTALLATION, INSTRUCTIONAL, AND POST STARTUP SERVICES

- A. General:
  - 1. This paragraph covers on-site services of supplier's or manufacturer's representatives provided by CONTRACTOR during construction.
  - 2. Include and pay costs for supplier's or manufacturer's services, including, but not limited to, those specified.

B. Installation Services:

1. Where installation services are called for in Specifications, provide competent and experienced technical representatives or manufacturers.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

Not Used.

**END OF SECTION**

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## **SECTION 01 70 00**

### **EXECUTION REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

###### **A. Section Includes**

1. Requirements for overall execution of the Work and closeout of the Contract for Final Payment.

##### **1.02 PRICE AND PAYMENT PROCEDURES**

###### **A. Measurement and Payment**

1. All other Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

##### **1.03 SUBMITTALS**

###### **A. Submit the following items consistent with the Conditions of the Contract and Division 01 Sections:**

1. Record Documents.
2. Written Notification of Substantial Completion.
3. Executed Certificate of Substantial Completion.
4. Written Notification of Final Completion.
5. Spare Parts, Operation and Maintenance Manuals, instructions, schedules, warranties, guarantees, Bonds, certificates, certificates of inspection, and other documents.
6. Final Application for Payment, including accompanying documentation.
7. IC-134 Form(s), Lien Waiver(s), and Consent of Surety Form..

#### **PART 2 PRODUCTS**

Not Used.

#### **PART 3 EXECUTION**

##### **3.01 EXAMINATION**

- A. Acceptance of Conditions: By commencing Work, Contractor construes acceptance of the adjacent work as satisfactory to receive subsequent work.
- B. Existing Conditions: Before commencing Work, inspect work completed by others that is adjacent to Work. If adjacent conditions prevent completion of Work, Contractor will not commence Work until the conditions are corrected.
- C. Inspect each product immediately prior to installation. Remove damaged products from Site.

### 3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Comply with the manufacturer's instructions for installation of manufactured products to the extent that these instructions are applicable and more explicit or more stringent than requirements indicated in the Contract Documents.
- B. Secure Work true to line and level, within recognized industry tolerances, with anchorage devices designed and sized to withstand stresses, vibration, and rocking. Allow for expansion and movement of building.
- C. Install each element of work during weather conditions and Project status to ensure coordination of the Work. Isolate each element of work from incompatible work as necessary to prevent deterioration.
- D. Coordinate space requirements and installation of mechanical and electrical work indicated on Drawings. Follow routing shown for pipes, ducts, and conduit; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and repairs.
- E. Mount individual units of work at industry recognized standard-mounting heights for the particular application indicated, where mounting heights are not indicated.
- F. Conceal pipes, ducts, and wiring within the construction in finished areas, except as otherwise indicated. Coordinate locations of fixtures and outlets with finish elements.
- G. Record installation details and prepare Record Documents consistent with the General Conditions.

### 3.03 EQUIPMENT VARIATIONS

- A. Contractors are advised that because of manufacturer's variations in equipment design changes from Drawings in piping arrangement and layout, electrical and control from Drawings in piping arrangement and layout, electrical and control circuitry, and related dimensions of equipment foundation and anchorage details, may be required for equipment installations.
- B. Equipment requiring minor deviations in the system layout, such as minor piping revisions, will be acceptable; however, the Contractor shall include all costs associated with the deviation in their Bid. Should the deviation require revisions in the design of the facility, the Contractor shall reimburse the Owner for the cost of any redesign.
- C. Electrical and mechanical piping, conduits, and ducts are shown schematically and shall be located by the Contractor to avoid any conflicts. Contractor shall coordinate work of all subcontractors and make minor relocations as necessary at no change to the Contract Price.

### 3.04 SITE MAINTENANCE

- A. Maintain stockpiles, excavations, access roads, and all other work areas free from dust. Employ dust abatement techniques whenever a dust nuisance or hazard occurs, or as directed by Engineer. Comply with local ordinances.

- B. Protect hazardous work areas and hazardous material storage areas.
- C. Protect trees, unless specifically indicated on Drawings.
- D. Clean access roads and haul routes with mechanical street sweeper.
- E. If Contractor fails to maintain Site, Engineer will provide Written Notice of Contractor's defective Work. Contractor will be given 12 hours from the Notice to clean Site. After the 12-hour period, Owner may correct the defective Work consistent with Article 14.07 of the Conditions of the Contract.

### 3.05 CLEANING AND PROTECTION

- A. Clean and protect Work in progress and adjoining Work during handling and installation. Apply protective covering on installed Work where it is required to ensure freedom from damage or deterioration.
- B. Clean and perform maintenance as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure operability without damage effects.

### 3.06 FINAL CLEANING

- A. Wash and polish all glass surfaces.
- B. Dust, vacuum, wash, and clean all spaces, duct work, light fixtures, equipment, electrical work, and all other components of the Work. Remove all stains, dust, and dirt.
- C. Wash, clean, and sterilize plumbing fixtures.
- D. Replace burned out lamps. Replace all HVAC filters.
- E. Clean all process equipment prior to substantial completion.

### 3.07 CUTTING AND PATCHING

- A. Complete all cutting, fitting, and patching as necessary to join the new Work to existing conditions.
- B. Remove or cut existing work only as necessary to join the new work to the existing construction or as required by the Contract Documents.
- C. Patch defective and incomplete surfaces caused or exposed by Work of the Project.
- D. Repair any damage to existing conditions and patch to match.
- E. Existing construction designated by the Contract Documents to remain that is loosened, cracked, or otherwise damaged or defaced beyond repair as a result of Work by the Contractor will be considered unsuitable for the use intended and shall be removed and replaced by the Contractor.

### 3.08 SPECIAL TOOLS

- A. Provide any special tools, jigs, fixtures, and lifting tackle which are necessary for assembly, erection, operation, maintenance, and repair of equipment.
- B. Special tools and devices are those the design, purpose, and use of which are peculiar to the equipment furnished and which are not available from normal wholesale or retail outlets. Standard general-purpose tools are not included in this requirement.
- C. Provide neat and substantial metal toolbox with hinged cover and lifting handles or metal cabinet with hinged door.

### 3.09 SPARE PARTS

- A. Required spare parts are listed under the individual Specification Sections.

### 3.10 OUT-OF-STATE CONTRACTOR SURETY DEPOSIT

- A. When an out-of-state contractor enters into a contract that exceeds \$100,000, the contractor must file Form SD-E, Exemption from Surety Deposits for Out-of-State Contractors, with the Minnesota Department of Revenue.
- B. If the contractor is exempt from the surety deposit requirements, he shall provide the City with a copy of the form showing the Revenue Department certification.
- C. If the contractor is not exempt, the City will withhold an additional 8 percent of each payment made to the Contractor and forward those funds to the Minnesota Department of Revenue.
- D. Forms and information can be obtained by calling 651-296-6181 or toll free 1-800-657-3777.

### 3.11 CERTIFICATE OF COMPLIANCE WITH MINNESOTA STATUTES 290.92 AND 290.97

- A. Upon completion of the Project and prior to Final Payment, the Contractor and all subcontractors shall complete Minnesota Department of Revenue Revised Form IC-134. This form, Affidavit for Obtaining Final Settlement of Contract with the State of Minnesota and any of its Political or Governmental Subdivisions, is to be signed by a Department of Revenue representative and forwarded to the Owner. Copies of this form can be obtained by writing to the Minnesota Department of Revenue, 600 North Robert Street, St. Paul, MN 55101 or by calling 651-282-9999 or 1-800-657-3594. They are also available on their website: [www.revenue.state.mn.us](http://www.revenue.state.mn.us), or via email at [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us).

### END OF SECTION



## **SECTION 01 71 23**

### **FIELD ENGINEERING**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

###### **A. Section Includes**

1. Requirements for surveying and construction staking of the proposed Work.

##### **1.02 PRIMARY CONTROL MONUMENT**

- ###### **A. CONTRACTOR shall preserve and maintain existing primary horizontal and vertical control monuments at the site.**

##### **1.03 PRIMARY LINE AND GRADE**

- ###### **A. Primary line and grade will be provided and established by CONTRACTOR from the Primary Control Monument provided by the OWNER.**

###### **B. CONTRACTOR shall:**

1. Establish primary line and grade of:
  - a. Location of new building structures.
  - b. Site grading and improvements.
  - c. Other as appropriate.
2. Arrange operations to avoid interference with primary lines and grades.
3. Check accuracy of line and grade by visual inspection, checks between stakes, and periodic checks (with surveying equipment) between primary control monuments and stakes.
4. Verify all grades, lines, levels, elevations and dimensions shown on the drawings. CONTRACTOR shall report errors and inconsistencies to the Engineer prior to commencing work.
5. Responsible for protection and preservation of stakes, benchmarks, and control monuments.

- ###### **C. Following the staking of work, the ENGINEER may make field-based adjustments to the layout as necessary to meet current site conditions.**

##### **1.04 CONSTRUCTION LINE AND GRADE**

- ###### **A. CONTRACTOR shall bear sole responsibility for correct transfer of construction lines and grades from primary line and grade points and for correct alignment and grade of completed Work based upon lines and grades shown on Drawings.**
- ###### **B. CONTRACTOR shall transfer line and grade for open cut construction of utilities from primary line and grade stakes to Work by means of grade boards, laser beam or other approved methods.**

#### 1.05 LOT CORNERS AND SURVEY MONUMENTS

- A. Provide services of registered land surveyor to replace lot corners and survey monuments disturbed by construction operations, if required.

#### 1.06 SUBMITTALS

- A. When requested by ENGINEER, CONTRACTOR shall submit a statement certifying elevations and locations of work are in conformance with Contract Documents, and will explain all deviations.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

#### 3.01 GENERAL

- A. The CONTRACTOR shall make no changes or relocations to control points without prior written approval from the OWNER.
- B. The CONTRACTOR shall report to the OWNER when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- C. The CONTRACTOR shall replace Project control points, which are lost or destroyed at no additional cost to OWNER. Replacement shall be re-established based on original survey control.
- D. The CONTRACTOR shall establish and maintain all lines and levels, located and laid out, by instrumentation and similar appropriate means, as required to efficiently complete all Work indicated by the Drawings and Specifications.
- E. As construction proceeds, the CONTRACTOR shall check every element for line, level, and plumb.
- F. The CONTRACTOR shall provide sufficient staking to clearly define all construction elements.
- G. Locations of existing sewers, culverts, and other utilities shown on the Drawings are approximate and shall be field-verified by the CONTRACTOR, prior to construction, as required to complete the Work.

**END OF SECTION**

## **SECTION 01 78 23**

### **OPERATION AND MAINTENANCE MANUALS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes
  - 1. General procedures and requirements for Operation and Maintenance Manuals.

##### **1.02 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

##### **1.03 SEQUENCING AND SCHEDULING**

- A. Schedule submittals consistent with Contractor's schedule of submittals.
- B. Operation and Maintenance Manuals must be approved before placing equipment into operation.

#### **PART 2 PRODUCTS**

Not Used.

#### **PART 3 EXECUTION**

##### **3.01 SUBMITTAL PROCEDURES**

- A. Submit preliminary set of Operation and Maintenance Manuals for review by the Engineer. Engineer will review and return to the Contractor this set marked "Reviewed," "Reviewed as Noted," or "Revise and Resubmit" consistent with Section 01 33 00. After the Operation and Maintenance Manuals have been corrected, submit final sets.
- B. Submit approved and final sets of detailed equipment drawings and explicit instructions on the operation and maintenance of each piece of equipment furnished on the Project. Provide electronic and 2 hard copies.

##### **3.02 OPERATION AND MAINTENANCE MANUALS**

- A. Manuals are required for all equipment, accessories, devices, etc. that require adjustment, maintenance, operation, or repairs by the Owner's personnel, including driver, motors, controls, etc. All information shall be supplied by the appropriate equipment manufacturers, neatly bound in rigid cover ring type binders by the Contractor, and properly indexed. Manuals shall include record shop drawings and copies of factory certified tests. Each manual shall contain the following information where applicable:
  - 1. Operation and Maintenance Manuals shall be clearly identified as operation and maintenance submittal.

2. All performance and design characteristics and unit identification, such as model and serial numbers.
  3. All accessories or options furnished with unit.
  4. Complete instruction on lubrication, testing, balancing, etc.
  5. List of recommended lubricants.
  6. Step-by-step instructions for repair or overhaul.
  7. Parts list and parts diagram.
  8. Wiring diagrams.
  9. Copy of approved/revised shop drawings.
  10. Listing of spare parts the Owner should keep on hand as recommended by the manufacturer.
  11. Name and phone number of supplier where repair parts or additional information can be obtained.
- B. Each manual shall be specifically for the items actually installed. Where manuals show a number of models or options, the manual shall be clearly marked to indicate what was furnished and which instructions apply to the furnished unit.
- C. Superfluous information pertaining to other models, options, etc. not furnished shall be clearly crossed out or otherwise eliminated. Failure to meet this Section of the Specifications will result in payment reduction.

**END OF SECTION**

## SECTION 01 73 29

### CUTTING AND PATCHING

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, coring, and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
  - 1. Requirements of this Section do not apply to mechanical installations.
- C. RELATED SECTIONS
  - 1. Section 01 33 00 – Submittals.

##### 1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

##### 1.03 SUBMITTALS

- A. Provide in accordance with Section 01 33 00.
- B. Submit proposed procedures for cutting and patching at a minimum of 4 weeks in advance of the time cutting, coring, and patching will be performed. The submittal shall contain, but not be limited to the following information:
  - 1. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.
  - 2. Describe anticipated results in terms of changes to existing or proposed construction; include changes to structural elements and operating components.
  - 3. List products to be used and firms or entities that will perform Work.
  - 4. Indicate dates when cutting, coring and patching are to be performed.
  - 5. List of utilities that will be potentially disturbed or affected, including those that will be relocated and those that will be temporarily out of service. Indicate length of service disruption.
  - 6. Provide dust control, debris removal, and water control, techniques to be used.
  - 7. Where cutting and patching involves addition of reinforcement to structural elements, submit details stamped by a Minnesota Professional Engineer to show how reinforcement is integrated with the original structure.
- C. Review by the Engineer prior to proceeding with cutting and patching does not waive the Engineer's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

- D. Cutting, coring, and patching procedures for the following:
  - 1. Structural concrete
  - 2. Structural steel
  - 3. Equipment supports
  - 4. Piping, ductwork, vessels and equipment
  - 5. Primary operational systems and equipment
  - 6. Water, moisture or vapor barriers
  - 7. Waterproofing membranes and flashings.

#### 1.04 QUALITY ASSURANCE

- A. Requirements for Structural and Utility Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
  - 1. Submit the cutting and patching proposal, including a structural analysis and design of additional reinforcement, stamped by a Minnesota Professional Engineer, before cutting and patching.
- B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
  - 1. Submit the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
    - a. Shoring, bracing, and sheeting.
    - b. Primary operational systems and equipment.
    - c. Control systems.
    - d. Electrical wiring systems.
    - e. Underground utilities.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior, in a manner that would, in the Engineer's opinion, reduce aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner as determined by the Engineer.
  - 1. If possible, retain the original installer or fabricator to cut and patch or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm acceptable to the Engineer.

## PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Use materials whose installed performance will equal or surpass that of existing materials.
- B. Where cutting and patching occurs on exposed exterior structures or work, use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect.

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting, and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.
  - 1. Before proceeding, meet at the site with parties involved in cutting and patching, including but not limited to mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

### **3.02 PREPARATION**

- A. Temporary Support: Provide temporary support of Work to be cut and surrounding area until permanent supports are installed.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Prevent interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Take all precautions to avoid cutting existing pipe, conduit or duct banks that are scheduled to be removed or relocated until provisions have been made to bypass them.
- E. Prevent fires and prevent the false activation of fire alarms.

### **3.03 PERFORMANCE**

- A. Slurry or tailings resulting from coring and cutting operations shall be vacuumed during operations and removed from the area following drilling.
- B. Control slurry or tailings generated by sawing operation on both sides of wall and/or slab.
- C. When cutting a reinforced concrete wall, the cutting shall not damage bond between the concrete and reinforcing steel left in structure. Cut shall be made so that steel neither protrudes nor is recessed from face of the cut.
- D. Check area during sawing operations for partial cracking to prevent a partial release of cut area during sawing operations.
- E. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- F. Cutting and patching of structural elements shall be done under the direction supervision of a licensed Professional Structural Engineer registered in the State of Minnesota.
- G. Cut holes and slots to size without disturbing adjacent surfaces. Temporarily cover openings when not in use.

- H. Comply with requirements of Division 2 where cutting, coring, and patching requires excavating and backfilling.
- I. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in manner that will minimize evidence of patching and refinishing.
- J. Restore pipe covering to its original condition.
- K. Comply with all OSHA regulations for the protection of workers.

### 3.04 CUTTING

- A. General: Employ skilled labor to perform cutting and patching. Complete Cutting and patching without delay.
- B. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- C. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible, review the proposed procedures with the original installer or manufacturer or with an installer or manufacturer with similar experience. Comply with the installer's and / or manufacturer's recommendations.
- D. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
- E. Cut through concrete and masonry using a cutting machine such as carborundum saw or diamond core drill.
- F. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after bypassing and cutting.
- G. Support adjacent members prior to cutting operations.

### 3.05 PATCHING

- A. Inspect and test patched areas to demonstrate integrity of the installation.

### 3.06 CLEANING

- A. Thoroughly clean areas where cutting and patching is performed or used as access. Remove completely mortar, oils, reinforcing, concrete, masonry, and items of similar nature. Thoroughly clean piping, conduit and similar features before finishing is applied. Re-store damaged pipe to its original condition.

## END OF SECTION



**SECTION 01 78 39**  
**PROJECT RECORD DOCUMENTS**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Section Includes
  - 1. General procedures and requirements for Project record documents.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 SUBMITTALS

- A. At completion of Project, deliver Project Record Documents to the Engineer prior to request for Final Payment.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
  - 1. Date.
  - 2. Project Title and Project number.
  - 3. Contractor's name and address.
  - 4. Title and number of each record document.
  - 5. Certification that each document as submitted is complete and accurate.
  - 6. Signature of Contractor or his authorized representative.

**PART 2 PRODUCTS**

NOT USED.

**PART 3 EXECUTION**

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain at the Site 1 copy of:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. RFI's (Requests for Information) and RFI Responses.
  - 5. Proposal Requests.
  - 6. Change Orders.
  - 7. Reviewed Shop Drawings, Product Data, and Samples.
  - 8. Field Test Records.
  - 9. Other Modifications to the Contract.
- B. Store documents separate from documents used for construction.
- C. Maintain documents in clean, dry, legible condition.

- D. Do not use record documents for construction purposes.
- E. Ensure entries are complete and accurate, enabling future use by Owner.
- F. Record information concurrent with construction progress. Failure to maintain documents up-to-date will be cause for withholding payments.
- G. Make documents available for inspection by Engineer and Owner.
- H. Record Drawings and Shop Drawings
  - 1. Required information may, as an option, be entered on a "working set" and then at completion of Project transfer the information to a final submitted "Project Record" set.
  - 2. Legibly mark to record actual construction
    - a. Depths of various elements of foundation in relation to finished first floor datum.
    - b. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
    - c. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
    - d. Field changes of dimension and detail.
    - e. Changes made by Change Order or Field Order.
    - f. Details not on original Contract Drawings.
- I. Specifications and Addenda
  - 1. Legibly mark up each Section to record
    - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
    - b. Product substitutions or alternates utilized.
    - c. Changes made by Change Order or Field Order.
    - d. Other items not originally specified.

**END OF SECTION**

## SECTION 02 41 00

### DEMOLITION

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Complete or partial removal and disposal of materials, equipment, piping, and other miscellaneous items as indicated on drawings and specified herein. Contractor responsible for off-site disposal of all materials removed as part of the project.

##### 1.02 DEFINITIONS

- A. Remove: To take away or eliminate from the Site by any method selected by the CONTRACTOR, including disposal of material.
- B. Salvage: To dismantle, disassemble, or remove carefully without damage so the item can be re-assembled, replaced, or reused in a workable condition equal to that existing before removal.
- C. Abandon: To fill, bulkhead, or close off pipes and structures so that no settlement or flow can occur.

##### 1.03 REGULATORY REQUIREMENTS

- A. See Section 01 41 00 – Regulatory Requirements.
- B. Conform to Mn/DOT Spec 2104.3.D Disposal of Materials and Debris, with the following modifications:
  - 1. Dispose of all materials designated for removal outside of the Project Site at disposal locations selected by CONTRACTOR in compliance with state and local regulations. Burying of material and debris is not allowed within the Site.
  - 2. Stockpile or temporarily store materials designated for salvage at locations provided by CONTRACTOR.

##### 1.04 SEQUENCING AND SCHEDULING

- A. Coordinate Work with others performing work at Project Site.
- B. Notify Gopher State One Call (800-252-1166) and Owner to mark location of utilities prior to beginning Work
- C. Coordinate all connections to existing utilities and facilities with utility and facility owners.
- D. Coordinate all removal and relocation of existing utilities and facilities with utility and facility owners.
- E. Coordinate items identified for salvage and relocation with OWNER and ENGINEER.

- F. Fill holes or depressions resulting from removal or salvage activities immediately after the removal or salvage.
- G. Restore bituminous street patches in accordance with City and/or County requirements following utility installation.

#### 1.05 QUALITY ASSURANCE

- A. Demolition Contractor Qualifications: Minimum five years' experience. Minimum three projects similar to that of this Project within the last two years.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

#### 3.01 GENERAL

- A. Dispose of all items removed off-site unless Owner wishes to maintain on-site. Said off-site disposal shall be in accordance with all codes, laws, rules, regulations, statutes, etc.
- B. Perform removal work without damage to existing components to remain. Where such items are damaged, the CONTRACTOR shall repair to original condition or replace with new material of equal type and quality of the damaged item when it was new at no cost to the OWNER.
- C. Consider Beneficial Use Designations for uncontaminated recognizable concrete and bituminous.
- D. Sawcut at limits shown on the Drawings or as marked by the ENGINEER in the field. Payment for sawcutting is incidental to the removal item, unless noted otherwise.
- E. Environmental Controls:
  - 1. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
  - 2. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
  - 3. Perform demolition work in such a manner as to prevent all fires. Burning on the site will not be permitted.
  - 4. Instruct workers in the use of fire protection equipment and safety procedures.

#### 3.02 PREPARATION

- A. Conduct operations within the limits of construction.
- B. Install all required traffic control and erosion and sediment control devices prior to commencing work.
- C. Prepare a neat square edge prior to restoration.

- D. Do not close or obstruct walkways or roadways. Do not store or place materials in passageways or other means of egress. Conduct operations with minimum traffic interference.
- E. Provide all necessary barriers, warning signs and traffic control for each removal case.
- F. Temporarily support utilities as necessary to allow for removal or construction of underground structures and piping.
- G. Identify any items indicated to be saved, and carefully remove and store.

### 3.03 SAWING PAVEMENT

- A. Bituminous Pavement: Sawcut along the removal line to full-depth prior to removal.
- B. Concrete Pavement: Sawcut along the removal line to full-depth prior to removal.

### 3.04 REMOVE PAVEMENT

- A. Remove in accordance with Mn/DOT Spec 2104.3.C, with the following modifications.
  - 1. Sawcut pavement prior to mechanical pavement removal equipment. Remove pavement in such a manner that the remaining pavement is not damaged.
  - 2. Prior to restoring trench areas, the edges of the trench shall be trimmed back to a vertical face on a straight line which is parallel with the centerline of the trench.

### 3.05 REMOVE CONCRETE SIDEWALK

- A. Sawcut full-depth at removal limits or to nearest joint.
- B. Remove concrete in such a manner that the remaining sidewalk is not damaged.

### 3.06 REMOVE BUILDING MATERIALS

- A. Carefully demolish and dispose of, off site, all unwanted and defective building materials, which are to be removed for the installation of new work, whether noted or implied on the drawings.
  - 1. Includes certain walls, floor areas, windows, doors and associated products in the way of the new work.
  - 2. Confer with the OWNER and ENGINEER on the sequencing and staging of the demolition work.
  - 3. Coordinate the covering of openings and protection of the building when demolishing portions of the existing building. Provide temporary walls where required for the conditions of the construction phasing.
- B. Perform demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- C. At the end of each workday, ensure that building is enclosed and secure through temporary walls and construction.

- D. If unanticipated mechanical, electrical, or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict and contact ENGINEER.
- E. Do not use demolished or salvaged materials unless specified or approved in writing by the OWNER or ENGINEER at the beginning of the project.

#### 3.07 REMOVE MISCELLANEOUS ITEMS

- A. Remove other miscellaneous items, not previously included in this Section, as shown on the Drawings.

#### 3.08 SALVAGE AND REINSTALL MATERIALS

- A. Salvage items to be reinstalled shall be of the same shape, dimension, location, and quality of the original item prior to construction or at location directed by the ENGINEER.
- B. Salvage items that are not to be reinstalled shall be delivered to the OWNER by the CONTRACTOR.

#### 3.09 BACKFILLING

- A. Backfill all depressions immediately created from removal operations.

#### 3.10 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during demolition operations, notify ENGINEER immediately. If allowed to continue, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burying or burning of removed materials is not permitted on project site.

#### 3.11 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Clean and repair adjacent materials soiled or damaged by demolition work.

**END OF SECTION**

## SECTION 03 60 00

### GROUT

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Furnish and install non-shrink grout for column base plates, bearing plates, anchor bolts, and machine bases.

##### 1.02 SUBMITTALS

- A. Submittals shall conform to Section 01 33 00.
- B. Submit manufacturer's specifications for grout material.

##### 1.03 PRODUCT HANDLING

- A. Deliver grout in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers.
- B. Store and condition the grout as recommended by the manufacturer.

##### 1.04 PROJECT CONDITIONS

- A. Do not apply grout if it is raining or snowing.
- B. Protect adjacent areas from damage.

#### PART 2 PRODUCTS

##### 2.01 GROUT

- A. Non-shrink grout shall be Crystex manufactured by L & M Construction Chemicals, Inc., Sika Grout 212 manufactured by Sika Corporation, or approved equal.

##### 2.02 CURING MATERIAL

- A. Curing blankets shall be burlap polyethylene sheets consisting of burlap weighing no less than 10 oz. per linear yard, impregnated on 1 side with white opaque polyethylene 0.006 inch thick. Sheeting shall conform to ASTM C171.

#### PART 3 EXECUTION

##### 3.01 SURFACE PREPARATION

- A. Clean surfaces of oil, grease, dirt, and laitance down to sound concrete.
- B. Remove rust from underside of plates.
- C. Thoroughly clean bolt holes and foundation area to be grouted.

- D. Roughen surface with small chipping hammer for good bonding surface.
- E. Saturate surface with water for 24-hours.
- F. Remove all standing water prior to grouting.
- G. Grout bolt holes first.
- H. Provide air relief holes in base plate as required.

### 3.02 FORMS

- A. Forms shall be strong and tight enough to prevent leaking.
- B. Wood forms must be oiled or sealed.
- C. On placement side, slant form at 45-degree angle.
- D. Sloped form should be a minimum of 1/4 inch (0.63 mm) from base plate.
- E. Maintain full contact of forms with grout until grout hardens.

### 3.03 MIXING GROUT

- A. Set up sufficient and proper mixing equipment adjacent to the grouting area.
- B. Mix grout in a paddle-type mortar mixer or shear-type mixer.
- C. Maintain a reserve mixer in the event of mechanical break-down.
- D. First add required water and slowly add grout, mixing to a smooth consistency a minimum of 5 minutes.
- E. Place grout immediately.
- F. Provide water in quantity recommended by manufacturer to obtain a 25 to 30 second flow.
- G. Grout with the stiffest grout mix possible.
- H. Do not grout when flow is less than 20 seconds.
- I. When grouting large void, over 3 inches in depth, extend grout mixture by adding up to 50 percent by weight 3/8-inch washed pea gravel.

### 3.04 TEMPERATURE

- A. Avoid storing grout in extreme temperatures.
- B. In cold weather, maintain foundation, bed plate, and grout above 40 degrees F for at least 24-hours after placement.
- C. Grout may be placed between 40 to 110 degrees F with ordinary precaution.



- D. Do not mix or place grout in severe hot or cold temperatures.

### 3.05 PLACING GROUT

- A. Place grout continuously and rapidly from 1 side to reduce tendency to entrap air.
- B. Place grout in stiffest consistency possible.
- C. Pour pump on slanted form surface only to avoid entrapped air pockets.
- D. Grout must fill entire void and be placed to a level above the bottom of the plate to assure complete face to face contact between the grout and the plate.
- E. Allow for the necessary weep holes to release entrapped air between grout mass and base plate chambers.
- F. Place grout when flow is over 20 seconds.
- G. Use rods or tamping to compact grout and to remove voids.
- H. Remove forms or cut back grout only after initial set.

### 3.06 CURING

- A. Cover all exposed grout with wet burlap and polyethylene sheets immediately after placing.
- B. Keep area moist for a minimum of 72-hours.

**END OF SECTION**

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## SECTION 26 05 05

### BASIC ELECTRICAL MATERIALS AND METHODS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. References used in electrical and control Specifications.
  - 2. Regulatory requirements for electrical construction.
  - 3. Requirements of equipment and materials.
  - 4. Workmanship.
- B. Related Sections
  - 1. Supplementary Conditions of the Contract, Conditions of the Contract, and all Division 01 Sections apply to the work of this Section.
  - 2. Division 26 – Electrical.

##### 1.02 REFERENCES

- A. ANSI – American National Standards Institute.
  - 1. C2 – National Electrical Safety Code.
  - 2. C62.41 – IEEE – Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits.
- B. EPA – Environmental Protection Agency.
- C. ICEA – Insulated Cable Engineers Association.
  - 1. S-95-658 – Thermoplastic-Insulated Wire and Cable.
- D. IEEE – Institute of Electrical and Electronic Engineers.
  - 1. 112 – Standard Test Procedure for Polyphase Induction Motors and Generators.
  - 2. 519 – Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.
- E. NECA – National Electrical Contractors Association.
  - 1. NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting.
- F. NEMA – National Electrical Manufacturers Association.
  - 1. TC 2 – Electrical Polyvinyl Chloride (PVC) Tubing and Conduit.
  - 2. MG 1 – Motors and Generators.
  - 3. PB 2 – Deadfront Distribution Switchboards.
  - 4. ICS 2 – Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2,000 Volts AC or 750 Volts DC.
  - 5. 250 – Enclosures for Electrical Equipment (1,000 Volts Maximum).
- G. NFPA – National Fire Protection Association.
  - 1. NFPA 70 – National Electrical Code.
  - 2. NFPA 820 - Standard for Fire Protection in Wastewater Treatment and Collection Facilities.

- H. UL – Underwriters Laboratories, Inc.
  - 1. UL-6 – Rigid Metal Conduit.
  - 2. UL-83 – Thermoplastic – Insulated Wires and Cables.
  - 3. UL-96 – Lightning Protection Components.
  - 4. UL-360 – Liquid-Tight Flexible Steel Conduit.
  - 5. UL-467 – Electrical Grounding and Bonding Equipment.
  - 6. UL 486D – Insulated Wire Connector Systems for Underground Use or In Damp or Wet Locations.
  - 7. UL-508 – Industrial Control Equipment.
  - 8. UL-651 – Schedule 40 and 80 Rigid PVC Conduit.
  - 9. UL-797 – Electrical Metallic Tubing.
  - 10. UL-810 – Capacitors.
  - 11. UL-891 – Dead-Front Switchboards.
  - 12. UL-913 – Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations.
  - 13. UL-1008 – Transfer Switch Equipment.
  - 14. UL-1012 – Power Units Other Than Class 2.
  - 15. UL-1277 – Electrical Power and Control Tray Cables with Optional Optical Fiber Members.
  - 16. UL-1449 – Surge Protection Devices.
  - 17. UL-1479 – Fire Tests of Through-Penetration Firestops.

#### 1.03 REGULATORY REQUIREMENTS

- A. All Work performed under this Contract shall conform to the latest editions of the National Electrical Code (NFPA70), the National Electrical Safety Code (ANSI C2), and the Minnesota State Building Code.

#### 1.04 INSTRUCTIONS AND PARTS LITERATURE

- A. Instruction and parts literature are generally packed with electrical equipment and devices. Contractor shall remove this literature from the packing container or equipment enclosure, identify the literature with the equipment to which it applies, and file the literature in loose-leaf binders with index tabs. Each binder shall have an index which lists each piece of equipment and the literature which applies to it. An index tab shall be provided for each piece of equipment.
- B. Contractor shall establish a procedure with the other trades for receiving, identifying, and filing literature for devices which are removed from their packaging and installed by other trades. Literature shall be provided as outlined above.

#### 1.05 SUBMITTALS

- A. Submittals for equipment provided by the Electrical Contractor shall bear a stamp or specific written certification from the Electrical Contractor, certifying the submittals have been reviewed.
- B. Submit the following items consistent with Section 01 33 00. Refer to each section under Division 26 for additional submittal requirements particular to that section.

C. Shop Drawings and Manufacturer's Information:

1. Product Data Sheets
  - a. Product and component data sheets which describe all equipment and devices to be provided.
  - b. Include all features specified.
  - c. Provide dimensioned prints with weights.
  - d. Highlight or otherwise accentuate on each data sheet the specified product features and product numbers.
2. Composite Drawing
  - a. Include power and control wiring for all systems and equipment.
  - b. Show basic systems on composite drawing.
  - c. Use terminal numbers on drawings and schematics.
  - d. Use separate drawings to show details of sub-systems.
  - e. Identify sub-system drawing interface points on composite drawing and sub-system drawings; terminal numbers of interface points shall be the same on both drawings.
  - f. Revise or redraw manufacturer's standard drawings to meet above requirements.
3. Record all Changes to Existing Systems.
  - a. Revise all wiring diagrams and schematic diagrams to show final installation:
    - 1) Includes all new and existing equipment diagrams.
4. Programmable Systems
  - a. Description of programmable system operation, including but not limited to input/output functions, control capabilities, configuration procedures, starting setpoints, etc.
  - b. Preliminary graphic screens and reports.
    - 1) This submittal shall occur prior to shipment of the system.
5. Manufacturers Installation Instructions
  - a. Submit with shop drawings.
  - b. Include with shipment.

D. Operating and Maintenance Manuals in accordance with Section 01 78 23.

1. Include all the information provided with the shop drawings and manufacturer's information.
  - a. Update and complete control system drawings and descriptions for all equipment.
  - b. All documentation shall include modifications made which reflect the final installation.
2. Date the manuals with the day, month, and year they are provided to the Owner/Engineer.
3. Provide manufacturers' user manuals and installation instructions.
4. Provide three (3) hard (paper) copies in a 3-ring binder. Provide a table of contents and each piece of equipment or sub-system shall be tabbed.
5. Provide two (2) digital copies in a PDF format saved to a compact disk. The saved files shall be clearly identified and organized in a similar manner to the hard copies
  - a. Data saved on the disks shall be accessible and neatly organized.
  - b. Provide a table of contents which utilizes bookmarks. The bookmark shall take the reader to a specific page when the reader clicks on the desired title in the table of contents. A bookmark shall be provided for materials associated with each piece of equipment included in the O&M manual.
6. Record all Changes to Existing Systems
  - a. Insert revised documents into the Owner's existing operation and maintenance manuals in place of original documents.

## **PART 2 PRODUCTS**

### **2.01 EQUIPMENT AND MATERIALS**

- A. All electrical and control equipment and materials shall be provided as specified in the Contract Documents.
- B. All equipment and materials shall be new and shall bear the Underwriters Laboratories (UL) label if such products are listed by UL.
- C. Where applicable, equipment and materials shall conform to ANSI, ICEA, IEEE, and NEMA Standards.

## **PART 3 EXECUTION**

### **3.01 WORKMANSHIP**

- A. All Work shall be performed in a neat and workmanlike manner consistent with the high-quality standards of the electrical trade. "A neat and workmanlike manner" shall be as required by NFPA 70 and shall conform to NECA 1, Standard Practices for Good Workmanship in Electrical Contracting. Each electrician shall be knowledgeable and well-trained in the particular tasks to be performed.

### **3.02 EQUIPMENT MOUNTING**

- A. Unless noted otherwise, equipment which is not free-standing shall not be mounted on wood panels, but shall be attached to concrete or masonry walls, support channels, or building structural steel.

### **3.03 IDENTIFICATION**

- A. Nameplates shall be used to identify all field devices.
- B. All nameplates shall be engraved phenolic nameplates attached with stainless steel screws or a permanent stamped brass tag.

### **3.04 RECEIVING AND STORING EQUIPMENT**

- A. All equipment shall be handled and stored in accordance with the manufacturer's instructions.
- B. In general, equipment packaging is not designed to protect the contents for outdoor storage. As a minimum, Contractor shall store the equipment prior to installation in a clean, dry location free from excessive temperatures, humidity, or foreign materials normally encountered at a Site. If the storage facility is unheated, Contractor shall provide heating to protect equipment from condensation, which could cause components to corrode or to be otherwise damaged.

**END OF SECTION**

## SECTION 26 05 10

### MOTORS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. Fractional horsepower motors.
  - 2. Integral horsepower motors.
- B. Related Sections
  - 1. Supplementary Conditions of the Contract, Conditions of the Contract, and all Division 01 Sections apply to the work of this Section.
  - 2. Division 26 – Electrical.

##### 1.02 SUBMITTALS

- A. Submittals and shop drawings in accordance with Section 01 33 00.
  - 1. Certified outline dimension prints and data sheets which include nameplate information; 1/2, 3/4, and 4/4 load efficiency; 1/2, 3/4, and 4/4 load power factor; maximum kVAR rating and speed-torque curve shall be submitted for each motor.
- B. Operation and Maintenance Manuals in accordance with Section 01 78 23.
- C. Contractor shall provide all data necessary for the Owner to prepare electric utility rebate forms.

#### PART 2 PRODUCTS

##### 2.01 FRACTIONAL HORSEPOWER MOTORS

- A. Motors smaller than 1/2 horsepower shall be 115 volts or 230 volts, single phase, 60 Hz or 230 volts, 3 phase, 60 Hz as specified in the driven equipment section. If not specified otherwise, enclosure shall be open drip-proof with cast iron or steel housing. Stator windings shall be copper. Motors shall have a 1.15-service factor, adequate torque to accelerate the load, a horsepower rating which will drive the load continuously at all operating conditions without exceeding the nameplate rating and bracing for full voltage starting. Special torque motors shall be provided as determined by the driven equipment.
- B. Motors shall be designed, constructed, and tested in accordance with ANSI/NEMA Publication No. MG 1.

##### 2.02 INTEGRAL HORSPOWER MOTORS

- A. Motors 1/2 horsepower and larger shall be 230 volts, 3 phase, 60 Hz, squirrel cage induction motors. NEMA design shall be determined by the torque requirements of the driven load. Motors shall have a 1.15-service factor, adequate torque to accelerate the load continuously at all operating conditions without exceeding the nameplate rating, not including the service factor and shall be braced for full voltage starting. Special torque motors shall be provided as determined by the driven equipment. Inrush current shall not exceed NFPA 70 Code G.

- B. Motors shall be designed, constructed, and tested in accordance with ANSI/NEMA Publication No. MG-1 and shall be high efficiency design as determined by IEEE Standard 112, Method B. Motor design shall be for maximum efficiency. Nominal efficiency shall be not less than those listed in Paragraph 2.04, Motor Efficiencies.
- C. If not specified otherwise, enclosure shall be open drip-proof with cast iron housing. Stator windings shall be copper. All motors shall have a 1.15-service factor. An oversize terminal box shall be furnished.
- D. Bearings shall be shielded, regreasable, steel anti-friction type.
- E. Motor frame shall be drilled and tapped inside the terminal box for a grounding lug. A terminal box lug may be used if it is drilled and tapped into the motor frame and is readily accessible within the terminal box.
- F. Insulation system shall be of Class F non-hygroscopic materials and shall be for continuous operation in a 40 degrees C ambient.
- G. Motor nameplates shall include motor full load power factor, efficiency, and maximum KVAR rating.
- H. If any driven equipment requires special features, such as 2 speed, reversing, wye-delta, or part-winding starters, the Contractor shall confirm the exact type of starter required based on the actual equipment provided.

## 2.03 MOTOR EFFICIENCIES

<b>Enhanced NEMA Premium</b>						
<b>Motor</b>	<b>Open DP and Protected</b>			<b>TEFC</b>		
HP	RPM			RPM		
	1,200	1,800	3,600	1,200	1,800	36,00
1	83.5	86.5	78	83.5	86.5	78
1.5	87.5	87.5	85	88.5	87.5	85
2	88.5	87.5	86.5	89.5	87.5	86.5
3	89.5	90.5	86.5	90.5	90.5	87.5
5	90.5	90.5	87.5	90.5	90.5	89.5
7.5	91.2	92	89.5	92	92.7	90.5
10	92.7	92.7	90.5	92	92.7	91.2
15	92.7	94	91.2	92.7	93.4	92
20	93.4	94	92	92.7	94	92
25	94	94.6	92.7	94	94.6	92.7
30	94.6	95.1	92.7	94	94.6	92.7
40	95.1	95.1	93.4	95.1	95.1	93.4
50	95.1	95.5	94	95.1	95.5	94
60	95.5	96	94.6	95.5	96	94.6
75	95.5	96	94.6	95.5	96.4	94.6



<b>Enhanced NEMA Premium</b>						
<b>Motor</b>	<b>Open DP and Protected</b>			<b>TEFC</b>		
<b>HP</b>	<b>RPM</b>			<b>RPM</b>		
	<i>1,200</i>	<i>1,800</i>	<i>3,600</i>	<i>1,200</i>	<i>1,800</i>	<i>36,00</i>
100	96	96.4	94.6	96	96.4	95.1
125	96	96.4	95.1	96	96.4	96
150	96.4	96.8	95.1	96.8	96.8	96
200	96.4	96.8	96	96.8	97.2	96.4
250	95.5	96.8	96	96.8	97.2	96.8
300	95.5	96.8	96.4	96.8	97.2	96.8
350	95.5	96.8	96.4	96.8	97.2	96.8
400	95.9	96.8	96.8	96.8	97.2	96.8
450	96.3	97.2	95.9	96.8	97.2	96.8
500	96.3	97.2	95.9	96.8	97.2	96.8

### **PART 3 EXECUTION**

#### **3.01 MOTOR CIRCUITS**

- A. Motor circuits shall be provided as shown on the Drawings or as required by the NFPA 70. The circuit shall include a motor grounding conductor sized per NFPA 70, Table 250.122.
- B. Motor connections shall be made in accordance with the motor nameplate for the proper voltage and other operating characteristics.

#### **3.02 NAMEPLATE CURRENT**

- A. Before any motor is energized, Contractor shall obtain the nameplate information from the motor manufacturer and record the motor nameplate current on the line diagrams in the space marked FLA\_ Contractor shall size the motor starter overload heaters in accordance with the starter manufacturer's recommendation for the given motor nameplate current, service factor, and power factor correcting capacitors, if provided.

#### **3.03 ROTATION**

- A. Motor rotation shall be checked before the motor is connected to the driven equipment; that is, before couplings are bolted together or belts are installed. The time for checking rotation shall be arranged with the Contractor responsible for installing the equipment.
- B. Before the motor is started to check rotation, electrician shall determine that the motor is properly lubricated.
- C. After correct rotation has been established, the insulation resistance test tags shall be marked "Rotation O.K." and signed or initialed by the electrician and representative of the installing Contractor who check the motor rotation.

**END OF SECTION**

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## SECTION 26 05 19

### LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. 600-volt wire and cable.
  - 2. Multi-conductor instrument cable.
  - 3. Terminals and connectors.
  - 4. Installation.
  - 5. Splices and terminations.
  - 6. Identification.
- B. Related Sections
  - 1. Supplementary Conditions of the Contract, Conditions of the Contract, and all Division 01 Sections apply to the work of this Section.

##### 1.02 SUBMITTALS

- A. Submittals in accordance with Section 01 33 00.
- B. Product data sheets shall be submitted for all wire and cable.

#### PART 2 PRODUCTS

##### 2.01 600-VOLT WIRE AND CABLE

- A. Feeder and Branch Circuit Wire
  - 1. Stranded copper conductor, solid copper for lighting and convenience receptacle circuits only.
  - 2. THWN insulated for conductor sizes #4 AWG and smaller.
  - 3. XHHW or THWN insulation for conductor sizes #3 AWG and larger.
- B. Control Wire
  - 1. #14 AWG, 7 or 9 strand copper.
  - 2. THWN or XHHW insulation.
  - 3. Solid color.
- C. Insulation of all wire shall conform to ICEA S-95-658, NFPA 70, and UL-83.
- D. All Wire and Cable Shall Be
  - 1. New and coiled or on reels.
  - 2. Each coil and/or reel shall have a label with the manufacturer's name, trade name of wire, size of wire, and UL label.

##### 2.02 MULTI-CONDUCTOR INSTRUMENT CABLE

- A. 2-conductor, 3-conductor, or 4-conductor #16 shielded, twisted pair/ triad.

- B. Stranded tinned copper conductors.
- C. Polyethylene color-coded insulation.
- D. Aluminum foil shield and drain wire.
- E. Overall PVC or neoprene jacket which is resistant to oil, ozone, moisture, and sunlight.
- F. General Cable Corp. VNTC Series, or equal.
- G. Special instrument and signal cable shall be provided with the equipment which requires them.

## 2.03 TERMINALS AND CONNECTORS

- A. Tool compressed terminals and connectors shall be made of 1 piece seamless highly conductive copper with a uniform tin-plate coating to minimize corrosion.
- B. Step-down adapters shall be copper compression type.
- C. Electrical spring connectors:
  - 1. Approved Manufacturer: 3M "Scotchlok", "Ranger," Ideal "Wing-Nut", or equal.
- D. Fork Terminals:
  - 1. Vinyl or nylon self-insulated locking type.
  - 2. Terminal insulation that supports wire insulation.
  - 3. Approved Manufacturer: Thomas & Betts Type FL, Burndy Type TP-LF, Panduit Type PNF, 3M Type MNG, or equal.
- E. Electrical Tape:
  - 1. UL Listed.
  - 2. Weather resistant.
  - 3. Moisture resistant vinyl.
  - 4. Rated for the voltage system which it is applied.
  - 5. Temperature rating suitable for the application on which it is applied.
- F. Motor Connection Kit:
  - 1. UL Listed.
  - 2. Qualified to ANSI standards.
  - 3. Rated to withstand 1000V.
  - 4. For use on in-line or stub motor lead splices.
  - 5. Resistant to abrasion.
  - 6. Installed per manufacturer's recommendations.
- G. Waterproof kits shall be utilized for all outdoor below-grade splices and connections as follows
  - 1. Heavy wall, heat shrinkable with interior coating of hot melt adhesive – sealant. Tubing shall be chemically cross linked, thermally stabilized polyolefin.
  - 2. UL listed (UL-486D).
  - 3. Approved Manufacturer: 3M – ITCSN, or equal.

## 2.04 WIRE COLOR CODING

- A. Contractor may use color coding at his discretion, except for the following colors, which shall be used only as designated below for both power and control circuits.
1. Control Circuits
    - a. Dark Blue - Direct current circuits.
    - b. Light Blue - Intrinsically safe conductors.
    - c. Green - Grounding conductor.
    - d. White - Neutral conductor.
  2. Power Circuits (Use solid colors through Size No. 8 AWG. Use black conductors with tape color identification No. 6 AWG and larger)

	Voltage	120/240	208Y/120	480Y/277
a.	Phase A	Black	Black	Brown
b.	Phase B	Red	Red	Orange
c.	Phase C		Blue	Yellow
d.	Neutral	White	White	Gray
e.	Ground	Green	Green	Green

## 2.05 CONDUCTOR IDENTIFICATION

- A. Imprinted labels
1. UL Listed.
  2. Machine typed in black ink.
- B. Label Sleeves
1. Non-burning.
  2. Heat-shrinkable.
  3. Clear.
  4. UL Listed.
- C. Self-Laminating
1. Vinyl.
  2. Wrap around.
  3. Acrylic adhesive.
  4. Water and Oil Resistant.
  5. UL Listed.
  6. Machine typed in blank ink.
- D. Approved Manufacturer: Brady, 3M, Raychem TMS, Thomas & Betts E-Z Code, or equal.

## 2.06 CONDUCTOR PULLING COMPOUND

- A. Rated for use with the conductor insulation and conduit material.
- B. Non-conductive.
- C. Non-cementing.
- D. Dry to a fine lubricating powder or a thin film which does not harden in conduit.

- E. UL Listed.
- F. Rated for repeated exposure to high heat or freezing temperatures.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. All wire shall be installed in the specified raceways.
- B. Wire pulling shall be performed through the system in such a manner as to not exceed the maximum tensile strength of the cable being pulled as allowed by the NFPA 70 and/or cable manufacturer. All handling and installation of wire and cables shall be done by competent and skilled workmen who shall use methods which will prevent damage to the wire and cable.
- C. Pulling compound shall be approved by the cable manufacturer.
- D. Adequate measures shall be employed to determine that the raceways are free of foreign material and moisture before pulling wire or cable.
- E. Any conductor used for equipment grounding purposes shall be green in color, unless it is bare. Conductors with white or green covering shall not be used to indicate other than neutral or grounding. This limitation applies to all power and control circuits.
- F. Conductors shall be without splice from termination to termination, unless indicated otherwise on the Drawings.
- G. Conductors for ac and dc circuits shall be installed in separate conduits.
- H. All 4-20mA signal circuits shall be multi-conductor shielded, twisted pair/ triad instrument cable.

#### **3.02 SPLICES AND TERMINATIONS**

- A. All splices, taps, and terminations shall be made with tool compressed connectors. Contractor shall provide all wire connectors, lugs, and terminals, unless indicated otherwise.
- B. Bolted compression lugs furnished as an integral part of the equipment shall be used to terminate the conductors to that equipment.
- C. Motor leads shall be connected with tool-compressed ring terminals which are bolted together, insulated with varnished cambric tape, and protected with an over-wrap electrical tape, or protected with an approved motor connection kit.
  - 1. Electrical spring connectors may be used to connect motor leads to #12 or #10 AWG branch circuit conductors.
- D. Electrical spring connectors shall be used for splices and taps in lighting and 120-volt receptacle circuits.

- E. Every bolt, lug, and screw termination shall be tightened with a torque wrench or torque screwdriver to the torque values specified in UL Standards and/or as specified by the device manufacturer.

### 3.03 IDENTIFICATION

- A. Control circuits may be color-coded using available colors, except gray and green. They shall be identified at each terminal with a label. Imprinted labels shall be protected by a heat shrinkable sleeve.
- B. Each control circuit shall be identified at both ends with the same number; wire number shall be the same as the wire number shown on the Contractor's Equipment Drawings. Spare conductors shall also be identified.

### **END OF SECTION**

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## SECTION 26 05 33

### RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes
  - 1. Conduit.
  - 2. Conduit fittings.
  - 3. Conduit accessories
  - 4. Underground warning tape.
  - 5. Pull and junction boxes.
  - 6. Fire stop material.
  - 7. Conduit Identification.
  - 8. Execution/Installation.
- B. Related Sections
  - 1. Supplementary Conditions of the Contract, Conditions of the Contract, and all.
  - 2. Division 01 Sections apply to the work of this Section.

##### 1.02 SUBMITTALS

- A. Submit the following items consistent with Section 01 33 00.
  - 1. Product data sheets for each type of conduit.
  - 2. If the Contractor elects to use HPDE conduit, provide the manufacturer's recommend procedures, instructions, materials and equipment for splicing/coupling the conduit.

#### PART 2 PRODUCTS

##### 2.01 RIGID METAL CONDUIT

- A. Steel
  - 1. Galvanized inside and outside.
  - 2. NFPA 70, Article 344.
  - 3. UL Listed.
- B. Aluminum
  - 1. 6063 aluminum alloy, T-1 temper.
  - 2. NFPA 70, Article 344.
  - 3. UL Listed.

##### 2.02 RIGID METAL CONDUIT FITTINGS

- A. Threaded couplings and fittings only; no set screw, gland type, or split fittings.
- B. Grounding type insulated bushings; O-Z/Gedney Type BLG, or equal.
- C. Insulated bushings; Midwest Electrical Mfg. Co., O-Z/Gedney Type B, or equal.
- D. Sealing locknuts; Midwest Electrical Mfg. Co., RACO, or equal.

- E. Expansion Fittings
  - 1. 4-inches conduit movement.
  - 2. External bonding jumper.
- F. Pull Fittings (C, LB, etc.): Clamp type, stamped covers with gaskets and stainless-steel screws and clamps.
- G. Conduit Hubs
  - 1. Full contact type with sealing "O" ring.
  - 2. Myers "Scru-tite," or equal.
- H. Material: Fittings, hubs, etc. shall be galvanized steel for galvanized steel conduit and copper free aluminum for aluminum conduit.

#### 2.03 CORROSION RESISTANT COATINGS:

- A. Pretreatment:
  - 1. Carboline Carbocrylic 120 (for both steel and aluminum conduit), or equal.
- B. Coating:
  - 1. Carboline Bitumastic 300M or equal.
  - 2. 3M Scotchrap Pipe Primer and wrapped with 3M Scotchrap Corrosion Protection Tape, or equal.

#### 2.04 RIGID NONMETALLIC CONDUIT AND FITTINGS

- A. EPC-40-PVC and EPC-80-PVC.
- B. Sunlight resistant.
- C. NEMA TC2.
- D. NFPA 70, Article 352.
- E. UL Listed.
- F. Approved Manufacturer: Carlon, CertainTeed, or equal.

#### 2.05 ELECTRICAL METALLIC TUBING (EMT)

- A. Galvanized exterior.
- B. Corrosion resistant, lubricating interior coating.
- C. Galvanized or Zinc Plated Finish Steel Fittings
  - 1. Set screw, concrete-tight type, except raintight/concrete-tight gland compression type in wet locations.
  - 2. Insulated throat connectors.
  - 3. Approved Manufacturer: Appleton, Midwest Electric, O-Z/Gedney, or equal.
- D. NFPA 70, Article 358.
- E. UL Listed.

## 2.06 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Galvanized steel core.
- B. Built-in continuous copper ground in 1/2 inch through 1-1/4 inches.
- C. PVC jacket.
- D. NFPA 70, Article 350.
- E. UL listed.
- F. Approved Manufacturer: Amer-Tite Type UL, Anamet Anaconda Sealtite Type U.A., Electri-Flex Liqueatite Type L.A., or equal.
- G. Connectors
  - 1. Grounding ferrule and insulated throat.
  - 2. Approved Manufacturer: Appleton STB, Crouse-Hinds LTB, Midwest Electric LTB, or equal.
- H. Grounding liquid tight connectors:
  - 1. Grounding ferrule and insulated throat.
  - 2. Ground lug cast as integral part of iron gland nut.
  - 3. Approved Manufacturer: Appleton, Efcor Brand, O-Z/Gedney, or equal.

## 2.07 FLEXIBLE METAL CONDUIT

- A. Aluminum or galvanized steel.
- B. NFPA 70, Article 348.
- C. UL listed.

## 2.08 UNDERGROUND WARNING TAPE

- A. 6 inches wide, 4-mil polyethylene film.
- B. Vivid, opaque, long-lasting red color with bold, black letters.
- C. Lettering
  - 1. Top line – "...CAUTION CAUTION CAUTION..."
  - 2. Bottom line – "...ELECTRIC LINE BURIED BELOW..."
- D. Seton Name Plate Corp. No. 210 ELE, EMED Co. Stock No. UT27737-6, or equal.

## 2.09 PULL AND JUNCTION BOXES

- A. Covers attached with hinges and stainless-steel screws located within 1/2 inch of each corner opposite the hinges and spaced not more than 12 inches apart.
- B. Neoprene gasketed covers.

- C. Sized per NFPA 70 with enough capacity to add to each side at least 2 conduits of the same size as the largest conduit entering the box.
- D. Square cornered masonry type boxes, 2-1/2 inches minimum depth, shall be used for all flush switches and receptacles in glazed tile, face brick, and unfinished block walls.
- E. Type FS or FD copper-free aluminum cast device boxes for all surface mounted small boxes. Boxes in chemical rooms shall be non-metallic FS or FD boxes.
- F. Galvanized fittings and boxes for EMT conduit.

#### 2.10 ALUMINUM THREAD COMPOUND

- A. Anti-oxidant and anti-seize compound.
- B. Burndy Penetrox, Ideal NOALOX, Ilco DE-OX, or equal.

#### 2.11 DUCT SEALING COMPOUND

- A. Soft, fibrous, slightly tacky, non-hardening, and easily applied by hand at all working temperatures.
- B. Clean and non-staining.
- C. J.M. Clipper Corp. Duxseal, O-Z/Gedney DUX, or equal.

#### 2.12 CONDUIT CLAMPS

- A. Conduit clamps for rigid metal conduit shall be malleable iron, 1-hole clamp with malleable iron clamp backs; Crouse-Hinds MW500 Series, Raco 1303/1324, Appleton CL75M/600M, or equal.

#### 2.13 CABLE FITTINGS

- A. Aluminum or stainless-steel threaded body and gland nut.
- B. Neoprene bushing.
- C. Stainless steel wire mesh grip.
- D. Crouse-Hinds CGB with RPE wire mesh grip, Killems CG, or equal.

#### 2.14 CONDUIT SEALS

- A. Conduit seals shall be provided wherever conduits penetrate exterior concrete walls below grade, or cross hazardous location boundaries
  - 1. For conduits less than 60 inches below grade; OZ/Gedney Type FSK, or equal.
  - 2. For conduits more than 60 inches below grade; OZ/Gedney Type WSK, or equal.
  - 3. For Class 1 Division 1 or Division 2 hazardous location boundaries, conduits shall be sealed at the point where they leave the room. Fittings shall be "EYS," Appleton or Chico "X" Fiberdam and Apelco or Chico "A" compound, or equal.

## 2.15 CONDUIT IDENTIFICATION

- A. 3/4 Inch By 3-1/2 Inches
  - 1. Nylon plates.
  - 2. Marked in black with a marking pen specifically designed for such use.
  - 3. Approved Manufacturer: Panduit MP350, or equal.
- B. 2-3/8 Inches By 4-3/4 Inches
  - 1. Medium weight shipping tags with reinforced eyelet.
  - 2. Marked in black with a marking pen specifically designed for such use.
  - 3. Approved Manufacturer: Dennison Size 5, Grade G, or equal.
- C. Tag Protection
  - 1. Adhesive-backed plastic or clear polyester film tape.
  - 2. Approved Manufacturer: 3M Scotch Brand 3750 Clear Box Sealing Tape or equal.

## PART 3 EXECUTION

### 3.01 CONDUIT INSTALLATION

- A. All raceways shall be installed in accordance with NECA 1, Standard Practices for Good Workmanship in Electrical Contracting, and as specified herein.
- B. Conduit size shall be as shown on the Drawings or as required by the NFPA 70 with a minimum size of 3/4 inch, except that 1/2 inch may be used to connect to devices which have a knock-out or fitting for only 1/2-inch conduit.
- C. Threads of aluminum conduit and fittings shall be coated with an anti-seize compound before the connections are made.
- D. Pull boxes or fittings shall be installed as Site and pulling requirements dictate.
- E. All raceways shall be installed exposed, except in the finished areas designated on the Drawings or where noted otherwise.
- F. Approved Conduit types:
  - 1. Existing Control Building:
    - a. Rigid steel.
    - b. Rigid aluminum.
    - c. EMT.
  - 2. Exterior, Exposed:
    - a. Rigid aluminum.
  - 3. Direct Earth Burial:
    - a. Rigid steel with bitumastic coating or suitable tape wrap or shrink wrap.
    - b. PVC Schedule 40
      - 1) Rigid steel conduit shall be used for the vertical elbow and riser out of the ground.
    - c. PVC Schedule 80
      - 1) Rigid steel conduit shall be used for the vertical elbow and riser out of the ground.

- G. Conduits or groups of conduits shall run parallel to or perpendicular to building lines. Grouped conduits shall be supported at proper intervals with trapeze or bracket type hangers constructed of galvanized Unistrut, Power-Strut, or equal. All hangers, fasteners, nuts, etc. shall be galvanized steel or stainless steel. Support fasteners shall be preset inserts, beam clamps, expansion shields, or gun-driven studs.
  - 1. In the chemical handling rooms and other areas designated on the Drawings, all hangers, fasteners, inserts, screws, etc. shall be PVC or nylon.
- H. Conduit and Penetration Sealing
  - 1. Any conduit run which goes through an exterior building wall or between rooms of more than 30 degrees F difference in temperature shall be sealed internally with duct sealing compound at the point where they leave the room.
  - 2. All conduits leaving the chemical handling rooms and other areas designated on the Drawings shall be sealed internally with duct sealing compound at the point where they leave the room.
  - 3. All conduits leaving any hazardous locations shall be sealed internally at the point where they leave the room.
  - 4. All penetrations thru fire rated walls shall be sealed according to NFPA 70, Article 300.21. Refer to Section 07 84 00 for materials and methods.
- I. No raceways, fittings, outlets, junction boxes, or pull boxes shall be attached to grating; they shall be connected to supports which are attached to structural members.
- J. All pull and outlet boxes shall be set plumb. Boxes for concealed wiring shall be flush with the finished surface. All boxes shall be UL listed for the location in which they are installed.
- K. Expansion fittings shall be installed at building expansion joints and where the length of straight run requires it.
- L. All conduits shall be kept dry and free of water or debris with pipe plugs or caps.
- M. Conduit and boxes shall not be attached to or suspended from equipment or mechanical ductwork. Where box or conduit must be mounted below ductwork, provide a structural channel support which is suspended from the ceiling or bracketed from a wall. Attachments to equipment shall be directly to the electrical devices associated with it.
- N. Conduit terminations to terminal boxes, cabinets, and enclosures shall have double locknuts and insulated bushings. External locknuts shall be sealing locknuts.
- O. All conduits which enter major equipment, such as the service entrance switchboard and motor control centers, shall have grounding type insulating bushings.
- P. Conduit terminations to outdoor or below ground NEMA 3R, 4, and 4X terminal boxes, pull boxes, cabinets, and enclosures shall use full contact hubs.
- Q. Flexible conduit connections shall be used to connect from conduit system to equipment and devices if a rigid connection is improper or impractical.
  - 1. Liquid tight flexible metal conduit shall be used for flexible connections where the conduit system is rigid metal conduit.
  - 2. Flexible metal conduit shall be used for flexible connections where the conduit system is EMT.

3. Liquid tight flexible metal conduit 1-1/2 inches and larger shall have an external bonding jumper sized in accordance with NFPA 70.
  4. Grounding liquid tight connectors may be used in lieu of the grounding clamp on the conduit.
- R. Underground conduit runs shall have a minimum cover of 2 feet, and shall be rigid nonmetallic conduit, unless noted otherwise
1. Conduit shall be sloped to drain to handholes or pull boxes.
  2. Rigid metal conduit shall be used for the vertical elbow and riser out of the ground.
  3. Rigid metal conduit installed underground or in contact with concrete shall have a corrosion resistant coating or covering.
  4. HPDE conduit may be used for underground conduit runs longer than 50 feet.
- S. Contractor shall do all trenching for underground conduit with a minimum size trench. 3 inches of sand shall be placed below and above buried conduit in trench. All fill material shall be placed in 12-inch lifts and compacted to 90-Percent Standard Proctor Density. Underground warning tape shall be laid in the trench approximately 9 inches below the surface.
1. Excavating, backfilling, and grading shall comply with Division 31.
- T. A nylon pull cord shall be installed in each empty conduit.
- U. Only raceway types which are specified in this Section shall be used.
- V. The roadway, sidewalk, or grade beneath which conduit is routed shall be restored to its original or better condition.
1. Provide grading, soil, and seeding or sod to restore turf to original or better conditions.
  2. Coordinate type of soil, seeding and/or sod with Owner to match existing.
- W. Provide cable fittings and wire mesh grip for cable entry into conduit.
- X. All splices performed on the HDPE conduit shall use equipment and procedures recommended by the manufacturer and which meet NFPA 70.
- Y. Conduit fittings installed in Class 1, Division 1 and Class 1, Division 2 locations shall be rated for Class 1, Division 1 locations, unless noted otherwise.
- Z. Boxes installed in Class 1, Division 1 and Class 1, Division 2 locations shall be rated for Class 1, Division 1 locations, unless noted otherwise.
- AA. Conduit installed in slabs shall conform to the following requirements:
1. Conduit shall not be tied parallel to reinforcement bars.
  2. Conduit must not be tied to each other and shall be spaced a minimum of 1 1/2 inches apart and preferably 3 inches apart.
  3. Whenever possible, conduit should not cross over other conduit. All crossing conduit must be reviewed and approved by the Engineer prior to placement of concrete.
  4. Conduit must not be placed on top of the bottom mat of reinforcement bars. There should be a minimum of 1-inch separation from the bottom of the conduit to the top of the steel bars in the bottom mat of steel.
  5. Prior to placement of the conduit, the contractor must submit an appurtenance embedment drawing that shows the proposed locations of all conduits.

### 3.02 OPENINGS

- A. Contractor shall review the size and location of all openings to be sure they meet the requirements of the equipment that is furnished and/or installed as a part of this Contract. Contractor shall be responsible for providing all required openings necessary for a complete installation. All required openings are not shown on the Drawings.
- B. All openings shall be filled with an approved sealant, caulking, or grout after the conduit or cable installation is complete. Openings below equipment with an open bottom shall be covered with a galvanized metal sheet (16 gauge or heavier) through which the conduits shall be brought. After all conduits have been installed, the core shall be sealed with a minimum of 3 inches of fire-retardant material.
- C. Special care shall be taken to make a gas-tight seal around all conduits, capillary tubes for remote bulb thermostats, etc. which enter chemical handling rooms, hazardous areas, and other areas designated on the Drawings.
- D. Openings through grating shall have the bars of the grating banded.

### 3.03 CONDUIT IDENTIFICATION

- A. All conduits containing intrinsically safe wiring shall be identified every 25 feet with permanently affixed labels with the wording "Intrinsic Safety Wiring."
- B. Conduits shall be tagged as a group where they enter each major electrical panel or box, such as control panels, motor control centers, service entrance switchboard, generator, and large pull boxes or a terminal cabinet. Tag shall identify the location of the other end of the run.
- C. Conduit tags shall be 3/4 inch by 3-1/2 inches, if more space is required than 2-3/8 inches by 4-3/4 inches shall be used. Tags shall be marked with black ink and the writing shall be covered with protective tape.

### END OF SECTION



## SECTION 32 92 19

### SEEDING AND RESTORATION

#### PART 1 GENERAL

##### 1.01 SUMMARY

###### A. Section Includes

1. Restoration of all exposed soil areas disturbed by construction (grading, staging, and work areas) by installation of topsoil, seed, and erosion control.

##### 1.02 REFERENCES

- A. Minnesota Department of Transportation, (Mn/DOT), Standard Specifications for Construction, Latest Edition with Supplements:
  1. 2575 – Establishing Turf and Controlling Erosion.
  2. 3876 – Seed.
- B. Minnesota Department of Transportation Seeding Manual (Mn/DOT Seeding Manual), Latest Edition.
- C. BWSR Native Vegetation Establishment and Enhancement Guidelines, January 2019.

##### 1.03 SUBMITTAL

- A. Submit in accordance with Section 01 33 00 – Submittal Procedures.
- B. Product Data:
  1. Seed source and invoice.
  2. Producer's certificate of compliance – Written documentation verifying compliance of mixture of seed furnished. Include percentage of various seed species, year of production, germination rate, seed bag tags, and weed seed content. Submit to ENGINEER at least 5 days prior to delivery.
  3. Fertilizer manufacturer and product information.
  4. Topsoil source and testing results to show conformance with the specifications and to determine appropriate fertilizer formula.
- C. Qualification Data:
  1. List of installers experience conforming to paragraph 1.5.A.
  2. Proof of qualified supervisor experienced conforming to paragraph 1.5.B.2.

##### 1.04 SEQUENCING AND SCHEDULING

- A. Notification of Unsatisfactory Conditions
  1. CONTRACTOR shall examine and evaluate grades, soils, and water levels, observe conditions under which work is to be performed, and notify ENGINEER of unsatisfactory conditions. CONTRACTOR shall not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

2. If conditions detrimental to installation or plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, CONTRACTOR shall notify ENGINEER before planting.

#### 1.05 QUALITY ASSURANCE/QUALITY CONTROL

- A. Installer Qualifications: Work shall conform to State Horticultural Standards, local municipal requirements, and BWSR and DNR guidelines for landscape plantings. CONTRACTOR shall have successfully completed 3 projects similar to that of this project within the last 2 years. CONTRACTOR shall submit the names of those projects along with the project Owner contact information.
- B. Quality Control Procedures
  1. Substitutions shall not be made without written approval of the ENGINEER. If specified material is not obtainable, CONTRACTOR shall submit to ENGINEER written proof on non-availability and a written proposal for use of equivalent material.
  2. Landscaping work shall be performed by personnel familiar with planting procedures and work shall be carried out under the direction of a qualified supervisor with at least three years of experience with this type of project.

### PART 2 PRODUCTS

#### 2.01 TOPSOIL

- A. Previously stripped and stockpiled topsoil shall be used for restoration (no import of topsoil).

#### 2.02 SEED MIXTURES

- A. Applicable Conditions: The following applies to all CONTRACTOR supplied seeds.
  1. Seeds shall be blended by the vendor and the mixture and ratio shall be guaranteed in writing to be as specified by percentage or weight in the Seed Lists. This is a submittal required of the CONTRACTOR prior to final payout.
- B. Seed Requirements: All seeds shall conform to the following requirements.
  1. All legumes shall be inoculated with the proper rhizobia and at the appropriate time prior to planting.
  2. All seed shall be packed and covered in such a manner as to insure adequate protection against damage and maintain dormancy while in transit, storage or during planting operations.
  3. All seeds shall have the proper stratification and/or scarification to break seed dormancy for other than fall planting.
  4. All seeds shall be true to their name as specified. Their origin shall be known to be local within a 200-mile radius of the project location and species and subspecies native to the area in the project location's county. Seed origins beyond a 200-mile radius shall be approved in writing by the ENGINEER.
  5. Species and quantities to be planted shall be those specified on the vegetation plan. Seed mixtures shall be proportioned by seed count and seed count percentages. Seed mixtures and any substitutions or changes shall be submitted in writing to project the ENGINEER for approval.
  6. Seeds shall be free of the Minnesota DNR identified noxious weed seeds and Reed Canary Grass (*Phragmites ruminacea*), Giant Reed Grass (*Phragmites australis*), Cattails (*Typha* spp.) and Purple Loosestrife (*Lythrum salicaria*).

- C. Seed Mixes - Seed as designated on the plans and in the Contract Documents.
  - 1. Conform to Mn/DOT Spec 3876 and the Mn/DOT Seeding Manual.
  - 2. Mn/DOT Seed Mix 25-131 Low Maintenance Turf
    - a. Seeding rate: 220 lbs/acre PLS.

## 2.03 MULCH

- A. Type 1 or Type 5 per Mn/DOT Spec 3882.

## 2.04 HYDROMULCH

- A. Conform to Mn/DOT Spec 3884 Hydraulic Erosion Control Products, Bonded Fiber Matrix (BFM).

# PART 3 EXECUTION

## 3.01 GENERAL EXAMINATION/PREPARATION FOR SEEDING

- A. Finish grade to be inspected and approved by the ENGINEER prior to start of restoration
- B. Topsoil
  - 1. Scarify subgrade to depth of 4 inches for bonding of subsoil with topsoil.
  - 2. No topsoil shall be placed or worked in frozen or muddy condition.
  - 3. Topsoil should be re-spread at a uniform thickness. The minimum thickness of re-spread topsoil is 6 inches.
  - 4. Prepare areas to be seeded to required depth of approximately 4 inches by disking, rototilling, harrowing or other approved means.
  - 5. Remove and dispose of rock, trash, or other materials brought to surface from preparation activities.
  - 6. SEEDING SCHEDULE
  - 7. Seeding Plan.
  - 8. At least three weeks prior to beginning work, CONTRACTOR shall submit a seeding and planting plan for approval by the ENGINEER. This plan shall include proposed methods of planting, species, quantities, types of propagules, proposed surface preparation and equipment.

## 3.02 SEEDING

- A. Seeding Dates
  - 1. Seeding for this project shall be within the dates set forth in the Mn/DOT Seeding Manual.
  - 2. ENGINEER shall be notified 24 hours prior to beginning the seeding operations.
  - 3. Seed Drill Installation
  - 4. Immediately prior to seeding operations, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. The drill shall be calibrated at 1/2 the appropriate seeding rate and each area shall be drilled twice at opposite directions to help insure an even distribution. Seed shall be sown at approximately 1/8 inch to 1/4 inch deep and no deeper than 1/2 inch deep.
  - 5. Seeding will take place using a "No-Till" drill with 3 compartments, except on slopes deemed too steep for "No-Till" drill method, areas where trees need to be protected or areas deemed too wet all determined by ENGINEER. Drill shall be checked at the end of each seeding pass to ensure even distribution of seed through each pass. Where "No-

Till" drill method of seeding is inappropriate, or for temporary seeding, broadcast seeding is acceptable.

6. Cover crop shall be sown separately from forbs and grasses unless drill meters out forbs and grasses separately from cover crop.
7. Within 12 hours, if conditions permit or as soon thereafter as practical, all seeded areas shall be rolled perpendicular to the line of run-off with an approved type roller or culti-packer to compact the seedbed to place the seed in contact with the soil.
8. No fertilizer shall be applied to any seeded areas for any reason.
9. Broadcast Seeding
10. Seeding will take place using a broadcast method. Mechanical broadcasting equipment shall be equipped with an agitator that effectively prevents seed from bridging or plugging. Seed shall be broadcast twice over each area to help ensure even distribution. The seeded area shall be hand-raked or dragged with an implement to the extent necessary to cover a majority of the seed with 1/8 inch to 1/4 inch of soil.
11. Cover crop shall be sown separately from forbs, sedges and grasses.
12. Within 12 hours, if conditions permit or as soon thereafter as practical, all seeded areas shall be rolled perpendicular to the line of run-off with an approved type roller or culti-packer to compact the seedbed to place the seed in contact with the soil.
13. No fertilizer shall be applied to any seeded areas for any reason.
14. Erosion control blanket or hydro mulch shall be installed over the seeded areas immediately following seeding activities as shown on the Drawings.

### 3.03 MULCHING

- A. Mulch drill or broadcast seeded areas not designated to receive erosion control blanket within 24 hours after seeding is complete.
- B. Application rate shall be 2 tons per acre or no more than 1 inch in depth.
- C. Mulch shall be spread uniformly in a continuous blanket. Mulch shall be started on the windward side of relatively flat area or on the upper part of a steep slope and continued uniformly until area is covered. The mulch shall not be bunched.
- D. Do not mulch during periods of excessively high winds.
- E. Immediately following the spreading of the mulch, the material shall be anchored securely into the soil a minimum of 3-inches by means of a mulch anchoring machine equipped with large coulter-type discs spaced on approximate 8-inch centers. All anchoring shall be at right angles to slope. Edges of the discs shall be dull to prevent cutting of the mulching and equipment operation shall be such as to embed the mulch to the required depth. In areas where equipment cannot be used, mulch shall be secured by shallow covering of earth or by embedding with approved hand methods, including straight-bladed spade with dull edge.
- F. Mulch in accordance with Mn/DOT Spec 2575.

### 3.04 HYDROMULCHING

- A. Conform to Mn/DOT Spec. 2575.3.E Placing Hydraulic Erosion Control Products.

### 3.05 CLEAN-UP AND PROTECTION

- A. During seeding work, CONTRACTOR shall store materials and equipment where directed, keeping pavements clean and work areas and adjoining areas in an orderly condition.
- B. CONTRACTOR shall protect seeding work and materials from damage due to seeding operations, operations by other trades and trespassers. CONTRACTOR shall maintain protection during installation and maintenance periods, and shall treat, repair or replace damaged seeding work as directed by ENGINEER.
- C. No machinery shall run across seeded area after seeding operations have been completed. Observance of machinery on seeded areas after seeding operations have been completed will result in a \$250 fine per occurrence, deducted from the CONTRACTOR's next invoice.

### 3.06 MAINTENANCE

- A. CONTRACTOR shall execute maintenance of restored areas consisting of watering, weeding, rock removal, re-cultivating, and reseeding as necessary to obtain an approved stand of grass.
- B. In absence of rainfall, during the first two weeks of turf establishment, watering shall be performed three times per week by the CONTRACTOR. Water shall be in sufficient quantities to maintain moist soil to a depth of four inches.
- C. During the third, fourth, and fifth weeks of turf establishment, watering shall be performed weekly by CONTRACTOR to maintain moist soil to a depth of four inches.
- D. Bare spots (absence of grass growth), which persist after four weeks of favorable growing weather, shall be re-cultivated, reseeded, raked, and mulched. Reseeding of bare spots shall be executed as many times as necessary until an acceptable stand of turf is established.

### 3.07 FIELD QUALITY CONTROL

- A. Provide the ENGINEER with seed bag tags used for identification purposes.
- B. ENGINEER reserves the right to inspect seeds, either at place of growth or at site before planting, for compliance with requirements for name, variety, size, quantity, quality and mix proportion.
- C. CONTRACTOR shall supply written affidavit certifying composition of CONTRACTOR supplied seed mixtures with respect to species, variety and source.

### 3.08 FINAL CLEAN-UP

- A. Upon completion of the work and before preliminary acceptance and final installation payment will be made, the CONTRACTOR shall clean and remove from the site of the work surplus and discarded materials, temporary structures, and debris of every kind.
- B. The CONTRACTOR shall leave the site of the work in a neat and orderly condition equal or better than that which originally existed.

- C. Surplus materials removed from the site of the work shall be disposed of at locations approved by the ENGINEER.

### 3.09 INSPECTION AND ACCEPTANCE

- A. Seeding and turf work will be inspected for acceptance in parts agreeable to the ENGINEER, provided Work offered for inspection is complete, including maintenance, for the portion in question.
- B. At the conclusion of the establishment period(s), a final inspection will be made to determine the conditions of areas specified for seeding.
- C. When inspected areas do not comply with requirements, replace rejected Work and continue specified maintenance until re-inspected by ENGINEER and found to be acceptable. Remove rejected materials from the Site.
- D. Seed evaluation at the conclusion of the establishment period shall be based on at least one species per square foot and 90 percent of seeding per square foot is of the permanent seed species within the applied mix.

### **END OF SECTION**

## SECTION 46 53 13

### ROTATING BIOLOGICAL CONTACTORS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Contractor shall Furnish and Install the following for RBC-2:
  - 1. One (1) Rotating Biological Contactor (RBC) as shown on Drawings.
  - 2. RBC Baffles.
  - 3. Air diffuser drop legs and coarse bubble diffusers.
- B. Contractor shall furnish one spare RBC drive to be installed by Owner in future for RBC-1.
- C. All equipment shall be provided by one supplier. The CONTRACTOR shall source the various components as required and specified here-in to ensure a fully functional system.

##### 1.02 RELATED SECTIONS

- A. Division 26 - Electrical.

##### 1.03 REFERENCES

- A. American Institute of Steel Construction (AISC).
- B. American Society for Testing and Materials (ASTM).
- C. American Welding Society (AWS).
- D. American Gear Manufacturer's Association (AGMA).
- E. American Iron and Steel Institute (AISI).
- F. American Petroleum Institute (API).
- G. American National Standards Institute (ANSI).
- H. National Electrical Manufacturers Association (NEMA)
- I. Steel Structures Painting Council, American National Standards Institute (SSPC).

##### 1.04 GENERAL REQUIREMENTS

- A. Contractor shall be responsible for field verifying all dimensions of existing structures, equipment, materials, and all new equipment and materials to ensure that equipment being furnished conforms to the dimensions and configurations allowing for proper installation and operation of equipment. The costs of any modifications to structures and/or equipment in order to allow for proper installation and operation of the RBC process units shall be included in the Lump Sum Base Bid.

## 1.05 SYSTEM DESCRIPTION

- A. The existing wastewater treatment process consists of grit removal, an equalization tank, a primary clarifier, a trickling filter, an intermediate clarifier, two rotating biological contactors, a final clarifier, and a chlorine contact basin.

## 1.06 SUBMITTALS

- A. Provide shop drawings in accordance with Section 01 33 00. Shop drawings shall be provided for all materials and equipment provided in this specification section.
- B. Provide operation and maintenance manuals in accordance with Section 01 78 23.
- C. Provide manufacturer's certificate of proper installation.

## PART 2 PRODUCTS

### 2.01 APPROVED MANUFACTURERS

- A. Envirodisc Rotating Biological Contactors, as manufactured by Walker Process Equipment, Division of McNish Corporation, Aurora, Illinois.
- B. Evoqua Water Technologies, LLC.
- C. Approved Equal.

### 2.02 RBC EQUIPMENT DESCRIPTION

- A. RBC Main Shaft:
  - 1. Each RBC assembly shall employ a central steel shaft to support the rotating media.
  - 2. The steel shaft shall consist of a structural tube extending approximately the full length of the media stack and structurally attach to stub-end assemblies at each end:
    - a. Stub-end assemblies shall be designed to make a transition from the tube to a smaller diameter round stub shaft. The stub shaft, in operation, shall be supported by the bearings at both ends of the RBC assembly.
  - 3. The RBC main shaft have one longitudinal weld seam made by the double-submerged arc process as defined in API 5L:
    - a. The weld seam shall be tested for its full length, and shall not exceed discontinuity limits specified in API 5L.
  - 4. End plates shall be ASTM A36 steel plate.
  - 5. The bearing end shafts shall be heat treated, stress relieved AISI 4140 alloy steel, with a minimum, yield strength of 90,000 PSI and a minimum tensile strength of 120,000 PSI.
  - 6. Mill metallurgical test reports of all shaft materials shall be available.
  - 7. All welds shall be made by automatic processes.
  - 8. Longitudinal seam welds shall be continuous and full-penetration.
  - 9. At least one pass shall be made on the inside and at least one pass on the outside.
  - 10. The discontinuities shall be within limits as specified in API 5L Specifications.
  - 11. All fillet welds shall be visually inspected and the quality of weld shall not be inferior to standards set forth in Section 9.25 of AWS Specifications.
  - 12. Shafts that do not meet the above requirements may be accepted by the Engineer provided the manufacturer can prove through past experience that the shaft can withstand projected loadings without failure through a 20 year life.



13. Shafts shall be capable of operating with the total load produced by biomass present on the RBC media plus the shaft, media, and other dead loads over a 20 year life.
- B. Media Structural Assembly:
1. The media shall be positioned by a structural support system to prevent fatigue failure of the media due to prolonged and continuous flexural stressing.
  2. The support segments shall be fabricated from commercial quality steel and coated for corrosion protection.
  3. The individual segments/radial arms of the support structure shall be interconnected at the periphery to form a continuous radial structure.
  4. Each media sheet shall be supported at two areas on minimum 6 inch diameter tubing, 316 SS Schedule 40 pipe, 1-1/2 O.D. pultruded FRP rod, or two 6 inch diameter carbon steel support tubes, the hole areas in the media being properly reinforced.
    - a. Alternatively, media shall be assembled into pie-shaped packs and held together at 3-points by 316 stainless steel pipes at minimum 2 inch diameter with 1/8 inch thickness. The holes in each media sheet must be formed to provide a 1 inch flat contact surface to the connecting pipes to eliminate an edge contact with the pipes to prevent enlarging of the holes due to friction, thereby, eliminating lateral movement of the packs.
  5. The structural support system shall not exceed AISC allowable stresses; shall be manufactured from painted carbon steel and shall be designed for a 20 year life.
  6. The diameter of the media shall be not less than 11 feet or more than 12 feet. Coordinate diameter of RBC's with existing tankage, grating, piping, etc. It is expected that the diameter will match existing RBC diameter as close as possible.
  7. It is the intent of these specifications that each RBC unit be completely serviceable without removal of the main shaft from the basin. If the RBC manufacturer's design does not provide for on site disassembly, the manufacturer shall furnish design of a handling device for removal of each RBC unit from the tankage to the repair area.
  8. Any additional metallic appurtenances fittings, extensions, or other hardware required, to assist or in any way support the polyethylene media, shall be fabricated from 316L, 309, or 409 stainless steel. Fasteners shall be A325 high strength bolts.
- C. Bearings:
1. The main shaft bearings shall be heavy-duty, self-aligning to +/- 2 degrees, pillow-block type designed for high humidity, slow speed operation, with a minimum B-10 life of in excess of 100,000 hours at operating loads and 1.5 RPM.
  2. The bearings shall be factory assembled on shafts and factory lubricated.
  3. The drive end bearings shall be expansion type and the idler end bearings shall be non-expansion type.
  4. The bearing seals shall maintain contact even during misalignment and protect the bearing against liquids and grit.
  5. Spherical roller bearings with positive mechanical seals which require minimal lubrication at intervals not to exceed once per 3 months under continuous service.
  6. Pillow block bearings shall be constructed to provide for easy replacement of roller bearing cartridge insert.
  7. Tubing and fittings (Zerk type) for remote lubrication shall be furnished with each bearing and locations shall be coordinated with existing RBC covers and new enclosures such that lubrication operations can be performed easily and without difficult.
- D. Drive System (RBC-2):
1. Locate drive units as shown on the Drawings.

2. Drive components to be field assembled, which includes the motor, speed reducer, motor, motor mount, multi-V-belt drive, sheave assembly, belt guard, and adjustable torque arm.
3. The entire drive system shall be mounted outside the end bearing for ease of maintenance and inspection.
4. Manufacturer shall provide stainless steel bolts, nuts, and washers for installing all components (includes anchor bolts).
5. Speed Reducer:
  - a. Shall be shaft-mounted to the drive end stub shaft.
  - b. Designed to continuously rotate the RBC unit at a nominal speed of 1.5 rpm at an electric motor input speed of 1160 rpm.
  - c. Constructed in accordance with AGMA Specification 6021.
  - d. Fully enclosed in two-piece cast-iron weatherproof and corrosion-resistant casings designed for high humidity areas and shall have anti-friction bearings throughout.
  - e. The housing halves shall be precision machined and doweled to give an accurate fit. Shimming of the halves will not be permitted.
  - f. All gears shall be of the helical type made from alloy steel and machine cut teeth.
  - g. Gears and bearings shall be splash lubricated.
  - h. All speed reducer bearings shall have a B-10 life in excess of 100,000 hours at motor nameplate horsepower.
  - i. All shafts shall have adequate roller or ball bearings. At least one bearing on each shaft shall be of the combined radial and thrust type.
  - j. Bearing shall have spring loaded, double lip seals made of BUNA-N rubber with steel backing plate.
  - k. The reducer shall be mounted to the shaft with Taper Lock bushings and keyways for easy installation and removal.
  - l. The speed reducer shall meet the requirements of AGMA service Class II, with exception that the service factor of 1.15 shall be applied to motor nameplate horsepower of 5 HP. The efficiency of the gear reducer shall not be less than 90 percent.
  - m. The speed reducer shall include torque arm, oil level port and breather valve. The RBC manufacturer shall provide the required lubricant either factory installed or shipped separately for field installation. The speed reducer shall be designed to operate with either synthetic or mineral oil.
  - n. The speed reducer shall be a triple reduction unit with the motor connected to the speed reducer by means of V-belts.

E. Drive System (RBC-1)

1. Furnish a new drive assembly that will be installed in future (by Owner) for existing RBC-1. RBC-1 drive assembly shall match new RBC-2 drive assembly as close as possible.
2. Contractor shall field verify existing RBC-1 drive features and provide to drive manufacturer to confirm proper design and selection of RBC-1 drive prior to preparing shop drawings.
3. Contractor shall submit standalone shop drawing for RBC-1 drive (separate shop drawings from RBC-2 equipment).
4. RBC-1 drive shall be shipped to site in a separate shipping crate that can be stored by City until time of future installation.

F. Motor:

1. Each motor shall be rated 5 HP, 1200 RPM, 230/460 volt, 3 phase, 60 hertz. The branch circuit feeding the motor will be 240vol, 3 phase.

2. Design shall be in accordance with NEMA Specification MG 1-1.21. NEMA B torque requirements, Class F non-hygroscopic insulation, and a 1.15 service factor.
3. The motor shall be totally enclosed fan cooled with cast iron fan cover, cast iron frame and end shields, and stainless steel nameplate.
4. The fan shall be reinforced corrosion resistant plastic.
5. The exterior of the motor shall be painted with a corrosion resistant epoxy, air dry enamel with non-toxic rust inhibitor.
6. The motor frame shall be equipped with a removable eyebolt and automatic stainless-steel drains.
7. Stator and rotor surfaces shall be epoxy enameled, and motor leads shall be non-hygroscopic.
8. Manufacturer to coordinate location of motor Zerk type lubrication fittings such that routine lubrication operations can be performed without difficulty.

G. RBC Media:

1. The media type shall be high and standard density media with total available surface area between 129,000 Sq.Ft to 137,500 Sq. Ft. RBC shall match existing RBC area as close as possible.
2. Shall be 100 percent virgin high-density linear polyethylene copolymer meeting ASTM D1248-74 requirements and shall contain 0.5% to 1.0% carbon black, or other approved UV inhibitor, to reduce degradation by ultraviolet light.
3. Media shall be fastened such that there is no rubbing of adjacent layers.
4. Media shall have a minimum environmental stress crack resistance per ASTM 1693-70 of 800 hours.
5. The resin shall have a minimum flexural stiffness as measured by the Cantilever Beam Test (ASTM D790) of 175,000 PSI and a minimum environmental stress crack resistance (ASTM 1693-70) of 800 hours.
6. Media segments shall be thermo vacuum formed from extruded sheet with a starting thickness of 0.04 inch. In order to provide greater surface area, additional rigidity, and clog free flow paths, the segment shall be formed above and below the center line of the original sheet to form a series of truncated cones, as well as, built-in spacers to provide positive separation of adjacent segments.
7. Standard density media shall have a nominal spacing of 0.94 inch and high-density media shall have a nominal spacing of 0.64 inch between adjacent media sheets.
8. The media segments shall be fully removable from their supporting shaft members without having to remove or raise the entire shaft assembly to permit replacement.

## 2.03 END BEARING SCALES

- A. Manufacturer shall provide end bearing load cells for one (1) shaft end bearings for the purpose of measuring the biomass load on the RBC shaft.
- B. Each load cell shall accept pressurized hydraulic fluid applied through a portable hand pump (provided by Manufacturer) without leakage to the bearing or bearing lubricating fluid.
- C. Pressure exerted on the fluid by the shaft load shall be measurable on a gauge attached to the hand pump.
- D. Provide a quick-disconnect coupling between the pump and the cell so that the pump can be easily moved for pressure measurement of any of the shaft bearing.
- E. Pressure range of 0 to 10,000 psi shall be measured on the gauge.

- F. The pump shall be a complete, assembled unit consisting of hand lever, fluid reservoir, and piston.
- G. Six (6) feet of black rubber hose, gauge, and gauge adapter shall be provided.
- H. A dust cap shall be provided for the load cell coupling when not in use.
- I. Manufacturer shall also furnish graphs and other information especially formulated for the media provided to correctly convert bearing pressure to biomass weight and thickness (assuming specific gravity = 1.0).

#### 2.04 PAINTING AND CORROSION PROTECTION

- A. The main shaft and media support structure shall be sandblasted to SSPC-SP10, followed by one (1) shop primer coat of Tnemec 46H413 Hi-Build Tnemec-Tar coal tar epoxy at 14 to 16 mils dry film thickness; color shall be black. Mating surfaces between main shaft wheel and radial arm channel to receive one (1) coat Tnemec 90-97 Tnemec-Zinc. Carboline C890 epoxy with 10-12 mil thickness applied over coal tar shall be an accepted coating for shaft.
- B. Motors and gear reducers shall be supplied with a finished paint system from the manufacturer.
- C. All other drive components including the bearing base plates shall receive surface preparation of SSPC-SP6, followed by one (1) shop coat of Tnemec 37H77 Prime and one (1) shop coat of Tnemec 2H-BJ45 (2.0 and 1.5 mils dry film thickness respectively). Hot dipped galvanized base plates are acceptable.
- D. Color: ANSI No. 70, light grey.

#### 2.05 AIR PIPING HEADER AND DIFFUSERS

- A. Existing air piping and diffusers shall be replaced to the extents shown on the Drawings. The diffusers shall be replaced to match the existing diffusers and provide the required aeration to ensure a fully functional system.
- B. The aeration diffuser system shall be provided as an effective means of removing excess biomass.
- C. The diffuser system shall be designed to provide 8 CFM per linear foot of RBC media.
- D. The Diffuser drop leg and piping shall be schedule 40 PVC.
- E. Provide stainless steel anchor bolts and mounting hardware to install all aeration drop legs and diffuser equipment.
- F. The Coarse Bubble Diffusers shall be as follows:
  - 1. Stainless Steel Wide Band Diffusers by Sanitaire a Xylem Company
  - 2. CoarsAir Wide Band Diffusers by EDI.
  - 3. Reliaball Coarse Bubble Diffusers by SSI.
  - 4. or Approved equal.

## 2.06 RBC BAFFLES

- A. Provide either Fiber Reinforced Plastic (FRP) or Pressure Treated (PT) Wood baffles 2 inches thick. The baffles are used to prevent short circuiting in the flow path of the wastewater. Each baffle shall have a 6 inch Orifice located in the center of the baffle.
- B. Provide stainless steel anchor bolts and mounting hardware to install baffle equipment.

## **PART 3 EXECUTION**

### 3.01 SHIPPING/STORAGE

- A. Shipping schedules shall be arranged as to minimize handling and/or storage at the job site.
- B. Handling and storage of equipment shall be per the manufacturer's instructions and recommendations.

### 3.02 INSTALLATION

- A. Install all equipment per the manufacturer's instructions and recommendations.
- B. Modify existing concrete equipment bases for new RBC equipment per manufacturer's recommendations.

### 3.03 START-UP SERVICES

- A. Manufacturer's Service
  - 1. Provide services of an experienced, competent, and authorized representative of manufacturer for a minimum of three (3) days. This includes one day of training to the facility operator. Additional manufacturer services for starting and adjusting shall be the responsibility of the Contractor.
- B. Manufacturer's representative shall provide written certificate of inspection confirming that all equipment and appurtenances supplied with it have been installed in accordance with the manufacturer's drawings and recommendations and that the initial start-up and test operation was satisfactory:
  - 1. Certificate of Inspection shall include any deficiencies requiring correction prior to normal operation.
  - 2. Certification of Inspection shall indicate any follow-up inspection(s) by the manufacturer's representative, if required.
- C. Operating and maintenance instructions for the RBC equipment (including baffles and air diffusers) shall be provided by the RBC manufacturer.

### 3.04 SPECIAL TOOLS AND SPARE PARTS

- A. Lubrication gun or device shall be provided in addition to one-year supply of lubricant for RBC-1 and RBC-2 equipment.

## **END OF SECTION**

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