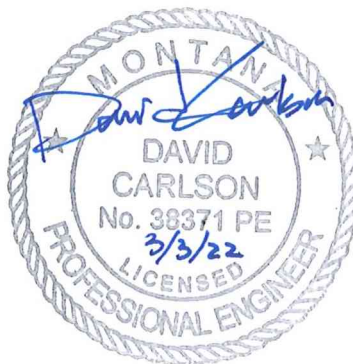




W.O. 22-20 PROJECT MANUAL

Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package



Prepared By: Advanced Engineering and Environmental Services, LLC
Consultant Project No.: P05081-2021-007
Date: March, 2022

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EXHIBIT 1 – RTU SCHEDULE

SECTION 00 11 13 - INVITATION TO BID

Separate sealed bids for W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package will be received by the Billings City Clerk, at 210 N. 27th Street, Billings, MT 59101 or P.O. Box 1178, Billings, MT 59103 or bids@billingsmt.gov until 2:00 p.m. local time on Tuesday, March 22, 2022, and then publicly opened and read aloud. The bid opening will be via Facebook Live on the City's Facebook page: Billings MT City Government.

The project consists of:

Purchase of two (2) new Roof Top Units (RTUs) to upgrade the HVAC system of the High Service Pump Station at the City of Billings Water Treatment Plant. The units will be installed at the City of Billings Water Treatment Plant under a separate installation contract.

Complete digital project bidding documents are available at [QuestCDN](https://questcdn.com). You may download the digital plan documents for \$ 15. You may also access them at www.questcdn.com by inputting Quest **project #8144594** on the QuestCDN project search page. The plans, specifications and the official plan holders list may be examined through this site for no charge. In addition, the Drawings and Project Manual may be examined at www.montanabid.com.

There will be a Non-Mandatory Pre-Bid Conference for all prospective bidders held virtually on Microsoft Teams on Wednesday, March 9, 2022, at 10:00 AM MDT. Interested SUPPLIERS/CONTRACTORS are encouraged to attend. Contact David Carlson, AE2S, at 406-702-7716 or David.Carlson@ae2s.com for details on how to join the Pre-Bid Conference on Microsoft Teams.

SUPPLIER/SELLER and any of the SUPPLIER/SELLER'S subcontractors bidding or doing work on this project will be required to be registered with the Montana Department of Labor and Industry (DLI). Forms for registration are available from the Department of Labor and Industry, P.O. Box 8011, 1805 Prospect, Helena, Montana 59604-8011. Information on registration can be obtained by calling 1-406-444-7734. The SUPPLIER/SELLER must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex or national origin.

Each bid or proposal must be accompanied by a Certified Check, Cashier's Check, or Bid Bond payable to the "City of Billings, MT" in an amount not less than ten percent (10%) of the total amount of the bid. Successful BIDDERS shall furnish an approved Performance Bond and a Labor and Materials Payment Bond, each in the amount of one hundred percent (100%) of the contract amount. Bids submitted via email shall have the bid bond scanned and included with the bid. Bids submitted via mail or hand delivered shall have any of the bid securities included.

No bid may be withdrawn after the scheduled time for the public opening of bids, which is 2:00 p.m. local time, Tuesday, March 22, 2022.

For further information concerning this project, please contact David Carlson, PE with AE2S at 2624 Minnesota Ave, Billings, MT 59101, by telephone at 406-702-7716 or 406-403-8721, or by email at David.Carlson@AE2S.com; Will Robbins at the Office of the City Engineer, 2224 Montana Ave, Billings, MT 59101, by telephone at 406-657-8237, or by email at robbinsw@billingsmt.gov.

The right is reserved to reject any or all proposals received, to waive informalities, to postpone the award of the contract for a period of not to exceed sixty (60) days, and to accept the lowest responsive and responsible bid which is in the best interest of the OWNER.

The City of Billings is an Equal Opportunity Employer.

Published on March 4, 11, and 18, 2022.

Denise R. Bohlman
Billings City Clerk
P.O. Box 1178
Billings, MT 59103

Dept: PW-ENGR
Published: March 4, 2022
March 11, 2022
March 18, 2022

SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

Instructions to Bidders per the Montana Public Works Standard Specifications, 6th Edition, as Modified by the City of Billings Standard Modifications and as modified below:

ARTICLE 1 – Defined Terms

Revise 1.1

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

1. For the purposes of this document, the Issuing Office shall be as follows:

Advanced Engineering and Environmental Services, LLC
2624 Minnesota Ave
Billings, MT 59101

B. Point of Destination - See Section 00 72 00 EJCDC General Conditions for Procurement

1. For the purposes of this document, the Point of Destination shall be as follows:

City of Billings
2251 Belknap Avenue
Billings, MT 59101

Contact:
Brian Risser
WTP Maintenance Supervisor
406-850-1118

C. Engineer – The entity who has prepared the Procurement Documents on behalf of the Buyer and represents the Buyer with regards to the technical design and management for the Project. For this Project, Advanced Engineering and Environmental Services, LLC (AE2S) is the Engineer.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

Revise 2.1 Complete sets of Bidding Documents may be obtained as stated in the Invitation to Bid.

Delete 2.3 in the Montana Public Works Standard Specifications, 6th Edition.

Insert 2.4 Neither Buyer nor Engineer has any responsibility for the accuracy, completeness or sufficiency of any bid documents obtained from any source other than the source indicated in these documents. Obtaining these documents from any other source(s) may result in obtaining incomplete and inaccurate information. Obtaining these documents from any source other than directly from the source listed herein may also result in failure to receive any addenda, corrections, or other revisions to these documents that may be issued.

ARTICLE 3 – Qualifications of Bidders

Delete 3.2 in the City of Billings Standard Modifications (dated January 2021).

ARTICLE 5 – PRE-BID CONFERENCE

Insert 5.2 The pre-bid meeting will be held remotely via Microsoft Teams on Wednesday, March 9, 2022, at 10:00 AM MDT. Contractors need to contact David Carlson at david.carlson@ae2s.com to receive an invitation to the pre-bid meeting.

Article 8 – BID SECURITY

Revise 8.1 A Bid must be accompanied by Bid Security made payable to the City of Billings and in accordance with BMCC 13-501.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

Modify 7.1 Revise second sentence to read “Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda. Addenda will be available at [QuestCDN](https://questcdn.com). Planholders may download the Addenda at no additional cost. In addition, Addenda may also be examined at www.montanabid.com.”

ARTICLE 13 – PREPARATION OF BID

Modify 13.1 Revise first sentence to read “The Bid Form is included with the Bidding Documents; additional copies are available at [QuestCDN](https://questcdn.com).”

Modify 13.11 Montana Contractor’s Registration is not required. Vendor of the City Form will be required to be completed prior to payment. Form is included in the Project Manual for reference. All fees associated are the responsibility of the Seller.

Delete 13.12 in the City of Billings Standard Modifications (dated January 2021).

ARTICLE 15 – SUBMITTAL OF BID

Add to 15.1 Only Sections Section 00 41 00 Cover Page, 00 41 00 Bid Form, and any bid securities are required to be submitted.

Add to 15.2 If submitting bid via regular mail, a cashier’s check, Certified check or bid bond must be included. Bids can also be submitted via email. If using email, the bid must be submitted with a scanned copy of the bid bond. Hand delivered bids will be accepted.

Add to 15.3C. Telecommunication systems as used in this section does not include email.

ARTICLE 17 – OPENING OF BIDS

Insert 17.2 Bids will be opened on a live video broadcast on the City’s Facebook page: Billings MT City Government. Bids will not be opened at a location that is open to the public.

ARTICLE 22 – STATE LAWS AND REGULATIONS

Modify 22.1 Delete reference to employment preference to Montana contractors and residents and contractor's registration.

Delete 22.2 in the City of Billings Standard Modifications (dated January 2021).

Delete 22.3 in the City of Billings Standard Modifications (dated January 2021).

Delete 22.4 in the City of Billings Standard Modifications (dated January 2021).

ADD ARTICLE 23 – CONTRACTS TO BE ASSIGNED

Add 23.1 Bidder's attention is directed to the provisions of Paragraph 11.02 of the Agreement which provide for the assignment of this Contract for furnishing Goods and Special Services covered by these Bidding Documents to an installation contractor designated by the Buyer to install the Goods. The application of the terms and conditions of the Contract Documents after the Contract has been assigned to the Installation Contractor should be considered by Bidder. Timing of the assignment is set forth in the Agreement. Forms documenting the assignment of the Contract and for the agreement of the Seller's surety to such assignment are included as attachments to the Agreement.

END OF SECTION

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W.O. 22-20

BID SUBMITTAL PACKAGE

Water Treatment Plan High Service Pump Station HVAC Upgrades Procurement Package

BID SUBMITTED BY:

THESE DOCUMENTS MUST BE EXECUTED FOR BID

- ☐ **BID FORM (COMPLETED)**
- ☐ **ADDENDA (ACKNOWLEDGED IN BID FORM IF APPLICABLE)**
- ☐ **10% BID SECURITY (ENCLOSED)**

- Bids submitted via email shall have the **bid bond** scanned and included with the bid.

Emailed bids should be sent to bids@billingsmt.gov

Bids submitted via mail or hand delivered shall have any of the bid securities included. Mailed bids should be sent to City of Billings, PO Box 1178, Billings, MT 59103.

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SECTION 00 41 00 – BID FORM

PROJECT IDENTIFICATION:

W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades
Procurement Package
City of Billings, MT

CONTRACT IDENTIFICATION NUMBER:

W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades
Procurement Package

THIS BID IS SUBMITTED TO:

City of Billings bids@billingsmt.gov	or	City of Billings P.O. Box 1178 Billings, MT 59103	or	City of Billings 210 N 27 th Street Billings, MT 59101
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ARTICLE 1 - BID RECIPIENT

- 1.01** The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Buyer in the form included in the Bidding Documents to furnish all Goods and Special Services as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGMENTS

- 2.01** Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for sixty (60) days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen (15) days after the date of Buyer's Notice of Award.
- 2.02** Bidder accepts the provisions of the Agreement as to liquidated damages in the event of its failure to furnish the Goods and Special Services in accordance with the schedule set forth in the Agreement.
- 2.03** Bidder accepts the provisions of the Agreement as to the assignment of the Contract for furnishing Goods and Special Services.

2.04 Bidder accepts the responsibility, upon execution of the Agreement, should said Bidder be awarded said project, to guarantee the equipment and products included in Bidder's scope of supply are sized appropriately to meet the performance required by each specification section provided herein and those performance claims for equipment functionality claims presented in Bidder's operational descriptions, design calculations, drawings, etc. If, at any time after Award, up until the end of the Warranty Period, the equipment and/or products specified in Bidder's proposal are found to be incorrectly sized to meet the performance (required or claimed) and/or functionality claims, Bidder shall replace equipment and/or products with appropriately sized equipment and/or products at no additional cost to Buyer.

2.05 Bidder accepts the provisions of the Agreement as to the Payment Procedures. provided therein. No payment terms provided in Seller's Bid Package will be honored Any and all payment terms, other than those provided for in the Agreement, shall be considered null and void upon the execution of said Agreement with Bidder/Seller.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

- A. Bidder examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has been given the opportunity to visit the Point of Destination and site where the Goods and Special Services are to be delivered and provided and has become familiar with and is satisfied as to the local conditions that may affect cost, progress, or the furnishing of Goods and Special Services.
- C. Bidder 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 Goods and Special Services.
- D. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Goods and Special Services at the price(s) bid and within the times and in accordance with other terms and conditions of the Bidding Documents.
- E. Bidder has carefully studied and correlated the information known to Bidder; information commonly known to sellers of similar goods doing business in the

locality of the Point of Destination and the site where the Goods will be installed or where Special Services will be provided; and information and observations obtained from Bidder's visits, if any, to the Point of Destination and the site where the Goods will be installed or Special Services will be provided; any reports and drawings identified in the Procurement Documents regarding the Point of Destination and the site where the Goods will be installed or where Special Services will be provided, with the respect to the effect of such information, observations, and documents on the cost, progress, and performance of Seller's obligations under Procurement Documents.

- F. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Procurement Documents and the written resolution thereof by Engineer is acceptable to Bidder.
- G. The Procurement Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Goods and Special Services for which this Bid is submitted.

3.02 Bidder further represents that 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 agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Buyer.

ARTICLE 4 - BASIS OF BID

4.01 Bidder will furnish the Goods and Special Services, whether specifically listed on the Bid Form, shown on the Drawings, or described in the Specifications, including without limitation services, equipment, materials, transportation, insurance and taxes in accordance with the Contract Documents for the following price(s):

CONTRACT NO. 1 - W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package

A. **Itemized Lump Sum Price for Components of Contract No. 1 - WTP High Service Pump Station HVAC Upgrades Procurement Package:**

Schedule	Description	Price (USD)
1	1 (one) 50 Ton Roof Top Unit (RTU) including delivery, installation support, system start-up, commissioning, warranty, and demonstration training	\$ _____
2	1 (one) 55 Ton Roof Top Unit (RTU) including delivery, installation support, system start-up, commissioning, warranty, and demonstration training	\$ _____

- B. **Base Bid Total (Schedule 1 and 2) Lump Sum Price for Contract No. 1 - WTP High Service Pump Station HVAC Upgrades Procurement Package:**
Lump Sum Base Bid covering all work as described in Section 01 11 00 - Summary of Work.

<div style="text-align: right;">_____ Dollars</div> <div style="text-align: center;">and _____ Cents (use words)</div> <div style="text-align: center;">(\$ _____) (use figures)</div>
--

ARTICLE 5 - TIME OF COMPLETION

- 5.01** Bidder agrees that the furnishing of the Goods will be completed and ready for final payment in accordance with paragraph 10.01 of the Supplemental Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 5.02** Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the furnishing of Goods and Special Services within the times specified above in Article 5.01, and to pay Buyer specified liquidated damages as indicated in the Agreement.

ARTICLE 6 - ATTACHMENTS TO THIS BID

- 6.01** The following documents are attached to and made a condition of this Bid:
- A. Required Bid Security. See Section 00 43 13.

ARTICLE 7 - DEFINED TERMS

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

ARTICLE 8 - BID SUBMITTAL

8.01 This Bid is submitted on the date written below and by the entity specified on the following signature pages.

SUBMITTED on _____, _____.

If Bidder is:

A Corporation

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature)

Name (typed or printed): _____

Title: _____

Attest: _____

(Signature)

Business Address: _____

Phone No.: _____

Fax No.: _____

Date of Qualification to do business is: _____

A Partnership

Partnership Name: _____

By: _____

(Signature of General Partner)

Name (typed or printed): _____

Business Address: _____

Phone No.: _____

Fax No.: _____

An Individual

Name (typed or printed): _____

By: _____

(Individuals Signature)

Doing business as: _____

Business Address: _____

Phone No.: _____

Fax No.: _____

A Joint Venture

Joint Venture Name: _____

By: _____

(Signature of Joint Venture Partner)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone No.: _____

Fax No.: _____

Joint Venture Name: _____

By: _____

(Signature of Joint Venture Partner)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone No.: _____

Fax No.: _____

(Each joint venture must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above).

END OF SECTION

SECTION 00 43 13 - BID BOND**BID BOND FOR PROCUREMENT CONTRACTS**

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

BIDDER (Name and Address):

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

BUYER (Name and Address):

BID

Bid Due Date:

Project (Brief Description Including Location):

BOND

Bond Number:

Date (Not later than Bid due date):

Penal sum

_____ (Words)

_____ (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER**SURETY**

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Buyer upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Buyer) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1. Buyer accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Buyer) 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 Buyer, or

3.3. Buyer 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 by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Buyer, 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 Buyer and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION 00 52 00 - AGREEMENT

THIS AGREEMENT is dated as of _____ by and between City of Billings (hereinafter called Buyer) and _____ (hereinafter called Seller). Buyer and Seller hereby agree as follows:

ARTICLE 1 - GOODS AND SPECIAL SERVICES

1.01 Seller shall furnish and perform all Goods and Special Services as specified or indicated in the Contract Documents. The Good and Special Services is generally described as follows:

- A. Furnish, deliver, and provide commissioning services for two new Roof Top Units (RTUs) to upgrade the HVAC system of the High Service Pump Station at the City of Billings Water Treatment Plant. The RTUs are to be installed at the City of Billings Water Treatment Plant at a later date in a separate installation contract.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Goods and Special Services are to be provided under the Contract Documents, as indicated in the Seller's Bid, including the Seller's scope of supply, is generally described as follows:

City of Billings Project No. W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package

ARTICLE 3 - THE ENGINEER

3.01 The Contract Documents for the Goods and Special Services have been prepared by Advanced Engineering and Environmental Services, LLC who is hereinafter called Engineer and who is to act as Buyer's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Project in accordance with the Contract Documents.

ARTICLE 4 - POINT OF DESTINATION

4.01 The place where the Goods for the Project are to be delivered is defined in the Procurement General Conditions as the Point of Destination and is designated as:

City of Billings WTP
2251 Belknap Avenue
Billings, MT 59101

Brian Risser
WTP Maintenance Supervisor
406-850-1118

ARTICLE 5 - CONTRACT TIMES

5.01 Time of 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 the essence of the Contract.

5.02 Days to Achieve Substantial Completion and Final Payment

- A. The Goods and Special Services associated with the Contract shall be substantially completed on or before September 15th, 2022 and completed and ready for final payment in accordance with paragraph 2.04 of the General Conditions on or before March 1, 2023.

5.03 Submittal of Engineering Shop Drawings

- A. Upon execution of the Agreement, the Seller will begin to provide Special Engineering Services for Shop Drawings and Submittals in accordance with Section 01 33 00.
- B. All Shop Drawings and Samples required by the Contract Documents shall be submitted to the Engineer for Engineer's review and approval. Final Approval of Shop Drawing by Engineer shall be complete by May 13th, 2022.

5.04 Delivery of Goods

- A. Upon Final Approval of Shop Drawings, Seller shall commence fabrication. Goods to be delivered to Point of Destination. Date of Delivery is presently set for no later than September 15th, 2022.
- B. If the Contract is Assigned, the date of Delivery of Goods shall be dictated by the "Installation Contractor" but shall not be any later than the date shown above in 5.04.A. Seller accepts the responsibility of meeting the Date of Delivery of Goods agreed upon by Seller and the Installation Contractor. Installation Contractor will submit expected delivery date to Seller 30 days after the transfer of the Agreement from Buyer to Installation Contractor. Final price of this Agreement shall reflect the cost of accommodating the agreed upon Date of Delivery of Goods between Installation Contractor and Seller.

5.05 Furnishing Special Services

- A. The furnishing of Special Services to Buyer shall be dictated by the Installation Contractor. Installation Contractor will be responsible for coordinating the dates for Seller to Furnish the Special Services. Installation Contractor will submit expected Dates for furnishing the Special Services to Seller 30 days after the transfer of the Agreement from Buyer to Installation Contractor. Dates will be subject to change as construction progresses. Installation Contractor will be

responsible for updating Seller on adjusted dates for furnishing the Special Services. Final price of this Agreement shall reflect the cost of accommodating the Installation Contractor's construction schedule with regard to furnishing the Special Services.

ARTICLE 6 - CONTRACT PRICE

6.01 Buyer shall pay Seller for furnishing Goods and Special Services in accordance with the Contract Documents the amounts that follow as indicated in Seller's Bid, subject to adjustment under the Contract:

A. Itemized Lump Sum Price for Components of Contract No. 1 - WTP High Service Pump Station HVAC Upgrades Procurement Package:

Schedule	Description	Price (USD)
1	1 (one) 50 Ton Roof Top Unit (RTU) including delivery, installation support, system start-up, commissioning, warranty, and demonstration training	\$ _____
2	1 (one) 55 Ton Roof Top Unit (RTU) including delivery, installation support, system start-up, commissioning, warranty, and demonstration training	\$ _____

B. Base Bid Total (Schedule 1 and 2) Lump Sum Price for Contract No. 1 - WTP High Service Pump Station HVAC Upgrades Procurement Package:

Lump Sum Base Bid covering all work as described in Section 01 11 00 - Summary of Work.

_____ Dollars and _____ Cents (use words) (\$ _____) (use figures)
--

ARTICLE 7 - PAYMENT PROCEDURES

7.01 Submittal and Processing of Payments

A. Seller shall submit Applications for Payment in accordance with Article 10 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

7.02 Progress Payments

- A. Buyer shall make progress payments on account of the Contract Price on the basis of Seller's Applications for Payment as follows:
1. Shop Drawings
 - a. Shall include all services required to submit Final Engineering Shop Drawings and make revisions necessary for Engineer to approve Final Design Drawings. These shall include, but shall not be limited to, equipment data sheets and drawings (equipment, detail, schematic, electrical, etc.) for all equipment listed in Seller's Scope of Supply.
 - b. Payment for Shop Drawing Phase shall be 10% of the Total Contract Price.
 2. Notice of Fabrication
 - a. Upon Notice of Fabrication, payment shall be approved for 10% of the Total Contract Price.
 3. Completion of Fabrication
 - a. Upon Completion of Fabrication, payment shall be approved for 25% of the Total Contract Price.
 4. Delivery of Goods
 - a. 50% of the Total Contract Price shall be approved upon the satisfactory delivery of all Goods to the Point of Destination.
 5. Final Completion
 - a. The final 5% of the Total Contract Price shall be approved after Seller has met all requirements for Final Completion.
- B. Upon Assignment, discussed in Article 11.02, below, the Seller's Balance to Finish will be assigned to the Installation Contractor. Requests for additional payments will go through Installation Contractor's applications for payment.

7.03 Final Payment

- A. Upon receipt of the final Application for Payment accompanied by Engineer's recommendation of payment in accordance with Paragraph 10.06 of the General Conditions, Buyer shall pay the remainder of the Contract Price as recommended by Engineer.

ARTICLE 8 - INTEREST

- 8.01 All moneys not paid when due as provided in Article 10 of the General Conditions shall bear interest at a rate of up to 1% per month.

ARTICLE 9 - SELLER'S REPRESENTATIONS

- 9.01 In order to induce Buyer to enter into this Agreement, Seller makes the following representations:

- A. Seller has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

- B. If specified, or if, in Seller's judgment, any local condition may affect cost, progress or the furnishing of the Goods and Special Services, Seller has visited the Point of Destination and become familiar with and is satisfied as to the local conditions that may affect cost, progress or the furnishing of the Goods and Special Services.
- C. Seller 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 Goods and Special Services.
- D. Seller does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Goods and Special Services at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- E. Seller has correlated the information known to Seller, information and observations obtained from visits, if any, to the Point of Destination, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- F. Seller has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Seller.
- G. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Goods and Special Services.

ARTICLE 10 - CONTRACT DOCUMENTS

10.01 Contents

- A. The Contract Documents which comprise the entire agreement between the Buyer and Seller concerning the furnishing of the Goods and Special Services consist of the following:
 - 1. This Agreement;
 - 2. Seller's accepted proposal
 - 3. Performance Bond;
 - 4. Payment Bond;
 - 5. General Conditions;
 - 6. Supplementary Conditions;
 - 7. Specifications as listed in the table of contents of the Project Manual;
 - 8. Addenda (numbers [] to [], inclusive);
 - 9. Exhibits to this Agreement

- a. Seller's Bid - Including any and all Attachments to this Bid identified in the Bid Form.
- 10. Notice of Award;
- 11. 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. Written Amendments;
 - c. Work Change Directives;
 - d. Change Order(s);
 - e. Field Orders
- B. The documents listed in paragraphs 10.01.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.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.
- E. Where in conflict with any other part of the Contract Documents, those terms and conditions mutually agreed upon by the Seller and Buyer shall take precedence.

ARTICLE 11 - MISCELLANEOUS

11.01 Terms

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

11.02 Assignment of Contract

- A. Buyer has the right to assign the Contract for furnishing Goods and Special Services hereunder and Seller shall accept such assignment. Forms documenting the assignment of the Contract and consent of Seller's surety to the assignment are attached as exhibits to this Agreement.
 - 1. The Contract will be executed in the name of Buyer initially and may be assigned to an installation contractor designated by Buyer. The assignment will occur on the effective date of the agreement between Buyer and the General Contractor (Installation Contractor) for the City of Billings Water Treatment Plant High Service Pump Station HVAC Upgrades project. As of the date of acceptance of assignment by the Installation Contractor, all references in the Contract Documents to Buyer shall mean the designated contractor whose responsibilities will include the installation of the Goods.
 - 2. The assignment of the Contract shall relieve Buyer from all further obligations and liabilities under the Contract. After assignment, Seller shall become a subcontractor to the assignee and, except as noted herein, all rights, duties, and obligations of Buyer under the Contract shall become the rights, duties and obligations of the assignee.
 - 3. After assignment:

- a. All performances, warranties, and guarantees required by the Contract Documents will continue to run for the benefit of Buyer and, in addition, for the benefit of the assignee.
 - b. Except as provided in this Paragraph 11.02.A.3.b, all rights, duties and obligations of Engineer to assignee and Seller under this Contract will cease.
 - 1) Engineer will review Seller's Applications for Payment and make recommendations to assignee for payments as provided in Paragraphs 10.02 and 10.06 of the General Conditions.
 - 2) Upon the written request of either the assignee or Seller, Engineer will issue with reasonable promptness such clarifications or interpretations of the Contract Documents, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Such written clarifications and interpretations will be final and binding on assignee and Seller unless:
 - (a) an appeal from Engineer's clarification or interpretation is made within the time limits and in accordance with the dispute resolution procedures set forth in Article 13 of the General Conditions; or
 - (b) if no such dispute resolution procedures have been set forth, a written notice of intention to appeal is delivered by assignee or Seller to the other within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision (unless otherwise agreed to in writing by assignee and Seller), to exercise such rights or remedies as the appealing party may have with respect to such clarification or interpretation in accordance with applicable Laws and Regulations.
 - 3) When rendering a clarification or interpretation under Paragraph 11.02.A.3.b.2, Engineer will not show partiality to assignee or Seller and will not be liable in connection with any clarification or interpretation rendered in good faith.
- B. 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.

11.03 Successors and Assigns

- A. Buyer and Seller 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.

11.04 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 Buyer and Seller, 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 position.

11.05 Seller's Certifications

- A. Seller 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 11.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Buyer, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Buyer 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 Buyer, 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.

11.06 Business Address

- A. The business address of Seller given herein is hereby designated as the place to which all notices, letters, and other communication to Seller will be mailed or delivered. The address of Buyer appearing herein is hereby designated as the place to which all notices, letters, and other communication to Buyer shall be mailed or delivered. Either party may change its address at any time by an instrument in writing delivered to Engineer and to the other party.

IN WITNESS WHEREOF, Buyer and Seller have signed copies of Agreement. Documents have been signed or identified by Buyer and Seller or by Engineer on their behalf.

This Agreement will be effective on _____ (which is the effective date of the Agreement).

City of Billings _____

By _____

William A. Cole, Mayor

Attest _____

Denise R. Bohlman, City Clerk

Approved as to form _____

City Attorney

Seller _____

By _____

(Signature)

Attest _____

(Signature)

Address for giving notices:

2224 Montana Avenue

Billings, MT 59101

Phone No. (406) 657-8231

FAX No. (406) 237-6291

Address for giving notices:

Phone No. _____

FAX No. _____

(CORPORATE SEAL)

(SEAL)

(If BUYER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Buyer - Seller Agreement.

Agent for service of process:

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

Buyer's Designated Representative:

Name: Will Robbins

Title: Staff Engineer

Address: 2224 Montana Avenue

Billings, MT 59101

Phone No.: (406) 657-8231

FAX No.: (406) 237-6291

Seller's Designated Representative:

Name: _____

Title: _____

Address: _____

Phone No.: _____

FAX No.: _____

END OF SECTION

EXHIBIT A-1 to Agreement Between Buyer and Seller
Dated _____

**ASSIGNMENT OF CONTRACT, CONSENT TO ASSIGNMENT, AND ACCEPTANCE
OF ASSIGNMENT**

This assignment will be effective on the Effective Date of the Agreement between Buyer and Installation Contractor. The Contract between the _____ ("Buyer") and

("Seller")

for furnishing Goods and Special Services under the Contract Documents entitled _____ is hereby assigned, transferred, and set over to

("Installation Contractor").

Installation Contractor shall be totally responsible for the performance of Seller and for the duties, rights and obligations of Buyer, not otherwise retained by Buyer, under the terms of the Contract between Buyer and Seller.

ASSIGNMENT DIRECTED BY:

Buyer

By: _____
(Signature) (Title)

Address for giving notices

ASSIGNMENT

ACKNOWLEDGED AND ACCEPTED BY:

Seller

(If Seller is a corporation, attach evidence of authority to sign.)

By: _____
(Signature) (Title)

ASSIGNMENT ACCEPTED BY:

Installation Contractor

(If Installation Contractor is a corporation, attach evidence of authority to sign.)

By: _____

Address for giving notices

EXHIBIT A-2 to Agreement Between Buyer and Seller
Dated _____

AGREEMENT TO ASSIGNMENT BY SELLER'S SURETY

Surety hereby acknowledges and agrees that the Contract for furnishing Goods and Special Services under the Contract Documents entitled _____
_____ by and between the _____ ("Buyer") and
_____ ("Seller")

may be assigned, transferred, and set over to

("Installation Contractor"),

in accordance with Paragraph 11.02 of Agreement between Buyer and Seller.

Surety further agrees that, upon assignment of the Contract, the Installation Contractor shall have all the rights of the Buyer under the Procurement Performance Bond.

(Corporate Seal)

Surety

Company: _____

By: _____
Signature and Title
(Attach Power of Attorney)

Address for giving notices

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Dear Supplier,

Attached is a vendor information form and W-9 Form. Both forms must be completed, signed and returned to the City of Billings, Accounts Payable, before the City can issue a payable check. Once we receive these forms, you will be added to our vendor database in our financial system.

The W-9 (Request for Taxpayer Identification Number(s) and Certification) is required in accordance with the Internal Revenue Service.

Please fax forms to:

Attention: City of Billings, Accounts Payable

FAX: 406-247-8608

Sincerely,

Joanne Rindahl

Business Licensing Clerk

406-657-8364

newvendor@billingsmt.gov



SECTION I: GENERAL INFORMATION

Supplier Name:

Purchase Order Address:

Remit to Address:

Address:

Address:

City:

State:

Zip Code:

City:

State:

Zip Code:

Phone #:

-

-

Fax #:

-

-

Company Ownership:

Individual ☐ Partnership ☐ Corporation ☐ Non-profit ☐

Affiliate ☐ Government Agency ☐

Type of business - Check all that apply:

Material & Services ☐ Services ☐ Rent ☐ Legal Services ☐

Merchandise (Products) ☐ Medical/Healthcare ☐

Tax-Exempt Hospital ☐ Sale of Real Estate ☐

SECTION II: Business Tax License Information

Please provide your Business License Number*:

*Not Applicable to: DOCTORS, LAWYERS, VETERINARIANS, CHIROPRACTORS, LAND SURVEYORS, SPEECH PATHOLOGISTS, DENTISTS, INSURANCE, BARBERS, ENGINEERS, REALTORS, AUDIOLOGISTS

DECLARATION

The undersigned declares the foregoing statements are true and include all information necessary to identify and explain the operations and ownership of the company. The undersigned also agrees to inform the City Of Billings immediately of any changes to the above information, particularly in ownership, controlling interest or operation.

AUTHORIZED SIGNATURE

PHONE

DATE

TITLE

Thank you for your immediate intention to this matter. If you have any questions, please call 406-657-8208.

Please complete all three parts below

Part 1 – Tax Identification: (Please Print Legibly All Information)Business/Corporation
Name: _____If you are a
SOLE PROPRIETOR or
SINGLE-OWNER LLC

Required: Personal name of owner of the business _____

Optional: Business name if different from above: _____

Enter your Tax Identification Number (TIN) in the appropriate box.

For individuals this is your social security number (SSN). For other entities, it is your employer identification number (EIN).

Social Security Number

____ - ____ - ____ - ____ - ____

OR

Employer Identification Number

____ - ____ - ____ - ____ - ____

Part 2- Exemption: If exempt from 1099 reporting, check your qualifying exemption reason below:☐ Corporation ☐ Tax Exempt Entity ☐ The United States ☐ A State ☐ A Foreign Government

1. Corporation, except there is no exemption for medical and healthcare payments or payments for legal services.
2. Tax Exempt Charity under 501(a), or IRA
3. The United States or any of its agencies or instrumentalities
4. A state, the District of Columbia, a possession of the United States, or any of their political subdivisions
5. A foreign government or any of its political subdivisions

Part 3 Certification: Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), **and**
2. I am not subject to backup withholding because **(a)** I am exempt from backup withholding, or **(b)** I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or **(c)** the IRS has notified me that I am no longer subject to backup withholding **and** I am a U.S. person (including a U.S. resident alien).

Certification Instructions – You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return.

Person completing this form: _____

Authorized Signature: _____ Date: _____ Phone: (_____) _____

Full Address Required: Which will reflect your 1099 Mailing at the end of the year.

Address: _____

City: _____ State: _____ ZIP: _____

U.S. Person. Use this form only if you are a U.S. person (including U.S. resident alien). If you are a foreign person, use the appropriate Form W-8.**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the recipient has otherwise become a U.S. resident alien for tax purposes.

We are required by law to obtain this information from you when mailing a reportable payment to you. If you do not provide us with this information, your payments may be subject to a 28% federal income tax backup withholding. Also, if you do not provide us with this information, you may be subject to a \$50 penalty imposed by the Internal Revenue Service under section 6723.

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SECTION 00 61 13.13
PERFORMANCE BOND FORM

SELLER: *(name and address):*

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

BUYER *(name and address):*

CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

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

Amount:

Modifications to this Bid Form:

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

SELLER AS PRINCIPAL

(seal)

Seller's Name and Corporate Seal

By: _____

Signature

Print Name

Title

Attest: _____

Signature

Title

SURETY

(seal)

Surety's Name and Corporate Seal

By: _____

Signature *(attach power of attorney)*

Print Name

Address:

Telephone Number:

Title

Attest: _____

Signature

Title

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

1. The Seller and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Buyer for the performance of the Contract, which is incorporated herein by reference. For purposes of this bond, Buyer means Buyer's assigns, if and when Buyer has assigned the Contract.
2. If the Seller performs the Contract, the Surety and the Seller 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 Buyer Default under the Contract, the Surety's obligation under this Bond shall arise after:
 - 3.1 The Buyer first provides notice to the Seller and the Surety that the Buyer is considering declaring a Seller Default. Such notice shall indicate whether the Buyer is requesting a conference among the Buyer, Seller, and Surety to discuss the Seller's performance. If the Buyer does not request a conference, the Surety may, within five (5) business days after receipt of the Buyer's notice, request such a conference. If the Surety timely requests a conference, the Buyer shall attend. Unless the Buyer agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Buyer's notice. If the Buyer, the Seller, and the Surety agree, the Seller shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Buyer's right, if any, subsequently to declare a Seller Default;
 - 3.2 Buyer has declared a Seller Default and formally terminated Seller's right to complete the Contract. Such Seller Default shall not be declared earlier than 20 days after Seller and Surety have received notice as provided in paragraph 3.1; and
 - 3.3 The Buyer has agreed to pay the Balance of the Contract Price in accordance with the terms of the Contract to the Surety or to a seller selected to perform the Contract.
4. Failure on the part of the Buyer to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Buyer 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 Seller, with the consent of the Buyer, to perform and complete the Contract;
 - 5.2 Undertake to perform and complete the Contract itself, through its agents or independent contractors;
 - 5.3 Obtain bids or negotiated proposals from qualified sellers acceptable to the Buyer for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Buyer and a seller selected with the Buyer's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to the Buyer the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Buyer as a result of the Seller Default; or
 - 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new seller, and with reasonable promptness under the circumstances:
 - 5.4.1 After investigation, determine the amount for which it may be liable to the Buyer and, as soon as practicable after the amount is determined, make payment to the Buyer; or
 - 5.4.2 Deny liability in whole or in part and notify the Buyer, 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 Buyer to the Surety demanding that the Surety perform its obligations under this Bond, and the Buyer shall be entitled to enforce any remedy available to the Buyer. If the Surety proceeds as provided in Paragraph 5.4, and the Buyer refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Buyer shall be entitled to enforce any remedy available to the Buyer.

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

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

7.2 additional legal, design professional, and delay costs resulting from the Seller'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 Contract, actual damages caused by delayed performance or non-performance of the Seller.

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

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

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

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

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

14. Definitions

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

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

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

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

14.5 Contract Documents: All the documents that comprise the agreement between the Buyer and Seller.

END OF SECTION

SECTION 00 61 13.16
PAYMENT BOND FORM

SELLER: *(name and address):*

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

BUYER *(name and address):*

CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

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

Amount:

Modifications to this Bid Form:

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

SELLER AS PRINCIPAL

SURETY

(seal)

(seal)

Seller's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____

By: _____

Signature

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Address:

Telephone Number:

Attest: _____

Attest: _____

—

Signature

Signature

Title

Title

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

1. The Seller and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Buyer to pay for labor, materials, and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference, subject to the following terms. For purposes of this bond, Buyer means Buyer's assigns, if and when Buyer has assigned the Contract.
2. If the Seller promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Buyer 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 Contract, then the Surety and the Seller shall have no obligation under this Bond.
3. If there is no Buyer Default under the Contract, the Surety's obligation to the Buyer under this Bond shall arise after the Buyer has promptly notified the Seller and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Buyer or the Buyer's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Contract, and tendered defense of such claims, demands, liens, or suits to the Seller and the Surety.
4. When the Buyer has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Buyer against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Seller,
 - 5.1.1 have furnished a written notice of non-payment to the Seller, 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 either received a rejection in whole or in part from Seller or not received within 30 days of furnishing the above notice any communication from Seller by which Seller had indicated the claim will be paid directly or indirectly; and copy, or notice thereof, to Buyer stating that a claim
 - 5.1.3 Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Buyer stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Seller.
 - 5.2 Claimants who are employed by or have a direct contract with the Seller have sent a Claim to the Surety (at the address described in Paragraph 13) and sent a is being made under this Bond and, with substantial accuracy, the amount of the claim.
6. If a notice of non-payment required by Paragraph 5 is given by the Buyer to the Seller, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.
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 Buyer, 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.
8. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Buyer to the Seller under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Seller furnishing and the Buyer accepting this Bond, they agree that all funds earned by the Seller in the performance of the Contract are dedicated to satisfy obligations of the Seller and Surety under this Bond, subject to the Buyer's priority to use the funds for the completion of the furnishing of the Goods and Special Services.

10. The Surety shall not be liable to the Buyer, Claimants, or others for obligations of the Seller that are unrelated to the Contract. The Buyer 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 Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the 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 Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Buyer, or the Seller shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

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

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Seller and Buyer shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Seller or with a subcontractor of the Seller to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the work of the Seller and the Seller'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 **Contract:** The agreement between the Buyer and Seller identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Buyer Default:** Failure of the Buyer, which has not been remedied or waived, to pay the Seller as required under the Contract or to perform and complete or comply with the other material terms of the Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Buyer and Seller.

END OF SECTION

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.

SECTION 00 72 00
STANDARD GENERAL CONDITIONS
FOR PROCUREMENT CONTRACTS

Prepared by



and

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STANDARD GENERAL CONDITIONS FOR PROCUREMENT CONTRACTS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. 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 signed by both Buyer and Seller covering the Goods and Special Services and which lists the Contract Documents in existence on the Effective Date of the Agreement.
 3. *Application for Payment*—The form acceptable to Buyer which is used by Seller in requesting progress and final payments and which is accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer or proposal of a Seller submitted on the prescribed form setting forth the prices for the Goods and Special Services to be provided.
 5. *Bidder*—The individual or entity that submits a Bid directly to Buyer.
 6. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and Bid Form with any supplements.
 8. *Buyer*—The individual or entity purchasing the Goods and Special Services.
 9. *Change Order*—A document which is signed by Seller and Buyer and authorizes an addition, deletion, or revision to the Contract Documents or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement. Change Orders may be the result of mutual agreement by Buyer and Seller, or of resolution of a Claim.

10. *Claim*—A demand or assertion by Buyer or Seller seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
11. *Contract*—The entire and integrated written agreement between Buyer and Seller concerning the Goods and Special Services. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
12. *Contract Documents*—Those items so designated in the Agreement. Shop Drawings and other Seller submittals are not Contract Documents, even if accepted, reviewed, or approved by Engineer or Buyer.
13. *Contract Price*—The moneys payable by Buyer to Seller for furnishing the Goods and Special Services in accordance with the Contract Documents as stated in the Agreement.
14. *Contract Times*—The times stated in the Agreement by which the Goods must be delivered and Special Services must be furnished.
15. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Goods and Special Services to be furnished by Seller. Shop Drawings and other Seller submittals are not Drawings as so defined.
16. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
17. *Engineer*—The individual or entity designated as such in the Agreement.
18. *Field Order*—A written order issued by Engineer which requires minor changes in the Goods or Special Services but which does not involve a change in the Contract Price or Contract Times.
19. *General Requirements*—Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.
20. *Goods*—The tangible and movable personal property that is described in the Contract Documents, regardless of whether the property is to be later attached to realty.
21. *Goods and Special Services*—The full scope of materials, equipment, other items, and services to be furnished by Seller, including Goods, as defined herein, and Special Services, if any, as defined herein. This term refers to both the Goods and the Special Services, or to either the Goods or the Special Services, and to any portion of the Goods or the Special Services, as the context requires.

22. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
23. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to the Contract Times.
24. *Notice of Award*—The written notice by Buyer to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Buyer will sign and deliver the Agreement.
25. *Notice to Proceed*—A written notice given by Buyer to Seller fixing the date on which the Contract Times commence to run and on which Seller shall start to perform under the Contract.
26. *Point of Destination*—The specific address of the location where delivery of the Goods shall be made, as stated in the Agreement.
27. *Project*—The total undertaking of which the Goods and Special Services may be the whole, or only a part.
28. *Project Manual*—The documentary information prepared for bidding and furnishing the Goods and Special Services. A listing of the contents of the Project Manual is contained in its table of contents.
29. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Goods and Special Services and which establish the standards by which such portion of the Goods and Special Services will be judged.
30. *Seller*—The individual or entity furnishing the Goods and Special Services.
31. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Seller and submitted by Seller to illustrate some portion of the Goods and Special Services.
32. *Special Services*—Services associated with the Goods to be furnished by Seller as required by the Contract Documents.
33. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the furnishing of the Goods and Special Services, and certain administrative requirements and procedural matters applicable thereto.
34. *Successful Bidder*—The Bidder submitting a responsive Bid, to whom Buyer makes an award.

35. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
36. *Work Change Directive*—A written statement to Seller issued on or after the Effective Date of the Agreement and signed by Buyer ordering an addition, deletion, or other revision in the Contract Documents with respect to the Goods and Special Services. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B and 1.02.C are not defined, but have the indicated meanings when used in the Bidding Requirements or Contract Documents.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Goods and Special Services. It is intended that such exercise of professional judgment, action, or determination will be commercially reasonable and will be solely to evaluate, in general, the Goods and Special Services for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed 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 shall not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing of Goods or Special Services or any duty or authority to undertake responsibility contrary to any other provision of the Contract Documents.
2. The word “non-conforming” when modifying the words “Goods and Special Services,” “Goods,” or “Special Services,” refers to Goods and Special Services that fail to conform to the Contract Documents.
3. The word “receipt” when referring to the Goods, shall mean the physical taking and possession by the Buyer under the conditions specified in Paragraph 8.01.B.3.
4. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
5. The word “furnish,” when used in connection with the Goods and Special Services shall mean to supply and deliver said Goods to the Point of Destination (or some other

specified location) and to perform said Special Services fully, all in accordance with the Contract Documents.

- C. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds*

- A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller also shall deliver such bonds as Seller may be required to furnish.

2.02 *Evidence of Insurance*

- A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller shall deliver to Buyer, with copies to each additional insured identified by name in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Seller is required to purchase and maintain in accordance with Article 4.

2.03 *Copies of Documents*

- A. Buyer shall furnish Seller up to five printed or hard copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.04 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement 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 Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.05 *Designated Representatives*

- A. Buyer and Seller shall each designate its representative at the time the Agreement is signed. Each representative shall have full authority to act on behalf of and make binding decisions in any matter arising out of or relating to the Contract.

2.06 *Progress Schedule*

- A. Within 15 days after the Contract Times start to run, Seller shall submit to Buyer and Engineer an acceptable progress schedule of activities, including at a minimum, Shop Drawing and Sample submittals, tests, and deliveries as required by the Contract Documents. No progress payment will be made to Seller until an acceptable schedule is submitted to Buyer and Engineer.

- B. The progress schedule will be acceptable to Buyer and Engineer if it provides an orderly progression of the submittals, tests, and deliveries to completion within the specified Milestones and the Contract Times. Such acceptance will not impose on Buyer or Engineer responsibility for the progress schedule, for sequencing, scheduling, or progress of the work nor interfere with or relieve Seller from Seller's full responsibility therefor. Such acceptance shall not be deemed to acknowledge the reasonableness and attainability of the schedule.

2.07 *Preliminary Conference*

- A. Within 20 days after the Contract Times start to run, a conference attended by Seller, Buyer, Engineer and others as appropriate will be held to establish a working understanding among the parties as to the Goods and Special Services and to discuss the schedule referred to in Paragraph 2.06.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.08 *Safety*

- A. Buyer and Seller 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. When Seller's personnel, or the personnel of any subcontractor to Seller, are present at the Point of Destination or any work area or site controlled by Buyer, the Seller shall be responsible for the compliance by such personnel with any applicable requirements of Buyer's safety programs that are made known to Seller.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT AND AMENDING

3.01 *Intent*

- A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.
- B. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce or furnish the indicated Goods and Special Services will be provided, whether or not specifically called for, at no additional cost to Buyer.
- C. Clarifications and interpretations of, or notifications of minor variations and deviations in, the Contract Documents, will be issued by Engineer as provided in Article 9.

3.02 *Standards, Specifications, Codes, Laws and Regulations*

- A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws and Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

- B. No provision of any such standard, specification, manual or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of Buyer or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to Buyer or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of Seller's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Seller's Review of Contract Documents Before the Performance of the Contract:* Before performance of the Contract, Seller shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Seller shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Seller discovers or has actual knowledge of and shall obtain a written interpretation or clarification from Engineer before proceeding with the furnishing of any Goods and Special Services affected thereby.
2. *Seller's Review of Contract Documents During the Performance of the Contract:* If, during the performance of the Contract, Seller discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Contract, any standard, specification, manual or code, or of any instruction of any Supplier, Seller shall promptly report it to Engineer in writing. Seller shall not proceed with the furnishing of the Goods and Special Services affected thereby until an amendment to or clarification of the Contract Documents has been issued.
3. Seller shall not be liable to Buyer or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Seller had actual knowledge thereof.

- B. *Resolving Discrepancies:* Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
2. the provisions of any Laws or Regulations applicable to the furnishing of the Goods and Special Services (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Clarifying Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions to the Goods and Special Services or to modify contractual terms and conditions by a Change Order.
- B. Buyer may issue a Work Change Directive providing for additions, deletions, or revisions to the Goods and Special Services, in which case (1) the Contract Price shall be equitably adjusted to account for any reasonable and necessary credits to Buyer for any such deletion, or for costs (including reasonable overhead and profit) incurred by Seller to accommodate such an addition or revision and (2) the Contract Times shall be equitably adjusted to account for any impact on progress and completion of performance. Such adjustments subsequently shall be duly set forth in a Change Order.
- C. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Goods and Special Services may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 5.06.D.3); or
 - 3. Engineer's written interpretation or clarification.

ARTICLE 4 - BONDS AND INSURANCE

4.01 *Bonds*

- A. Seller shall furnish to Buyer performance and payment bonds, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Seller's obligations under the Contract Documents. These bonds shall remain in effect until 1) one year after the date when final payment becomes due or 2) completion of the correction period specified in Paragraph 8.03, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Seller shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Seller is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases

to meet the requirements of Paragraph 4.01.B, Seller shall promptly notify Buyer and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 4.01.B and 4.02.

4.02 *Insurance*

- A. Seller shall provide insurance of the types and coverages and in the amounts stipulated in the Supplementary Conditions.
- B. Failure of Buyer to demand certificates of insurance or other evidence of Seller's full compliance with these insurance requirements or failure of Buyer to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Seller's obligation to maintain such insurance.
- C. Upon assignment of this Contract, Seller shall comply with the written request of assignee to provide certificates of insurance to assignee.
- D. Buyer does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Seller.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Seller's liability under the indemnities granted to Buyer in the Contract Documents.

4.03 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Buyer or Seller shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

ARTICLE 5 - SELLER'S RESPONSIBILITIES

5.01 *Supervision and Superintendence*

- A. Seller shall supervise, inspect, and direct the furnishing of the Goods and Special Services competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform its obligations in accordance with the Contract Documents. Seller shall be solely responsible for the means, methods, techniques, sequences, and procedures necessary to perform its obligations in accordance with the Contract Documents. Seller shall not be responsible for the negligence of Buyer or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure that is shown or indicated in and expressly required by the Contract Documents.

5.02 *Labor, Materials and Equipment*

- A. Seller shall provide competent, qualified and trained personnel in all aspects of its performance of the Contract.
- B. All Goods, and all equipment and material incorporated into the Goods, shall be as specified, and unless specified otherwise in the Contract Documents, shall be:
 - 1. new, and of good quality;
 - 2. protected, assembled, connected, cleaned, and conditioned in accordance with the original manufacturer's instructions; and
 - 3. shop assembled to the greatest extent practicable.

5.03 *Laws and Regulations*

- A. Seller shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of its obligations in accordance with the Contract Documents. Except where otherwise expressly required by such Laws and Regulations, neither Buyer nor Engineer shall be responsible for monitoring Seller's compliance with any Laws or Regulations.
- B. If Seller furnishes Goods and Special Services knowing or having reason to know that such furnishing is contrary to Laws or Regulations, Seller shall bear 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 performance. It shall not be Seller's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this provision shall not relieve Seller of Seller's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance shall be the subject of an adjustment in Contract Price or Contract Times. If Buyer and Seller are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 9.06.

5.04 *Or Equals*

- A. Whenever the Goods, or an item of material or equipment to be incorporated into the Goods, are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier or manufacturer, the specification or description 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, other items of material or equipment or material or equipment of other suppliers or manufacturers may be submitted to Buyer for Engineer's review.

1. If in Engineer's sole discretion, such an item of material or equipment proposed by Seller is functionally equal to that named and sufficiently similar so that no change in related work will be required, it may be considered by Engineer as an "or-equal" item.
 2. For the purposes of this paragraph, a proposed item of material or equipment may be considered functionally equal to an item so named only if:
 - a. in the exercise of reasonable judgment, Engineer determines that: 1) it is at least equal in quality, durability, appearance, strength, and design characteristics; 2) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; 3) it has an acceptable record of performance and availability of responsive service; and
 - b. Seller certifies that if approved: 1) there will be no increase in any cost, including capital, installation or operating costs, to Buyer; and 2) the proposed item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraph 5.04.A. Engineer will be the sole judge of whether to accept or reject such a proposal or submittal. No "or-equal" will be ordered, manufactured or utilized until Engineer's review is complete, which will be evidenced by an approved Shop Drawing. Engineer will advise Buyer and Seller in writing of any negative determination. Notwithstanding Engineer's approval of an "or-equal" item, Seller shall remain obligated to comply with the requirements of the Contract Documents.
- C. *Special Guarantee:* Buyer may require Seller to furnish at Seller's expense a special performance guarantee or other surety with respect to any such proposed "or-equal."
- D. *Data:* Seller shall provide all data in support of any such proposed "or-equal" at Seller's expense.

5.05 *Taxes*

- A. Seller shall be responsible for all taxes and duties arising out of the sale of the Goods and the furnishing of Special Services. All taxes are included in the Contract Price, except as noted in the Supplementary Conditions.

5.06 *Shop Drawings and Samples*

- A. Seller shall submit Shop Drawings and Samples to Buyer for Engineer's review and approval in accordance with the schedule required in Paragraph 2.06.A. All submittals will be identified as required and furnished in the number of copies specified in the Contract Documents. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Seller proposes to provide.

B. Where a Shop Drawing or Sample is required by the Contract Documents, any related work performed prior to Engineer's approval of the pertinent submittal will be at the sole expense and responsibility of Seller.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Seller shall have determined and verified:
 - a. all field measurements (if required), quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto; and
 - b. that all materials are suitable with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the furnishing of Goods and Special Services.
2. Seller shall also have reviewed and coordinated each Shop Drawing or Sample with the Contract Documents.
3. Each submittal shall bear a stamp or include a written certification from Seller that Seller has reviewed the subject submittal and confirmed that it is in compliance with the requirements of the Contract Documents. Both Buyer and Engineer shall be entitled to rely on such certification from Seller.
4. With each submittal, Seller shall give Buyer and Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both in a written communication separate from the submittal and by specific notation on each Shop Drawing or Sample.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples.
2. Engineer's review and approval will be only to determine if the Goods and Special Services covered by the submittals will, after installation or incorporation in the Project, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole.
3. Engineer's review and approval shall not relieve Seller from responsibility for any variation from the requirements of the Contract Documents unless Seller has complied with the requirements of Paragraph 5.06.C.4 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's review and approval shall not relieve Seller from responsibility for complying with the requirements of Paragraph 5.06.C.1.

E. *Resubmittal Procedures:*

1. Seller 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. Seller shall direct specific attention in writing to any revisions other than the corrections called for by Engineer on previous submittals.

5.07 *Continuing Performance*

- A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06.A., and the Goods shall be delivered and the Special Services furnished within the Contract Times specified in the Agreement.
- B. Seller shall carry on furnishing of the Goods and Special Services and adhere to the progress schedule during all disputes or disagreements with Buyer. No furnishing of Goods and Special Services shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraphs 11.03 or 11.04, or as Buyer and Seller may otherwise agree in writing.

5.08 *Seller's Warranties and Guarantees*

- A. Seller warrants and guarantees to Buyer that the title to the Goods conveyed shall be proper, its transfer rightful, and free from any security interest, lien, or other encumbrance. Seller shall defend, indemnify, and hold Buyer harmless against any liens, claims, or demands contesting or affecting title of the Goods conveyed.
- B. Seller warrants and guarantees to Buyer that all Goods and Special Services will conform with the Contract Documents, and with the standards established by any Samples approved by Engineer. Engineer shall be entitled to rely on Seller's warranty and guarantee. If the Contract Documents do not otherwise specify the characteristics or the quality of the Goods, the Goods shall comply with the requirements of Paragraph 5.02.B.
- C. Seller's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, improper modification, improper maintenance, or improper operation by persons other than Seller; or
 2. corrosion or chemical attack, unless corrosive or chemically-damaging conditions were disclosed by Buyer in the Contract Documents and the Contract Documents required the Goods to withstand such conditions;
 3. use in a manner contrary to Seller's written instructions for installation, operation, and maintenance; or
 4. normal wear and tear under normal usage.
- D. Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Goods and Special Services that are non-conforming, or a release of Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents:

1. observations by Buyer or Engineer;
 2. recommendation by Engineer or payment by Buyer of any progress or final payment;
 3. use of the Goods by Buyer;
 4. any acceptance by Buyer (subject to the provisions of Paragraph 8.02.D.1) or any failure to do so;
 5. the issuance of a notice of acceptance by Buyer pursuant to the provisions of Article 8;
 6. any inspection, test or approval by others; or
 7. any correction of non-conforming Goods and Special Services by Buyer.
- E. Buyer shall promptly notify Seller of any breach of Seller's warranties or guarantees.
- F. Seller makes no implied warranties under this Contract.

5.09 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer and Engineer, and the officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of Seller's obligations under the Contract Documents, provided that any such claim, cost, loss, or damages attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Goods themselves), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Seller, or any individual or entity directly or indirectly employed by Seller or anyone for whose acts Seller may be liable.
- B. In any and all claims against Buyer or Engineer or any of their respective assignees, consultants, agents, officers, directors, members, partners, employees, agents, consultants, contractors, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Seller, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to furnish any of the Goods and Special Services, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 5.09.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for seller or any such subcontractor, supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Seller under Paragraph 5.09.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, and consultants arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

5.10 *Delegation of Professional Design Services*

- A. Seller will not be required to provide professional design services unless such services are specifically required by the Contract Documents or unless such services are required to carry out Seller's responsibilities for furnishing the Goods and Special Services. Seller shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to the Goods and Special Services are specifically required of Seller by the Contract Documents, Buyer and Engineer will specify all performance and design criteria that such services must satisfy. Seller shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Goods and Special Services designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Buyer and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Buyer and Engineer have specified to Seller all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 5.10, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 5.06.D.2.
- E. Seller shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 6 - SHIPPING AND DELIVERY

6.01 *Shipping*

- A. Seller shall select the carrier and bear all costs of packaging, transportation, insurance, special handling and any other costs associated with shipment and delivery.

6.02 *Delivery*

- A. Seller shall deliver the Goods F.O.B. the Point of Destination in accordance with the Contract Times set forth in the Agreement, or other date agreed to by Buyer and Seller.
- B. Seller shall provide written notice to Buyer at least 10 days before shipment of the manner of shipment and the anticipated delivery date. The notice shall also include any instructions concerning special equipment or services required at the Point of Destination to unload and care for the Goods. Seller shall also require the carrier to give Buyer at least 24 hours notice by telephone prior to the anticipated time of delivery.
- C. Buyer will be responsible and bear all costs for unloading the Goods from carrier.
- D. Buyer will assure that adequate facilities are available to receive delivery of the Goods during the Contract Times for delivery set forth in the Agreement, or another date agreed by Buyer and Seller.
- E. No partial deliveries shall be allowed, unless permitted or required by the Contract Documents or agreed to in writing by Buyer.

6.03 *Risk of Loss*

- A. Risk of loss and insurable interests transfer from Seller to Buyer upon Buyer's receipt of the Goods.
- B. Notwithstanding the provisions of Paragraph 6.03.A, if Buyer rejects the Goods as non-conforming, the risk of loss on such Goods shall remain with Seller until Seller corrects the non-conformity or Buyer accepts the Goods. If rejected Goods remain at the Point of Destination pending modification and acceptance, then Seller shall be responsible for arranging adequate protection and maintenance of the Goods at Seller's expense.

6.04 *Progress Schedule*

- A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06 as it may be adjusted from time to time as provided below.
 - 1. Seller shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.06) proposed adjustments in the progress schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the progress schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 7. Adjustments in Contract Times may only be made by a Change Order.

ARTICLE 7 - CHANGES: SCHEDULE AND DELAY

7.01 *Changes in the Goods and Special Services*

- A. Buyer may at any time, without notice to any surety, make an addition, deletion, or other revision to the Contract Documents with respect to the Goods and Services, within the general scope of the Contract, by a Change Order or Work Change Directive. Upon receipt of any such document, Seller shall promptly proceed with performance pursuant to the revised Contract Documents (except as otherwise specifically provided).
- B. If Seller concludes that a Work Change Directive issued by Buyer affects the Contract Price or Contract Times, then Seller shall notify Buyer within 15 days after Seller has received the Work Change Directive, and submit written supporting data to Buyer within 45 days after such receipt. If Seller fails to notify Buyer within 15 days, Seller waives any Claim for such adjustment. If Buyer and Seller are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 9.06.
- C. Seller shall not suspend performance while Buyer and Seller are in the process of making such changes and any related adjustments to Contract Price or Contract Times.

7.02 *Changing Contract Price or Contract Times*

- A. The Contract Price or Contract Times may only be changed by a Change Order.
- B. Any Claim for an adjustment in the Contract Price or Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 9.06.
- C. If Seller is prevented from delivering the Goods or performing the Special Services within the Contract Times for any unforeseen reason beyond its control and not attributable to its actions or inactions, then Seller shall be entitled to an adjustment of the Contract Times to the extent attributable to such reason. Such reasons include but are not limited to acts or neglect by Buyer, inspection delays, fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters. If such an event occurs and delays Seller's performance, Seller shall notify Buyer in writing within 15 days of knowing or having reason to know of the beginning of the event causing the delay, stating the reason therefor.
- D. Seller shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Seller. Delays attributable to and within the control of Seller's subcontractors or suppliers shall be deemed to be delays within the control of Seller.
- E. If Seller is prevented from delivering the Goods or furnishing the Special Services within the Contract Times due to the actions or inactions of Buyer, Seller shall be entitled to any reasonable and necessary additional costs arising out of such delay to the extent directly attributable to Buyer.

- F. Neither Buyer nor Seller shall be entitled to any damages arising from delays which are beyond the control of both Buyer and Seller, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters.

ARTICLE 8 - BUYER'S RIGHTS

8.01 *Inspections and Testing*

A. *General:*

1. The Contract Documents specify required inspections and tests. Buyer shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Goods at Seller's facility, and at the Point of Destination. Seller shall allow Buyer a reasonable time to perform such inspections or tests.
2. Seller shall reimburse Buyer for all expenses, except for travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, for inspections and tests specified in the Contract Documents. If as the result of any such specified testing the Goods are determined to be non-conforming, then Seller shall also bear the travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, and all expenses of re-inspection or retesting.
3. Buyer shall bear all expenses of inspections and tests that are not specified in the Contract Documents (other than any re-inspection or retesting resulting from a determination of non-conformity, as set forth in Paragraph 8.01.A.2 immediately above); provided, however, that if as the result of any such non-specified inspections or testing the Goods are determined to be non-conforming, then Seller shall bear all expenses of such inspections and testing, and of any necessary re-inspection and retesting.
4. Seller shall provide Buyer timely written notice of the readiness of the Goods for all inspections, tests, or approvals which the Contract Documents specify are to be observed by Buyer prior to shipment.
5. Buyer will give Seller timely notice of all specified tests, inspections, and approvals of the Goods which are to be conducted at the Point of Destination.
6. If, on the basis of any inspections or testing, the Goods appear to be conforming, Buyer will give Seller prompt notice thereof. If on the basis of said inspections or testing, the Goods appear to be non-conforming, Buyer will give Seller prompt notice thereof and will advise Seller of the remedy Buyer elects under the provisions of Paragraph 8.02.
7. Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections shall constitute acceptance of non-conforming Goods, or prejudice Buyer's rights under the Contract.

B. *Inspection on Delivery:*

1. Buyer or Engineer will visually inspect the Goods upon delivery solely for purposes of identifying the Goods and general verification of quantities and observation of apparent condition in order to provide a basis for a progress payment. Such visual inspection will not be construed as final or as receipt of any Goods and Special Services that, as a result of subsequent inspections and tests, are determined to be non-conforming.
2. Within ten days of such visual inspection, Buyer shall provide Seller with written notice of Buyer's determination regarding conformity of the Goods. In the event Buyer does not provide such notice, it will be presumed that the Goods appear to be conforming and that Buyer has acknowledged their receipt upon delivery.
3. If, on the basis of the visual inspection specified in Paragraph 8.01.B.1, the Goods appear to be conforming, Buyer's notice thereof to Seller will acknowledge receipt of the Goods.

C. Final Inspection:

1. After all of the Goods have been incorporated into the Project, tested in accordance with such testing requirements as are specified, and are functioning as indicated, Buyer or Engineer will make a final inspection.
2. If, on the basis of the final inspection, the Goods are conforming, Buyer's notice thereof will constitute Buyer's acceptance of the Goods.
3. If, on the basis of the final inspection, the Goods are non-conforming, Buyer will identify the non-conformity in writing.

8.02 *Non-Conforming Goods and Special Services*

- A. If, on the basis of inspections and testing prior to delivery, the Goods and Special Services are found to be non-conforming, or if at any time after Buyer has acknowledged receipt of delivery and before the expiration of the correction period described in Paragraph 8.03, Buyer determines that the Goods and Special Services are non-conforming, then Seller shall promptly, without cost to Buyer and in response to written instructions from Buyer, either correct such non-conforming Goods and Special Services, or, if Goods are rejected by Buyer, remove and replace the non-conforming Goods with conforming Goods, including all work required for reinstallation.

B. Buyer's Rejection of Non-Conforming Goods:

1. If Buyer elects to reject the Goods in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Goods. If Goods have been delivered to Buyer, Seller shall promptly, and within the Contract Times, remove and replace the rejected Goods.
2. Seller shall bear all costs, losses and damages attributable to the removal and replacement of the non-conforming Goods as provided in Paragraph 8.02.E.
3. Upon rejection of the Goods, Buyer retains a security interest in the Goods to the extent of any payments made and expenses incurred in their testing and inspection.

C. Remedying Non-Conforming Goods and Special Services:

1. If Buyer elects to permit the Seller to modify the Goods to correct the non-conformance, then Seller shall promptly provide a schedule for such modifications and shall make the Goods conforming within a reasonable time.
2. If Buyer notifies Seller in writing that any of the Special Services are non-conforming, Seller shall promptly provide conforming services acceptable to Buyer. If Seller fails to do so, Buyer may delete the Special Services and reduce the Contract Price a commensurate amount.

D. Buyer's Acceptance of Non-Conforming Goods:

Instead of requiring correction or removal and replacement of non-conforming Goods discovered either before or after final payment, Buyer may accept the non-conforming Goods. Seller shall bear all reasonable costs, losses, and damages attributable to Buyer's evaluation of and determination to accept such non-conforming Goods as provided in Paragraph 8.02.E.

- E. Seller shall pay all claims, costs, losses, and damages, including but not limited to all fees and charges for re-inspection, retesting and for any engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs arising out of or relating to the non-conforming Goods and Special Services. Seller's obligations shall include the costs of the correction or removal and replacement of the non-conforming Goods and the replacement of property of Buyer and others destroyed by the correction or removal and replacement of the non-conforming Goods, and obtaining conforming Special Services from others.

F. *Buyer's Rejection of Conforming Goods:*

If Buyer asserts that Goods and Special Services are non-conforming and such Goods and Special Services are determined to be conforming, or if Buyer rejects as non-conforming Goods and Special Services that are later determined to be conforming, then Seller shall be entitled to reimbursement from Buyer of costs incurred by Seller in inspecting, testing, correcting, removing, or replacing the conforming Goods and Special Services, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs associated with the incorrect assertion of non-conformance or rejection of conforming Goods and Special Services.

8.03 *Correction Period*

- A. Seller's responsibility for correcting all non-conformities in the Goods and Special Services will extend for a period of one year after the earlier of the date on which Buyer has placed the Goods in continuous service or the date of final payment, or for such longer period of time as may be prescribed by Laws or Regulations or by the terms of any specific provisions of the Contract Documents.

ARTICLE 9 - ROLE OF ENGINEER

9.01 Duties and Responsibilities

- A. The duties and responsibilities and the limitations of authority of Engineer are set forth in the Contract Documents.

9.02 Clarifications and Interpretations

- A. Engineer will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as Engineer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on Buyer and Seller. If either Buyer or Seller believes that a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times, either may make a Claim therefor.

9.03 Authorized Variations

- A. Engineer may authorize minor deviations or variations in the Contract Documents by: 1) written approval of specific variations set forth in Shop Drawings when Seller has duly noted such variations as required in Paragraph 5.06.C.4, or 2) a Field Order.

9.04 Rejecting Non-Conforming Goods and Special Services

- A. Engineer will have the authority to disapprove or reject Goods and Special Services that Engineer believes to be non-conforming. Engineer will also have authority to require special inspection or testing of the Goods or Special Services as provided in Paragraph 8.01 whether or not the Goods are fabricated or installed, or the Special Services are completed.

9.05 Decisions on Requirements of Contract Documents

- A. Engineer will be the initial interpreter of the Contract Documents and judge of the acceptability of the Goods and Special Services. Claims, disputes and other matters relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to Seller's performance will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph.
- B. When functioning as interpreter and judge under this Paragraph 9.05, Engineer will not show partiality to Buyer or Seller and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by Engineer pursuant to this Paragraph 9.05 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 10.07) will be a condition precedent to any exercise by Buyer or Seller of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.06 *Claims and Disputes*

- A. *Notice:* Written notice of each Claim relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to either party's performance shall be delivered by the claimant to Engineer and the other party to the Agreement within 15 days after the occurrence of the event giving rise thereto, and written supporting data shall be submitted to Engineer and the other party within 45 days after such occurrence unless Engineer allows an additional period of time to ascertain more accurate data.
- B. *Engineer's Decision:* Engineer will review each such Claim and render a decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.
- C. If Engineer does not render a formal written decision on a Claim within the time stated in Paragraph 9.06.B., Engineer shall be deemed to have issued a decision denying the Claim in its entirety 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.
- D. Engineer's written decision on such Claim or a decision denying the Claim in its entirety that is deemed to have been issued pursuant to Paragraph 9.06.C, will be final and binding upon Buyer and Seller 30 days after it is issued unless within 30 days of issuance Buyer or Seller appeals Engineer's decision by initiating the mediation of such Claim in accordance with the dispute resolution procedures set forth in Article 13.
- E. If Article 13 has been amended to delete the mediation requirement, then Buyer or Seller may appeal Engineer's decision within 30 days of issuance by following the alternative dispute resolution process set forth in Article 13, as amended; or if no such alternative dispute resolution process has been set forth, Buyer or Seller may appeal Engineer's decision by 1) delivering to the other party within 30 days of the date of such decision a written notice of intent to submit the Claim to a court of competent jurisdiction, and 2) within 60 days after the date of such decision instituting a formal proceeding in a court of competent jurisdiction.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 9.06.
- G. The parties agree to endeavor to avoid or resolve Claims through direct, good faith discussions and negotiations whenever practicable. Such discussions and negotiations should at the outset address whether the parties mutually agree to suspend the time periods established in this Paragraph 9.06; if so, a written record of such mutual agreement should be made and jointly executed.

ARTICLE 10 - PAYMENT

10.01 *Applications for Progress Payments*

- A. Seller shall submit to Buyer for Engineer's review Applications for Payment filled out and signed by Seller and accompanied by such supporting documentation as is required by the

Contract Documents and also as Buyer or Engineer may reasonably require. The timing and amounts of progress payments shall be as stipulated in the Agreement.

1. The first application for Payment will be submitted after review and approval by Engineer of all Shop Drawings and of all Samples required by the Contract Documents.
2. The second Application for Payment will be submitted after receipt of the Goods has been acknowledged in accordance with Paragraph 8.01.B and will be accompanied by a bill of sale, invoice, or other documentation reasonably satisfactory to Buyer warranting that Buyer has rightfully received good title to the Goods from Seller and that, upon payment, the Goods will be free and clear of all liens. Such documentation will include releases and waivers from all parties with viable lien rights. In the case of multiple deliveries of Goods, additional Applications for Payment accompanied by the required documentation will be submitted as Buyer acknowledges receipt of additional items of the Goods.

10.02 *Review of Applications for Progress Payments*

- A. Engineer will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Buyer, or return the Application to Seller indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Seller may make the necessary corrections and resubmit the Application.
 1. Engineer's recommendation of payment requested in the first Application for Payment will constitute a representation by Engineer, based on Engineer's review of the Application for Payment and the accompanying data, that the Shop Drawings and Samples have been reviewed and approved as required by the Contract Documents and Seller is entitled to payment of the amount recommended.
 2. Engineer's recommendation of payment requested in the Application for Payment submitted upon Buyer's acknowledgment of receipt of the Goods will constitute a representation by Engineer, based on Engineer's review of the Application for Payment and the accompanying data Seller is entitled to payment of the amount recommended. Such recommendation will not constitute a representation that Engineer has made a final inspection of the Goods, that the Goods are free from non-conformities, acceptable or in conformance with the Contract Documents, that Engineer has made any investigation as to Buyer's title to the Goods, that exhaustive or continuous inspections have been made to check the quality or the quantity of the Goods beyond the responsibilities specifically assigned to Engineer in the Contract Documents or that there may not be other matters or issues between the parties that might entitle Seller to additional payments by Buyer or Buyer to withhold payment to Seller.
 3. Engineer may refuse to recommend that all or any part of a progress payment be made, or Engineer may nullify all or any part of any payment previously recommended if, in Engineer's opinion, such recommendation would be incorrect or if on the basis of subsequently discovered evidence or subsequent inspections or tests Engineer considers such refusal or nullification necessary to protect Buyer from loss because the Contract

Price has been reduced, Goods are found to be non-conforming, or Seller has failed to furnish acceptable Special Services.

10.03 *Amount and Timing of Progress Payments*

- A. Subject to Paragraph 10.02.A., the amounts of the progress payments will be as provided in the Agreement. Buyer shall within 30 days after receipt of each Application for Payment with Engineer's recommendation pay Seller the amount recommended; but, in the case of the Application for Payment upon Buyer's acknowledgment of receipt of the Goods, said 30-day period may be extended for so long as is necessary (but in no event more than 60 days) for Buyer to examine the bill of sale and other documentation submitted therewith. Buyer shall notify Seller promptly of any deficiency in the documentation and shall not unreasonably withhold payment.

10.04 *Suspension of or Reduction in Payment*

- A. Buyer may suspend or reduce the amount of progress payments, even though recommended for payment by Engineer, under the following circumstances:
 - 1. Buyer has reasonable grounds to conclude that Seller will not furnish the Goods or the Special Services in accordance with the Contract Documents, and
 - 2. Buyer has requested in writing assurances from Seller that the Goods and Special Services will be delivered or furnished in accordance with the Contract Documents, and Seller has failed to provide adequate assurances within ten days of Buyer's written request.
- B. If Buyer refuses to make payment of the full amount recommended by Engineer, Buyer will provide Seller and Engineer immediate written notice stating the reason for such action and promptly pay Seller any amount remaining after deduction of the amount withheld. Buyer shall promptly pay Seller the amount withheld when Seller corrects the reason for such action to Buyer's satisfaction.

10.05 *Final Application for Payment*

- A. After Seller has corrected all non-conformities to the reasonable satisfaction of Buyer and Engineer, furnished all Special Services, and delivered all documents required by the Contract Documents, Engineer will issue to Buyer and Seller a notice of acceptance. Seller may then make application for final payment following the procedure for progress payments. The final Application for Payment will be accompanied by all documentation called for in the Contract Documents, a list of all unsettled Claims, and such other data and information as Buyer or Engineer may reasonably require.

10.06 *Final Payment*

- A. If, on the basis of final inspection and the review of the final Application for Payment and accompanying documentation, Engineer is reasonably satisfied that Seller has furnished the

Goods and Special Services in accordance with the Contract Documents, and that Seller's has fulfilled all other obligations under the Contract Documents, then Engineer will, within ten days after receipt of the final Application for Payment, recommend in writing final payment subject to the provisions of Paragraph 10.07 and present the Application to Buyer. Otherwise, Engineer will return the Application to Seller, indicating the reasons for refusing to recommend final payment, in which case Seller shall make the necessary corrections and resubmit the Application for payment. If the Application and accompanying documentation are appropriate as to form and substance, Buyer shall, within 30 days after receipt thereof, pay Seller the amount recommended by Engineer, less any sum Buyer is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages to which Buyer is entitled.

10.07 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Buyer against Seller, except Claims arising from unsettled liens from non-conformities in the Goods or Special Services appearing after final payment, from Seller's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Seller's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Seller against Buyer (other than those previously made in accordance with the requirements herein and listed by Seller as unsettled as required in Paragraph 10.05.A, and not resolved in writing).

ARTICLE 11 - CANCELLATION, SUSPENSION, AND TERMINATION

11.01 *Cancellation*

A. Buyer has the right to cancel the Contract, without cause, at any time prior to delivery of the Goods by written notice. Cancellation pursuant to the terms of this paragraph shall not constitute a breach of contract by Buyer. Upon cancellation:

1. Buyer shall pay Seller for the direct costs incurred in producing any Goods that Seller has specially manufactured for the Project, plus a fair and reasonable amount for overhead and profit.
2. For Goods that are not specially manufactured for the Project, Seller shall be entitled to a restocking charge of 10 percent of the unpaid Contract Price of such Goods.

11.02 *Suspension of Performance by Buyer*

A. Buyer has the right to suspend performance of the Contract for up to a maximum of ninety days, without cause, by written notice. Upon suspension under this paragraph, Seller shall be entitled to an increase in the Contract Times and Contract Price caused by the suspension, provided that performance would not have been suspended or delayed for causes attributable to Seller.

11.03 *Suspension of Performance by Seller*

- A. Subject to the provisions of Paragraph 5.07.B, Seller may suspend the furnishing of the Goods and Special Services only under the following circumstance:
1. Seller has reasonable grounds to conclude that Buyer will not perform its future payment obligations under the Contract; and,
 2. Seller has requested in writing assurances from Buyer that future payments will be made in accordance with the Contract, and Buyer has failed to provide such assurances within ten days of Seller's written request.

11.04 *Breach and Termination*

A. Buyer's Breach:

1. Buyer shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including but not limited to:
 - a. wrongful rejection or revocation of Buyer's acceptance of the Goods,
 - b. failure to make payments in accordance with the Contract Documents, or
 - c. wrongful repudiation of the Contract.
2. Seller shall have the right to terminate the Contract for cause by declaring a breach should Buyer fail to comply with any material provisions of the Contract. Upon termination, Seller shall be entitled to all remedies provided by Laws and Regulations.
 - a. In the event Seller believes Buyer is in breach of its obligations under the Contract, Seller shall provide Buyer with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Buyer shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Seller may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.

B. Seller's Breach:

1. Seller shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including, but not limited to:
 - a. failure to deliver the Goods or perform the Special Services in accordance with the Contract Documents,
 - b. wrongful repudiation of the Contract, or
 - c. delivery or furnishing of non-conforming Goods and Special Services.

2. Buyer may terminate Seller's right to perform the Contract for cause by declaring a breach should Seller fail to comply with any material provision of the Contract Documents. Upon termination, Buyer shall be entitled to all remedies provided by Laws and Regulations.
 - a. In the event Buyer believes Seller is in breach of its obligations under the Contract, and except as provided in Paragraph 11.04.B.2.b, Buyer shall provide Seller with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Seller shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Buyer may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.
 - b. If and to the extent that Seller has provided a performance bond under the provisions of Paragraph 4.01, the notice and cure procedures of that bond, if any, shall supersede the notice and cure procedures of Paragraph 11.04.B.2.a.

ARTICLE 12 - LICENSES AND FEES

12.01 *Intellectual Property and License Fees*

- A. Unless specifically stated elsewhere in the Contract Documents, Seller is not transferring any intellectual property rights, patent rights, or licenses for the Goods delivered. However, in the event the Seller is manufacturing to Buyer's design, Buyer retains all intellectual property rights in such design.
- B. Seller shall pay all license fees and royalties and assume all costs incident to the use or the furnishing of the Goods, unless specified otherwise by the Contract Documents.

12.02 *Seller's Infringement*

- A. Subject to Paragraph 12.01.A, Seller shall indemnify and hold harmless Buyer, Engineer and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable 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 or alleged infringement of any United States or foreign patent or copyright by any of the Goods as delivered hereunder.
- B. In the event of suit or threat of suit for intellectual property infringement, Buyer will promptly notify Seller of receiving notice thereof.
- C. Seller shall promptly defend the claim or suit, including negotiating a settlement. Seller shall have control over such claim or suit, provided that Seller agrees to bear all expenses and to satisfy any adverse judgment thereof.

1. If Seller fails to defend such suit or claim after written notice by Buyer, Seller will be bound in any subsequent suit or claim against Seller by Buyer by any factual determination in the prior suit or claim.
 2. If Buyer fails to provide Seller the opportunity to defend such suit or claim after written notice by Seller, Buyer shall be barred from any remedy against Seller for such suit or claim.
- D. If a determination is made that Seller has infringed upon intellectual property rights of another, Seller may obtain the necessary licenses for Buyer's benefit, or replace the Goods and provide related design and construction as necessary to avoid the infringement at Seller's own expense.

12.03 *Buyer's Infringement*

- A. Buyer shall indemnify and hold harmless Seller, and its officers, directors, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable 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 or alleged infringement of any United States or foreign patent or copyright caused by Seller's compliance with Buyer's design of the Goods or Buyer's use of the Goods in combination with other materials or equipment in any process (unless intent of such use was known to Seller and Seller had reason to know such infringement would result).
- B. In the event of suit or threat of suit for intellectual property infringement, Seller must after receiving notice thereof promptly notify Buyer.
- C. Upon written notice from Seller, Buyer shall be given the opportunity to defend the claim or suit, including negotiating a settlement. Buyer shall have control over such claim or suit, provided that Buyer agrees to bear all expenses and to satisfy any adverse judgment thereof.
1. If Buyer fails to defend such suit or claim after written notice by Seller, Buyer will be bound in any subsequent suit or claim against Buyer by Seller by any factual determination in the prior suit or claim.
 2. If Seller fails to provide Buyer the opportunity to defend such suit or claim after written notice by Buyer, Seller shall be barred from any remedy against Buyer for such suit or claim.

12.04 *Reuse of Documents*

- A. Neither Seller nor any other person furnishing any of the Goods and Special Services under a direct or indirect contract with Seller shall: (1) 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 (2) reuse any of such Drawings, Specifications, other documents, or copies thereof on any other project without written consent of Buyer and Engineer and specific written verification or adaptation by Engineer. This prohibition will survive termination or completion of the Contract. Nothing

herein shall preclude Seller from retaining copies of the Contract Documents for record purposes.

12.05 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, copies of data furnished by Buyer or Engineer to Seller, or by Seller to Buyer or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. The transferring party will correct any errors detected within the 60-day acceptance period.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 13 - DISPUTE RESOLUTION

13.01 *Dispute Resolution Method*

- A. Either Buyer or Seller may initiate the mediation of any Claim decided in writing by Engineer under Paragraph 9.06.B or 9.06.C before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the Engineer's decision from becoming final and binding.
- B. Buyer and Seller shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the mediation process does not result in resolution of the Claim, then Engineer's written decision under Paragraph 9.06.B or a denial pursuant to Paragraph 9.06.C shall become final and binding 30 days after termination of the mediation unless, within that time period, Buyer or Seller:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or
3. if no dispute resolution process has been provided for in the Supplementary Conditions, delivers to the other party written notice of the intent to submit the Claim to a court of competent jurisdiction, and within 60 days of the termination of the mediation institutes such formal proceeding.

ARTICLE 14 - MISCELLANEOUS

14.01 *Giving Notice*

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

14.02 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Point of Destination is located.
- B. In the case of any conflict between the express terms of this Contract and the Uniform Commercial Code, as adopted in the state whose law governs, it is the intent of the parties that the express terms of this Contract shall apply.

14.03 *Computation of Time*

- A. When any period of time is referred to in the Contract Documents 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 shall be omitted from the computation.

14.04 *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 Documents, and 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.

14.05 *Survival of Obligations*

- A. All representations, indemnifications, warranties and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the

Contract Documents, will survive final payment, completion, and acceptance of the Goods and Special Services and termination or completion of the Agreement.

14.06 *Entire Agreement*

- A. Buyer and Seller agree that this Agreement is the complete and final agreement between them, and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may not be altered, modified, or amended except in writing signed by an authorized representative of both parties.

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Section 00 73 00 - SUPPLEMENTARY CONDITIONS

PART 1 – City Standard Supplementary Conditions

SP-1 FORMAT

The specifications for this project include by reference the following two documents. Although they are not printed in this Project Manual, they are still made part of these Contract Documents and the Seller must comply with any and all such regulations, unless modified herein.

<i>Document</i>	<i>Available From</i>
Montana Public Works Standard Specifications (MPWSS) Sixth Edition, April 2010	Montana Contractors Association 1717 11th Avenue PO Box 4519 Helena, MT 59604 406-442-4162
City of Billings Standard Modifications to MPWSS Sixth Edition, January 2021	City of Billings Public Works Department Engineering Division 2224 Montana Avenue Billings, MT 59101 406-657-8231 – or online at – https://www.billingsmtpublicworks.gov/DocumentCenter/View/105/Standard-Mods-January-2021-PDF

The following Special Provisions include additional requirements that are specific to this project. In case of a conflict, the hierarchal order of precedence is as listed in City of Billings Standard Modifications to MPWSS.

SP-2 SUBSTANTIAL COMPLETION

Define substantial completion requirements specific to the project that is in addition to, or as a modification to the MPWSS or COB Std Mods.

SP-3 PROJECT COORDINATION

Provide any special coordination efforts in addition to, or as a modification to the MPWSS or COB Std Mods.

SP-4 FIELD ENGINEERING

Provide any project specific field engineering provisions in addition to, or as a modification to the MPWSS or COB Std Mods.

SP-5 CONTRACT SCHEDULE

Provide any project specific scheduling requirements in addition to, or as a modification to the MPWSS or COB Std Mods.

SP-6 MEASUREMENT & PAYMENT

1. *Not Used – See Agreement*

PART 2 – EJCDC Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Procurement Contract (No. P-700, 2010 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated 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 (G.C.), with the prefix “SC” added thereto.

SC – 1. DEFINITIONS AND TERMINOLOGY

SC-1.01 Defined Terms

- A. Delete and replace definitions 8, 9, 12, 17, 29, and 30 in Paragraph 1.01.A of the Procurement General Conditions with the following:

8. Buyer - The person or public entity purchasing the Goods and Special Services. The terms “Buyer,” “Owner,” and “OWNER” are interchangeable and shall have the same meaning in the Contract Documents.

29. Seller - The individual or entity furnishing the Goods and Special Services. The terms “Seller,” “Supplier,” and “Vendor” are interchangeable and shall have the same meaning in the Contract Documents.

- B. Add the following definition to Paragraph 1.01.A of the Procurement General Conditions:

37. Assignee - The terms "assignee" and "installation contractor" are interchangeable and shall have the same meaning in the Contract Documents.

38. Installation Contractor - The individual or entity with whom Buyer will enter into an agreement to install the Goods. The terms "Installation Contractor," "General Contractor," and "Prime Contractor," are interchangeable and shall have the same meaning in the Contract Documents.

SC-3. CONTRACT DOCUMENTS: INTENT AND AMENDING

SC-3.04 Amending and Clarifying Contract Documents. Delete Paragraph 3.04.B of the Procurement General Conditions, and replace it with the following new paragraph:

- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Goods or Special Services not affecting Contract Price or Contract Times may be authorized, by one or more of the following ways: 1) a Field Order; 2) Engineer's acceptance of a Shop Drawing pursuant to Division 1 submittal sections; or 3) Engineer's written interpretation or clarification.

SC-4. BONDS AND INSURANCE

Delete Article 4 of the Procurement General Conditions in its entirety, and insert the following text in its place:

ARTICLE 4 - BONDS AND INSURANCE

4.01 Performance, Payment, and Other Bonds.

- A. Seller shall furnish Procurement Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all Seller's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. Seller shall also furnish such other Bonds as are required by the Contract Documents.
- B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

- C. If the surety on any Bond furnished by Seller is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 4.01.B, Seller shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of Paragraphs 4.01.B and 4.02.

4.02 Licensed Sureties and Insurers

- A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by Seller shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Buyer is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Procurement Supplementary Conditions.

4.06 Acceptance of Bonds and Insurance; Option to Replace

- A. If Buyer has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by Seller in accordance with Article 4 on the basis of non-conformance with the Contract Documents, the Buyer shall so notify the Seller in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01 and 2.02. Seller shall provide to the Buyer such additional information in respect of insurance provided as the Buyer may reasonably request. If Seller does not purchase or maintain all of the Bonds and insurance required of Buyer by the Contract Documents, Buyer shall notify the Seller in writing of such failure to purchase prior to the start of the Contract, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the Buyer may elect to obtain equivalent Bonds or insurance to protect Buyer's interests at the expense of the Seller who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

SC-6. SHIPPING AND DELIVERY

SC-6.02 Delivery Delete Paragraph 6.02C of the Procurement General Conditions, and replace it with the following new paragraph:

- C. Seller will be responsible and bear all costs for unloading the Goods from carrier.

SC-8. BUYER'S RIGHTS

SC-8.03. Correction Period. Add the following new paragraphs immediately after Paragraph 8.03.A of the Procurement General Conditions:

- A. Seller's responsibility for correcting all non-conformities in the Good and Special Service (i.e. Warranty) **will extend for a period of one year after Final Completion, or two years after Substantial Completion (date of delivery), whichever is longer.**

- B. Upon receipt of Buyer's written notice of a defective or non-conforming condition during the warranty period, Seller shall take all actions, including redesign and replacement, to correct the defective or non-conforming condition within a timeframe acceptable to the Buyer and at no additional cost to the Buyer. Seller shall also, at its sole cost, perform any tests required by the City to verify that such defective or non-conforming condition has been corrected. **Seller warrants the corrective action taken against defective and non-conforming condition for a period of an additional one year from the date of the Buyer's acceptance of the corrective action.**
- C. If assigned, all written notices of defective or non-conforming conditions will be submitted to the Installation Contractor.
- D. Nothing in this Article 8 concerning the correction period shall establish a period of limitation with respect to any other obligation which Seller has under the Contract Documents. The establishment of time periods relates only to the specific obligations of Seller to correct the Goods and Special Services, and has no relationship to the time within which Seller's obligations under the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Seller's liability with respect to Seller's obligations other than to specifically correct the Goods and Special Services.

SC-9 ROLE OF THE ENGINEER

SC-9.01. Duties and Responsibilities. Add the following sentence at the end of Paragraph 9.01.A of the Procurement General Conditions:

The action of the Engineer in performance of these duties shall not be construed to make the Engineer the Agent for the Buyer with respect to changes in the cost of the Goods and Special Services or changes in the Contract Documents.

SC-9.05. Decisions on Requirements of Contract Documents.

- A. Add the following new words at the end of the first sentence of Paragraph 9.05.A of the Procurement General Conditions;

"insofar as the subject matter of any pertinent claim, dispute, or other matter falls within the realm of the technical expertise of Engineer."

- A. Add the following new sentence at the end of Paragraph 9.05.A of the Procurement General Conditions:

Engineer shall not render any decision on any claims, disputes, or other matters the subject matter of which, at Engineer's sole discretion, requires legal, rather than technical, interpretation.

SC-10 PAYMENT

SC-10.01. Applications for Progress Payments. Delete the phrase "The second" from the beginning of Paragraph 10.01.A.2 and replace with "An".

SC-10.06. Final Payment. Add the following new sentence at the end of Paragraph 10.06 of the Procurement General Conditions:

Consent of the surety, signed by an agent, must be accompanied by a certified copy of such agent's authority to act for the surety.

SC-14 MISCELLANEOUS

SC-14.05. Survival of Obligations. Add the following new paragraph immediately after Paragraph 14.05.A of the Procurement General Conditions:

- B. Seller shall obtain from all manufacturers any and all warranties and guarantees of such manufacturers, whether or not specifically required by the Specifications, and shall assign such warranties and guarantees to Buyer or to Installation Contractor if Contract is assigned. With respect thereto, Seller shall render reasonable assistance to Buyer or Installation Contractor when requested, in order to enable Buyer or Installation Contractor to enforce such warranties and guarantees. The assignment of any warranties or guarantees shall not affect the correction period or any other provisions of these Contract Documents.

SC 14.07. Specifications Subject to Change. Add the following new section immediately after Paragraph 14.06:

Upon selection of the equipment and subsequent award of the procurement contract, the Agreement will be included as an attachment to the specifications in the Bidding Documents for the City of Billings Water Treatment Plant High Service Pump Station HVAC Upgrades and will be assigned to the Installation Contractor, as described in Section 00 50 00 – Agreement. Installation Contractor will include the price for Bid Items, as indicated on the Bid Form, in the proposal in Contractor's Lump Sum Bid price. Changes to the specification section may be made to account for requirements applicable to the Installation Contractor.

END OF SUPPLEMENTARY CONDITIONS

DIVISION 01 GENERAL REQUIREMENTS

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SECTION 01 11 00 - SUMMARY OF WORK

PART 1 GENERAL

1.01. SUMMARY

- A. This Section includes:
 - 1. Goods and Special Services Description.
 - 2. Construction Contracts
 - 3. Reference Standards

1.02. GOODS AND SERVICES DESCRIPTION

- A. The Goods and Special Services to be performed under these Contract Documents is generally described as: Furnish, deliver, and provide commissioning services for two new Roof Top Units (RTUs) to upgrade the HVAC system of the High Service Pump Station at the City of Billings Water Treatment Plant.
 - 1. The Goods and Special Services shall also include the following tasks: preparation of shop drawings with revisions as required by Engineer; preparation of operation and maintenance manuals with revisions as required by Engineer; coordination with the eventual Installation Contractor who will install the equipment under a separate contract; field inspection; testing; startup services training services; and warranty.
 - 2. Goods shall be delivered by Substantial Completion. Buyer intends to enter into Agreement with Installation Contractor during the Summer of 2022 and assign W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package Contract to Installation Contractor. Installation Contractor shall achieve Final Completion of Water Treatment Plant High Service Pump Station HVAC Upgrades project by March 1, 2023. Installation Contractor will coordinate Special Services.

1.03. PROJECT - WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of the following Contracts will comprise this Project:
 - 1. Contract No.1 - W.O. 22-20 Water Treatment Plant High Service Pump Station HVAC Upgrades Procurement Package

1.04. PROCUREMENT CONTRACTS

- A. Installation work related to this Procurement Contract at the City of Billings Water Treatment Plant will be performed by the Installation Contractor / General Contractor under the Water Treatment Plant High Service Pump Station HVAC Upgrades project.
- B. The work for this Procurement Contract will consist of the performance by Seller to supply all Goods included in the agreed upon scope of supply and as modified by any change order. Supplying all goods shall include a shop drawing review period between Seller and Engineer during Final Design of the Water Treatment Plant High Service Pump Station HVAC Upgrades project; a separate shop

drawing review period between Seller, Installation Contractor, and Engineer during construction of the Water Treatment Plant High Service Pump Station HVAC Upgrades project; packaging, shipment, and delivery of all Goods to the Point of Destination; coordination of said deliveries with Buyer and/or Installation Contractor; coordination with Installation Contractor during installation; start-up and training services; and technical support for 1 full year from the date of Final Completion. Goods delivered to the Point of Destination are expected to meet the intent of all revisions and comments provided by Engineer and/or General Contractor on all shop-drawings. Goods will be installed at the City of Billings Water Treatment Plant according to the schedule set forth by the Installation Contractor selected for the Water Treatment Plant High Service Pump Station HVAC Upgrades project.

1.05. SHIPPING AND HANDLING

- A. Seller shall ship the Goods to the Point of Destination in accordance with Section 01 65 00. Goods shall be unloaded and stored at the Point of Destination in accordance with Section 01 66 00.

1.06. REFERENCE STANDARDS

- A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or laws or regulations in effect at the time of opening of Bids (or on the effective date of the Contract or Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents. However, no provision of any referenced standard, specification, manual, or code, or any instruction of a Seller, shall be effective to change the duties or responsibilities of the seller.

1.07. COORDINATION

- A. Coordinate the details of furnishing the Goods and Special Services in the various Sections of Specifications to assure efficient and orderly sequence of delivery and installation of items, with provisions for accommodating items installed at a later date.

1.08. GOODS AND SPECIAL SERVICES SEQUENCE

- A. Coordinate schedule and delivery with Buyer and Engineer to accommodate Buyer occupancy requirements.
- B. Complete requirements of Goods and Special Services in logical sequence and stages to accommodate the following priority of critical dates and Intermediate Milestones:
 - 1. Substantial Completion Date as set for in the Agreement. Substantial Completion shall be defined as delivery of Goods to Point of Destination.

2. Final Completion as set for in the Agreement. Final Completion shall be defined as performing the Special Services.
3. The Milestone Dates and their associated penalties, as set forth in the Agreement, are final.

C. Damages

1. All parties involved with the proposed Goods and Special Services including the Seller, Installation Contractor, Buyer, and Engineer, all need to strive for a common goal of keeping the public service operational and making safe and dependable water in an adequate volume to meet all water use requirements.
2. It is also recognized by the Seller, Installation Contractor, Buyer, and Engineer that the Installation Contractor will require scheduled shutdowns in order to complete the installation of the Goods.
3. The Buyer will make a reasonable attempt to alter operational procedures, including temporary shutdowns of water mains, to allow for installation of the Goods.

1.09. STARTUP

- A. Installation Contractor shall be fully responsible for all preparation leading up to startup including disposal of all cleaning solutions.
- B. Refer to individual Specification Sections regarding startup requirements.
- C. Contractor shall coordinate all startup activities to comply with all permits, licenses, contracts, and owner requirements.

PART 2 PRODUCTS

2.01. NOT USED

PART 3 EXECUTION

3.01. NOT USED

END OF SECTION

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SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Submittals.
 - 2. Documentation of Change in Contract Price and Contract Time.
 - 3. Change Procedures.
 - 4. Goods and Special Services Directive Change.
 - 5. Stipulated Price Change Order.
 - 6. Time and Material Change Order.
 - 7. Execution of Change Orders.
 - 8. Correlation of Seller Submittals.
- B. Related Sections include, but are not limited to:
 - 1. Section 00 52 00 – Agreement Form.
 - 2. Section 00 72 00 – General Conditions.
 - 3. Section 00 73 00 – Supplementary Conditions.
 - 4. Section 01 27 00 – Applications for Payment.

1.02. SUBMITTALS

- A. Submit name of the individual authorized to receive change documents and be responsible for informing others in Seller's employ or Subcontractors of changes to the Goods and Special Services.
- B. Change Order Forms: EJCDC form C-941 (2002 Edition).

1.03. DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Maintain detailed records of Goods and Special Services done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Goods and Special Services.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. Provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance, and bonds.
 - 3. Overhead and administration.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for Goods and Special Services done on a time and material basis, with additional information:

1. Origin and date of claim.
2. Dates and times furnishing of the Goods and Special Services was performed, and by whom.
3. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.04. CHANGE PROCEDURES

- A. The Engineer will advise of minor changes in the Goods and Special Services not involving an adjustment to Contract Price or Contract Time by issuing supplemental instructions.
- B. The Engineer may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications and a change in Contract Time for executing the change. Seller will prepare and submit an estimate within five (5) days.
- C. The Seller may propose a change by submitting a request for change to the Engineer, describing the proposed change and its full effect on the Goods and Special Services, with a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation and a statement describing the effect on Goods and Special Services by separate or other sellers/suppliers. Document any requested substitutions in accordance with Section 01 61 00.

1.05. GOODS AND SPECIAL SERVICES DIRECTIVE CHANGE

- A. Engineer may issue a Change Order, signed by the Buyer, instructing the Seller to proceed with a change in the Goods and Special Services.
- B. The Change Order will describe changes in the Goods and Special Services and will designate the method of determining any change in Contract Price or Contract Time.
- C. Seller shall promptly execute the change in Goods and Special Services upon receipt of signed Change Order.

1.06. STIPULATED PRICE CHANGE ORDER

- A. Based on Proposal Request and Seller's fixed price quotation or Seller's request for a Change Order as approved by Engineer.

1.07. EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Engineer will prepare the formal Change Order document(s) and forward to Seller for signature(s). Engineer will then present the proposed Change Order to Buyer for approval. Upon obtaining approval, the Change Order will be submitted to the Buyer for signatures as provided in Conditions of Contract.

1.08. CORRELATION OF SELLER SUBMITTALS

- A. Promptly revise Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of Goods and Special Services affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS

2.01. NOT USED.

PART 3 EXECUTION

3.01. NOT USED.

END OF SECTION

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SECTION 01 27 00 - APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Format and Preparation of Applications.
 - 2. Submittal Procedures.
 - 3. Substantiating Data.
- B. Related Sections include, but are not limited to:
 - 1. Section 00 72 00 – General Conditions.
 - 2. Section 01 26 00 – Contract Modification Procedures.
 - 3. Section 01 33 00 – Submittal Procedures.
 - 4. Section 01 77 00 – Closeout Procedures.

1.02. FORMAT AND PREPARATION OF APPLICATIONS

- A. Utilize City of Billings Standard Payment Application Form.
- B. Preparation:
 - 1. Present required information in typewritten form.
 - 2. Execute certification by signature of authorized officer.
 - 3. List each authorized Change Order as an extension on Continuation Sheet, listing Change Order number and dollar amount as for an original item of Goods and Services.
- C. Prepare Application for Final Payment as specified in Section 01 77 00.

1.03. SUBMITTAL PROCEDURES

- A. Submittals:
 - 1. An electronic copy of each Application for Payment.
 - 2. Payment Periods: As stipulated in the Agreement.
 - 3. Submit with transmittal letter as specified for Submittals in Section 01 33 00.
 - 4. Submit lien waivers with final application for payment.

1.04. SUBSTANTIATING DATA

- A. When Engineer requires substantiating information, submit data justifying dollar amounts in question.
- B. Provide one (1) copy of data with cover letter for each copy of submittal. Show application number and date; show line item by number and description.

PART 2 PRODUCTS

2.01. NOT USED.

PART 3 EXECUTION

3.01. NOT USED.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01. SUMMARY

- A. This Section includes:
 - 1. Submittal Procedures.
 - 2. Submittal Schedules
 - 3. Proposed Products List.
 - 4. Tabulation of Suppliers.
 - 5. Request for Interpretation
 - 6. Product Data.
 - 7. Shop Drawings.
 - 8. Project Coordination Software
 - 9. Samples.
 - 10. Test Reports.
 - 11. Manufacturer's Certificates.
 - 12. Manufacturer's Instructions.
 - 13. Manufacturer's Field Reports.
 - 14. Excessive Shop Drawing Reviews.
- B. Related Sections include:
 - 1. Section 01 45 00 – Quality Control.
 - 2. Section 01 77 00 – Closeout Procedures.
 - 3. Division 23.

1.02. SUBMITTAL PROCEDURES

- A. All submittals, regardless of origin, shall be approved by Seller. Seller shall be solely responsible for the completeness of each submittal. Seller's stamp or affixed approval statement of a submittal (see Figure 01300-1), is a representation to Buyer and Engineer that Seller accepts sole responsibility for determining and verifying all quantities, dimensions, field construction criteria materials, catalog numbers, and similar data, and that Seller has reviewed and coordinated each submittal with the requirements of the Goods and Special Services and the Contract Documents.
- B. Each submittal shall cover items from only one section of the specification unless the item consists of components from several sources. Seller shall submit a complete initial submittal including all components. When an item consists of components from several sources, Seller's initial submittal shall be complete including all components.
- C. Transmit each submittal with Engineer accepted form.
- D. Sequentially number the transmittal form. Submit revised submittals with original number and a sequential alphabetic suffix.

- E. Seller shall send each submittal in electronic format to be distributed by Engineer for review. Upon approval and prior to project completion, Seller shall submit up to two (2) bound hard copies, containing all approved submittals, to be retained by Engineer and Buyer.
- F. Identify Project Name, Seller, and/or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- G. Seller shall completely review all submittal materials prior to submission to Engineer. Apply Seller's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Goods and Special Services and Contract Documents.
- H. Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.
- I. Engineer will attempt to complete a review of each submittal in a timely manner within 10 calendar days of receipt of each submittal. Failure of Engineer to review a submittal within the estimated review timeframe shall not be basis for the Seller to request or receive additional Contract Price or Contract Time.
- J. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed construction work. Highlight and/or clearly designate specific product details and information so as to confirm product meets or exceeds Specifications.
- K. Provide space for Contractor and Engineer review stamps.
- L. When revised for resubmission, identify all changes made since previous submission.
- M. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements. Clearly transmit Engineer review comments to suppliers and subcontractors as required to minimize product delivery errors and miscommunications.
- N. Submittals not requested will not be recognized or processed.
- O. Engineer will review submittals in order received unless Seller requests, in writing, a revised order of review. A revision in order may add to the length of review time required for previously submitted submittals.
- P. Submittal of more than three major submittals per week may add to the required length of review time. Engineer shall notify Seller of submittal review scheduling conflicts.

1.03. PROPOSED PRODUCTS LIST

- A. Within fifteen (15) days after date of Buyer-Seller Agreement, submit list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.04. TABULATION OF SUPPLIERS

- A. Seller shall submit a list of suppliers who will provide materials, equipment, or components, which are integral to the product or system.
- B. The submitted list shall include the following information for each supplier:
 - 1. Name
 - 2. Address
 - 3. Type of work to be provided
 - 4. Applicable specifications sections
 - 5. Contact person
- C. Seller's use of specific suppliers for providing equipment, materials, or components shall be subject to the requirements of the specifications.

1.05. REQUESTS FOR INTERPRETATION

- A. Seller shall submit in writing all requests for interpretation or for information regarding the Contract Documents on the form provided by the Engineer.
- B. Engineer does not guarantee that a response can be provided in the amount of time requested, but Engineer shall respond in writing to Seller's request within a reasonable amount of time given the extent of the request for interpretation of information required.

1.06. PRODUCT DATA

- A. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
- B. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record document purposes described in Section 01 77 00.
- C. Primary method of submittals shall be by electronic format in PDF files through email.
- D. Submit the number of copies that the Seller requires, plus the number of copies as specified in Paragraph 1.02.

- E. Mark each copy to identify applicable Products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service of functional equipment and appliances.

1.07. SHOP DRAWINGS

- A. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
- B. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record document purposes described in Section 01 77 00.
- C. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Submit in electronic format for Engineer's review. Upon approval and prior to project completion, Seller shall submit up to two (2) bound hard copies, containing all approved submittals, to be retained by Engineer and Buyer.
- E. All shop drawings shall be submitted through the Seller in accordance with the procedures outlined in this specification. Shop drawings received from anyone other than through the Seller will not be reviewed.
- F. For electronic submittals, drawings and the necessary data shall be submitted electronically to Engineer as specified below. All electronic files shall be in Portable Document Format (PDF) as generated by Adobe Acrobat Professional Version 7.0 or higher. The PDF file(s) shall be fully indexed using the Table of Contents, searchable with thumbnails generated. PDF images must be at a readable resolution. Scaling in PDF drawings shall be set to the appropriate proportions for reasonably checking dimension measurements with measuring tools. For most documents, they should be scanned or generated at 300 dots per inch (dpi). Optical Character Recognition (OCR) capture must be performed on these images so that text can be searched, selected and copied from the generated PDF file. The PDF documents shall have a bookmark created in the avigation frame for each major entry ("Section" or "Chapter") in the Table of Contents. Thumbnails shall be generated for each page or graphic in the PDF file. When multiple files are required for a submittal the least number of files possible shall be created.
- G. Shop drawings shall include data and technical drawings prepared specifically for this Project, including where required, but not limited to the following:

1. Fabrication drawings
 2. Installation drawings
 3. Shopwork manufacturing instructions
 4. Templates or patterns
 5. Coordination drawings
 6. Schedules
 7. Design calculations
- H. Shop drawings shall contain complete detail showing conformance with the Contract Documents and such other specified information as required, including but not limited to the following
1. Related work with applicable cross references
 2. Physical configuration
 3. Dimensional information, including any variations from actual conditions
 4. List of materials
 5. Weight of individual and system components
 6. Structural construction and assemblies including but not limited to details of supports and attachments to proposed structure and loadings applied to the proposed structure at attachment locations.
 7. Anchor bolt details showing type, size, embedment, and locations
 8. Machinery and equipment details
 9. Auxiliary items to machinery and equipment
 10. Protective coatings and factory finishes
 11. Electrical information including motor sizes, wiring and circuit diagrams, and instrumentation, and termination drawings
 12. Testing results
- I. Detail all connections required to complete the work.
- J. Approval of shop drawings by Engineer shall not relieve the Seller from responsibility of deviations from drawings or specification, unless deviations or changes have been brought to Engineer's attention at time of submission, nor shall it relieve the Seller from responsibility for errors or omissions in shop drawings.

1.08. SAMPLES

- A. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- B. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record document purposes described in Section 01 77 00.
- C. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

- D. Include identification on each sample, with full Project information.
- E. Submit the number of samples specified in individual Specification sections; one (1) of which will be retained by Engineer.
- F. Reviewed samples that may be used in the furnishing of Goods are indicated in individual Specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in the Specification section.

1.09. TEST REPORTS

- A. Submit for the Engineer's knowledge and for the Buyer.
- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.
- C. Installation Contractor to retain one (1) copy of all test reports and results on-site in a location accessible to Engineer.

1.10. MANUFACTURER'S CERTIFICATES

- A. When specified in individual Specification sections, submit certification by the manufacturer or installation/application Subcontractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.11. MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Buyer in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Refer to Section 01 45 00 – Quality Control, Manufacturers' Field Services article.

1.12. MANUFACTURER'S FIELD REPORTS

- A. Submit reports for the Engineer's records and for the Buyer
- B. Submit report in duplicate within fifteen (15) days of observation to Engineer for information.

- C. Submit the manufacturer's field reports for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

1.13. EXCESSIVE SHOP DRAWING REVIEWS

- A. The maximum number of submittal reviews for any one product or specification section shall be two (2).
- B. Compensation for third or subsequent reviews will be required as outlined below:
 - 1. Buyer will compensate Engineer for "additional services".
 - 2. Buyer will deduct amount of such compensation from payment to Seller.
 - 3. Engineer's compensation shall be at Engineer's standard hourly rates, plus reimbursable expenses at cost.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

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SUBMITTAL No. _____

SECTION _____

Do not combine multiple sections together
unless required by specifications.

(Seller's Letterhead)

SUBMITTAL IDENTIFICATION & SELLER'S APPROVAL STATEMENT

DATE: _____ **COPIES** _____ **DRAWING SHEET NO.** _____

Description submittal contents: _____

Location: _____

Manufacturer _____

REMARKS: _____

SELLER'S APPROVAL

(*Seller*) has reviewed and coordinated the submitted documentation and verifies that the equipment and material meet the requirements of the Goods and Special Services and the Contract Documents. We accept sole responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data contained in the submittal as required by the Contract Documents.

Deviations: ☐ None ☐ Yes (See attached Figure 01 33 00-2 for written description)

Approved By: _____ Date: _____

This approval does not release contractor from the contractual responsibilities.

AE2S

Project No. _____ Phase _____

Contract No. _____

Project Description: _____

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SECTION _____

(Seller's Letterhead)

SUBMITTAL IDENTIFICATION & SELLER'S APPROVAL STATEMENT

Manufacturer_____

DEVIATIONS

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Project Description: _____

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SECTION 01 45 00 - QUALITY CONTROL

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Quality Assurance - Control of Installation.
 - 2. Tolerances.
 - 3. References and Standards.
 - 4. Manufacturers' Field Services.
- B. Related Sections include but are not limited to:
 - 1. Section 01 33 00 – Submittal Procedures.

1.02. QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Installation Contractor will monitor quality control over suppliers, manufacturers, Products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Installation Contractor will comply with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with Contract Documents, Installation Contractor will request clarification from Engineer before proceeding.
- D. Installation Contractor will perform Work by persons qualified to produce required and specified quality.
- E. Installation Contractor will secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03. TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Goods. Do not permit tolerances to accumulate.
- B. Installation Contractor shall comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, Installation Contractor shall request clarification from Engineer before proceeding.

1.04. REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.

- C. Obtain copies of standards where required by Product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05. MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, material or Product suppliers or manufacturers shall provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment and other services as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 – Submittal Procedures.

PART 2 **PRODUCTS**

2.01. NOT USED.

PART 3 **EXECUTION**

3.01. NOT USED

END OF SECTION

SECTION 01 61 00 - COMMON PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Products.
 - 2. Transportation and Handling.
 - 3. Storage and Protection.
 - 4. Product Options.
 - 5. Substitutions.
- B. Related Sections include, but are not limited to:
 - 1. Section 00 21 13 – Instruction to Bidders.
 - 2. Section 00 72 00 – General Conditions.
 - 3. Section 00 73 00 – Supplementary Conditions.
 - 4. Section 01 33 00 – Submittal Procedures.
 - 5. Section 01 45 00 – Quality Control.

1.02. PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components designated for re-use.

1.03. TRANSPORTATION AND HANDLING

- A. Refer to Section 01 65 00 and Section 01 66 00.

1.04. STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions. Buyer shall provide storage space.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- F. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.05. PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with an option for an "Approved Equivalent" Manufacturer: Submit a request for the "approved equivalent" in accordance with the following article.

1.06. SUBSTITUTIONS

- A. "Approved Equivalent" products will be considered only if written request is made at least 8 days prior to bid opening.
- B. Substitutions will be considered only when a Product becomes unavailable through no fault of the Seller.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Bidder/Seller:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Buyer.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Buyer and Engineer for review or redesign services and associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
 - 3. The Engineer will notify Seller in writing of decision to accept or reject request.
 - 4. Accepted substitutions will be listed by addendum.

PART 2 PRODUCTS

2.01. UNIFORMITY

- A. For any type of similar equipment, i.e., motors, drive units, etc., provide equipment of the same manufacturer.
- B. Inform all subcontractors and suppliers of the selected manufacturers to ensure equipment uniformity.

2.02. TOOLS

- A. For any equipment or equipment components furnished, requiring special tools, the Seller shall supply the Buyer with such tools to allow for the maintenance and removal/replacement of equipment components.

2.03. CONSUMABLES

- A. Provide Buyer with all consumable items that are required during start-up and initial operation (90 days minimum).

PART 3 EXECUTION

3.01. INSTALLATION

- A. Installation Contractor shall install all equipment in full compliance with the manufacturers' recommendations.
- B. Installation Contractor shall obtain services of qualified and approved factory representatives to install, check, and approve the installation of all equipment as specified in individual Sections.

END OF SECTION

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SECTION 01 65 00 - PRODUCT DELIVERY REQUIREMENTS

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Products.
 - 2. Preparation for Shipment.
 - 3. Transportation and Handling.
- B. Related Sections include, but are not limited to:
 - 1. Section 00 21 13 - Instructions to Bidders
 - 2. Section 00 52 00 - Agreement
 - 3. Section 00 72 00 - EJCDC General Conditions for Procurement
 - 4. Section 00 73 00 - Supplemental Provisions
 - 5. Section 01 33 00 - Submittal Procedures

1.02. PRODUCTS

- A. Products: Means goods of new material, machinery, components, equipment, fixtures, and systems. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Goods.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer for components being replaced.

1.03. PREPARATION FOR SHIPMENT

- A. Prior to packaging equipment, Seller shall provide packing list along with estimated package dimensions – Length x Width x Height (L x W x H) – for each package exceeding a 3-foot dimension in L, W, or H to Buyer. All Goods to be installed shall be shipped to the Point of Destination, freight paid by Seller.
- B. All equipment shall be suitably packaged by Seller to facilitate handling and to protect against damage during transit and storage. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept dry at all times.
- C. Painted and coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted and coated surfaces which are damaged prior to final acceptance of equipment shall be repainted to the satisfaction of Engineer.
- D. Grease and lubricating oil shall be applied to all bearings and similar items.

- E. Delivery schedule for shipment of products shall be coordinated with Buyer and meet timeframe established in Section 00 52 00. If Contract is assigned to Installation Contractor awarded the Water Treatment Plant High Service Pump Station HVAC Upgrades project, delivery schedule will be established by the Installation Contractor. Seller shall coordinate delivery schedule with Installation Contractor accordingly.

1.04. TRANSPORTATION AND HANDLING

- A. Before shipping each item of equipment shall be tagged or marked by Seller as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of equipment shall be included with each shipment.
- B. Transport and handle Products in accordance with manufacturers' instructions.
- C. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- D. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.
- E. Seller shall bear the responsibility for delivery of equipment, spare parts, special tools, and materials to the Point of Destination. Seller shall comply with the requirements specified herein and shall provide required information concerning the shipment and delivery of the Goods specified in this Contract. These requirements also apply to any sub suppliers making direct shipments to the Point of Destination.
- F. Delivery of portions of the equipment in several individual shipments shall be subject to review of Buyer before shipment. When permitted, all such partial shipments shall be plainly marked to identify, to permit easy accumulation, and to facilitate eventual installation.

PART 2 PRODUCTS

2.01. UNIFORMITY

- A. For any type of similar equipment, i.e., motors, drive units, etc., provide equipment of the same manufacturer.
- B. Inform all subcontractors and suppliers of the selected manufacturers to ensure equipment uniformity.

2.02. TOOLS

- A. For any equipment or equipment components furnished requiring special tools, Seller shall provide the special tools to the Installation Contractor. Installation Contractor shall supply the Buyer with these tools to allow for the maintenance and removal/replacement of equipment components.

2.03. CONSUMABLES

- A. Provide Buyer with all consumable items that are required during start-up and initial operation (90 days minimum).

PART 3 EXECUTION

NOT USED.

END OF SECTION

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SECTION 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Products.
 - 2. Storage and Protection
- B. Related Sections include, but are not limited to:
 - 1. Section 00 21 13 - Instructions to Bidders
 - 2. Section 00 52 00 - Agreement
 - 3. Section 00 72 00 - EJCDC General Conditions for Procurement
 - 4. Section 00 73 00 - Supplemental Conditions
 - 5. Section 01 33 00 - Submittal Procedures

1.02. PRODUCTS

- A. Products: Means goods of new material, machinery, components, equipment, fixtures, and systems. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Goods.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer for components being replaced.

1.03. GENERAL

- A. Installation Contractor shall, either directly or through contractual arrangements with others, accept responsibility for the safe handling and protection of the equipment and materials furnished under this Contract before and after receipt at the Point of Destination if contract is assigned. Acceptance of the equipment shall be made after it is installed, tested, placed in operation and found to comply with all the specified requirements.
- B. All items shall be checked against packing lists immediately on delivery to the Point of Destination for damage and shortages. Damage and shortages shall be remedied with the minimum of delay. Seller shall be responsible for inspection of Goods at delivery before unloading.
- C. Seller shall accept responsibility for the safe handling and protection of the equipment and materials furnished under the Contract until after unloading, and the safe and secured storage thereof, at the Point of Destination. If the Seller wishes to deliver prior to delivery date, this must be coordinated and accepted by Buyer.

- D. Buyer shall be responsible for secured protection of the equipment and materials furnished until all equipment is installed. This responsibility may transfer to the Installation Contractor if contract is assigned.
- E. Installation Contractor will be responsible for inspection of all equipment; inventory of all parts and components; verification of model numbers, quantities, dimensions, Shop Drawing comments, etc. If Installation Contractor or Engineer identifies discrepancies between products supplied and products submittals, Seller shall coordinate with Installation Contractor to remedy discrepancies at no cost to Buyer.

1.04. STORAGE AND PROTECTION

- A. Upon delivery and acceptance of Goods by Seller before unloading, all equipment and materials delivered to the Point of Destination shall immediately be stored and protected by the Buyer or Installation Contractor until installation in accordance with the requirements of Seller.
- B. Store and protect Products in accordance with manufacturers' instructions. Buyer shall provide limited storage space. Installation Contractor is responsible for locating and obtaining permission for additional space required.
- C. Store with seals and labels intact and legible.
- D. Stacked items shall be suitably protected from damage by spacers or load distributing supports that are safely arranged. No metalwork (miscellaneous steel shapes and reinforcing steel) shall be stored directly on the ground. Masonry products shall be handled and stored in a manner to hold breakage, chipping, cracking, and spalling to a minimum. Cement, lime, and similar products shall be stored off the ground on pallets and shall be covered and kept completely dry at all times. Pipe, fittings, and valves may be stored out of doors, but must be placed on wooden blocking. PVC pipe, geomembranes, plastic liner, and other plastic materials shall be stored off the ground on pallets and protected from direct sunlight.
- E. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product. Pumps, motors, electrical equipment, and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F [16°C]. Electrical equipment controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.
- F. For exterior storage of fabricated Products, place on sloped supports above ground.
- G. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.

- H. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.
- J. Equipment having moving parts, such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc., unless otherwise instructed by the Seller. Seller's storage instructions shall be carefully followed.
- K. When required by the Seller, moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding". Upon installation of the equipment, Installation Contractor shall, at the discretion of Engineer, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
- L. When required by the Seller, lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Installation Contractor at the time of acceptance.
- M. Equipment and materials shall not show any pitting, rust, decay, or other deleterious effects of storage when installed.
- N. In addition to the protection specified for prolonged storage, the packaging of spare units and spare parts shall be for export packing and shall be suitable for long-term storage in a damp location. Each spare item shall be packed separately and shall be completely identified on the outside of the container.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01 75 00 - STARTING AND ADJUSTING

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Quality Assurance.
 - 2. Scheduling.
 - 3. Preparation.
 - 4. Starting Systems.
 - 5. Demonstration Training
 - 6. Start-Up Period.
 - 7. Equipment Training
 - 8. Adjusting.
 - 9. Acceptance of Equipment and Systems.
 - 10. Guarantee and/or Warranty Period.

1.02. QUALITY ASSURANCE

- A. Seller shall provide authorized and qualified manufacturer's representative to inspect, check, and approve equipment installation prior to start-up and to assist with demonstration testing.
- B. Authorized representative shall supervise placing equipment into operation.
- C. Prior to demonstration to Buyer and Engineer, provide written confirmation that systems have been tested, adjustments have been made, and equipment is ready for start-up demonstration.
- D. Provide access to equipment and systems. Operate systems at designated times and under conditions required.
- E. Seller shall submit four (4) copies of written start-up report for each system or equipment item following each start-up.

1.03. SCHEDULING

- A. Installation Contractor shall submit four (4) copies of preliminary start-up, and instruction schedule at least 15 calendar days prior to proposed dates. List times and dates for each system or equipment item. Include names of Contractor's and subcontractors' personnel, manufacturer, and/or authorized representative proposed to perform services. Provide documentation to verify their qualifications.
- B. Installation Contractor shall coordinate scheduling of start-up. Scheduling of start-up shall be subject to approval of Buyer and Engineer.

- C. Contractor shall notify Buyer and Engineer of changes in scheduling at least five (5) days in advance prior to scheduled start-up of individual systems or equipment. Scheduling changes shall be subject to approval by Buyer and Engineer.

PART 2 PRODUCTS

2.01. NOT USED.

PART 3 EXECUTION

3.01. PREPARATION

- A. Equipment will not be operated except by, or with the guidance of, qualified personnel provided by Seller having the knowledge and experience necessary to obtain proper results. All items of equipment and systems will be tested for proper operation, efficiency, and capacity. All required adjustments, tests, operation checks, and other startup activity will be provided by qualified personnel provided by Seller. Installation contractor will be responsible for planning, supervising, and executing the installation of work.
- B. Confirm wiring to motors and controls are operational.
- C. Inspect equipment for cleanliness and remove or clean foreign matter.
- D. Lubricate each piece of equipment according to manufacturer's instructions. Check alignment, drive rotation, equipment speed, control sequence, and other conditions which may cause damage. Provide adjustment as required.
- E. Confirm that equipment is properly anchored and supported.
- F. Confirm that auxiliary systems are operational.
- G. Confirm that tests, meter readings, and specific electrical characteristics, including motor amperage agree with those specified.
- H. Confirm that control system is operation in automatic mode.
- I. Provide instruments required for testing, adjusting, and balancing operations.
- J. All costs associated with starting, testing, adjusting, and balancing equipment including power and fuel costs shall be responsibility of the Installation Contractor.
- K. Tests will be conducted after the Goods and Special Services is complete so each item of equipment is ready for integrated operation with other equipment at the plant. Testing, measuring, and calibrating procedures will be submitted to Engineer for review and acceptance prior to startup and testing of equipment.
- L. When the specific equipment sections indicate that an installation check is required by the Seller, the Seller's representative shall make all necessary field adjustments and correct defects in materials or workmanship during this test period.

3.02. STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Engineer and Buyer seven (7) days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative in accordance with manufacturer's instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01 33 00 that equipment or system has been properly installed and is functioning correctly.

3.03. DEMONSTRATION TRAINING

- A. Upon completion of inspection, adjusting, and balancing; demonstrate that each separate piece of equipment of each system and related mechanical or instrumentation and control equipment operate in accordance with the requirements of the Contract Documents. Where no performance requirements are specified, demonstrate the equipment operates in accordance with the manufacturer's requirements and industry standards for the specific application.
- B. All equipment installed under the installation contract, including that furnished by others, will be placed into successful operation according to the written instructions of the equipment manufacturer and the instructions of the Seller's field representative.
- C. Demonstration tests shall confirm smooth operation, without excessive noise or vibration; equipment is responsive to manual and automatic controls; control and protective devices are properly set; and equipment will run on controlled or intermittent basis.
- D. Demonstrate all alarm and safety lockout systems for correct functioning with instrumentation and control. Each remote control point and alarm point shall be tested.
- E. In the event of demonstration test failure, the equipment shall be adjusted, repaired, or replaced subject to approval of the Engineer. Following adjustment,

repairs, or replacement the equipment shall be demonstration tested again. All costs for adjustment, repairs, or replacement shall be the responsibility of the Installation Contractor.

- F. All costs associated with the demonstration testing, including power and fuel costs shall be the responsibility of the Installation Contractor. Seller shall provide all cost for Special Services required under this Contract.
- G. When necessary for certain items of equipment, the final adjustments and inspections shall be made by Seller's factory trained service personnel (other than sales representatives), rather than by Installation Contractor. The Seller's service personnel will also supervise the test operation. This requirement will be stated under the detailed specification for the particular piece or pieces of equipment. The Seller's service personnel shall make adjustments and supervise testing by Installation Contractor until such tests have been accepted by Engineer.

3.04. START-UP PERIOD

- A. Following successful completion of demonstration testing per Section 01 79 00 – Demonstration and Training, the Installation Contractor shall be responsible for the operation and control of new equipment and/or systems for a minimum period of 10 days.
- B. Installation Contractor shall be responsible for making any changes, repairs, or replacements during this 10-day operating period.
- C. During the 10-day testing period, the Installation Contractor shall provide supervisory personnel who fully understand the operation of the equipment. It is the intention that during this period, the Buyer's personnel will become familiar with the operation and maintenance of the equipment or system.
- D. All costs associated with operating and maintaining the installed equipment and/or systems, including power and fuel costs shall be the responsibility of the Installation Contractor.

3.05. EQUIPMENT TRAINING

- A. The Seller shall provide competent personnel who fully understand the operation of the equipment and who are authorized by the manufacturer to instruct the Buyer on the operation and maintenance of each equipment item and/or system.
- B. Instruction and training shall take place following initial start-up, balancing, and testing of equipment or system. The instruction and training may take place prior to demonstration testing or during the 15-day operating period, but shall take place prior to acceptance of the installation by the Buyer.
- C. Training shall be of the on-the-job type, and shall cover all areas of control, operation, and maintenance. The instruction and training for equipment or systems

shall be a minimum of 8 hours, unless specified elsewhere in individual equipment sections.

- D. See individual equipment specification sections for additional training requirements.

3.06. ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

3.07. ACCEPTANCE OF EQUIPMENT AND SYSTEMS

- A. Upon completion of training specified in Section 01 79 00 – Demonstration and Training, receipt of the final operation and maintenance manuals per Section 01 78 23 – Operations and Maintenance Data, receipt of the required start-up and demonstration testing reports, and following successful completion of the 15 day operating period, Engineer shall promptly review submittals of the manuals and reports.
- B. Installation Contractor shall provide additional information or tests if required by the Engineer.
- C. Following review of the information, Engineer shall recommend approval of the equipment and acceptance of the installation to the Buyer. The Buyer shall provide, in writing, notice of acceptance of the equipment within a reasonable time after receipt of Engineer's recommendation.
- D. Acceptance of work in connection with the installation of equipment furnished by others shall be subject to approval of the Seller's field representative. Acceptance by Buyer or approval of the Seller's field representative will not relieve Installation Contractor of responsibility for defective work.
- E. Equipment placed into temporary operation prior to final completion of the project shall be readjusted and/or calibrated as required prior to final completion of the project.
- F. After equipment has been tested, adjusted, and accepted in writing by the Buyer, but before final acceptance of the entire project, the Buyer will assume operation and maintenance responsibilities for the equipment or systems, including power and fuel costs. The Buyer may place portions of the facility into operation prior to final acceptance of the entire project.

3.08. GUARANTEE AND/OR WARRANTY PERIOD

- A. The guarantee or warranty period for all equipment and/or systems will start from the date of written notice of final acceptance of the equipment and/or systems by the Buyer.

- B. There will be no exceptions to the start of the guarantee or warranty period.

END OF SECTION

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01. SUMMARY

- A. Section Includes:
 - 1. Closeout Procedures.
 - 2. Project Record Documents.
 - 3. Spare Parts and Maintenance Products.
 - 4. Warranties and Bonds.
 - 5. Maintenance Service.

1.02. CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Goods and Services has been inspected, and that Goods and Services is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit Final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.03. PROJECT RECORD DOCUMENTS

- A. Maintain one set of the following record documents and record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling current and future reference by Buyer and Engineer.
- C. Store record documents separate from documents used for construction.
- D. Submit documents to Engineer with claim for Final Application for Payment.

1.04. SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra Products in quantities specified in individual specification Sections.
- B. Deliver to Point of Destination and place in location as directed by Buyer; obtain receipt prior to final payment.

1.05. WARRANTIES AND BONDS

- A. Provide duplicate notarized copies.
- B. Provide Table of Contents and assemble in D size three ring binder with durable plastic cover.
- C. Submit prior to final Application for Payment.
- D. For items of Goods delayed beyond date of Final Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.06. MAINTENANCE SERVICE

- A. Furnish service and maintenance of components during the warranty period.
- B. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- C. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Buyer.

PART 2 **PRODUCTS**

2.01. NOT USED.

PART 3 **EXECUTION**

3.01. NOT USED.

END OF SECTION

SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.01. SUMMARY

- A. Section includes:
 - 1. Quality Assurance.
 - 2. Format.
 - 3. Contents of Each Volume.
 - 4. Manual for Equipment and Systems.
 - 5. Instruction of Owner's personnel.
 - 6. Submittals.
- B. Related Sections include:
 - 1. Section 01 33 00 – Submittal Procedures.
 - 2. Section 01 45 00 – Quality Control.
 - 3. Section 01 77 00 – Closeout Procedures.

1.02. QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03. FORMAT

- A. Prepare data in the form of an instructional manual. Arrange data in numerical format.
 - 1. Binders:
 - a. Commercial quality, 8-1/2 x 11-inch three D side ring binders with durable plastic covers.
 - b. 2-inch maximum ring size.
 - c. When multiple binders are used, correlate data into related consistent groupings.
 - 2. Cover; Identify:
 - a. Each binder with typed title "OPERATION AND MAINTENANCE INSTRUCTIONS."
 - b. Title of Project.
 - c. Subject matter of contents.
 - d. Volume number.
 - e. Year of construction.
 - 3. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- B. Text: Manufacturer's printed data, or typewritten data on 24-pound paper.
- C. Drawings: Provide with reinforced punched binder tab. Bind in with text, fold larger drawings to size of text pages. Folded paper should be un-foldable without removal from binder.

- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, in three parts as follows:
1. Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
 2. Operation and maintenance instructions arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 3. Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties.
 - e. Bonds.
 - f. Change Orders, Contracts, Pay Applications.

1.04. CONTENTS OF EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Engineer, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties: Prepare and submit per Section 01 77 00 – Closeout Procedures.
- G. Bonds: Prepare and submit per Section 01 77 00 – Closeout Procedures.

1.05. MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed. Refer to applicable Division specification Sections.
- C. Include color coded wiring diagrams as installed. Refer to applicable Division specification Sections.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage, and local sources of supply.
- L. Additional Requirements: As specified in individual Product specification sections.
- M. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.06. ELECTRONIC DATA FORMAT

- A. Electronic manuals shall be in Adobe Acrobat's Portable Document Format (PDF), and shall be prepared at a resolution between 300 and 600 dots per inch (dpi), depending on document type. Optical Character Recognition (OCR) capture shall be performed on these documents. OCR settings shall be performed with the "original image with hidden text" option in Adobe Acrobat Exchange.
- B. File size shall be limited to 10 MB. When multiple files are required the least number of files possible shall be created. File names shall be in the format OMXXXXXX-YYYZ-V.pdf, where XXXXXX is the six digit number corresponding to the specification section, YYY is a three digit O&M manual number, e.g. 001, Z is the letter signifying a resubmittal, A, B, C, etc, and V is a number used only when more than one 10 MB file is required for an O&M manual.
- C. Documents prepared in PDF format shall be processed as follows:
 - 1. Pages shall be searchable (processed for optical character recognition) and indexed when multiple files are required.

2. Pages shall be rotated for viewing in proper orientation.
 3. A bookmark shall be provided in the navigation frame for each entry in the Table of Contents.
 4. Embedded thumbnails shall be generated for each completed PDF file.
 5. The opening view for PDF files shall be as follows:
 - a. Initial View: Bookmarks and Page
 - b. Page Number: Title Page (usually Page 1)
 - c. Magnification: Set to Fit in Window
 - d. Page: Single Page
 6. Where the bookmark structure is longer than one page the bookmarks shall be collapsed to show the chapter headings only.
 7. When multiple files are required the first file of the series (the parent file) shall list every major topic in the Table of Contents. The parent file shall also include minor headings bookmarked based on the Table of Contents. Major headings, whose content is contained in subsequent files (children) shall be linked to be called from the parent to the specific location in the child file. The child file shall contain bookmark entries for both major and minor headings contained in the child file. The first bookmark of any child file shall link back to the parent file and shall read as follows "Return to the Equipment Name Table of Contents", e.g. Return to the Polymer Feed System Table of Contents.
 8. Drawings shall be bookmarked individually.
 9. Files shall be delivered without security settings to permit editing, insertion and deletion of material to update the manual provided by the manufacturer.
- D. As a minimum, the following information shall be included on all final O&M manual materials, including CD-ROM disks, jewel cases, and hard copy manuals:
1. Equipment name and/or O&M title spelled out in complete words.
 2. Project Name.
 3. City Project/Contract Number.
 4. Specification Section Number. Example: "Section 40 27 20"
 5. Manufacturer's name.
 6. File Name and Date

1.07. INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.08. SUBMITTALS

- A. Submit electronic copies of preliminary draft or proposed formats and outlines of contents before Substantial Completion. Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Buyer, submit documents within ten days after acceptance.
- C. Submit electronic copies of completed volumes fifteen (15) working days prior to final inspection. One (1) copy will be returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
- D. Submit four (4) sets of revised final volumes in final form within ten (10) days after final inspection.
- E. Submit a minimum of two (2) complete copies of the Compact Discs or USB Flash Drives with final documents in electronic format within (10) days after final inspection.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

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SECTION 01 79 00 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01. SUMMARY

- A. Classroom training and demonstration training of products and systems to be commissioned and where indicated in specific specification sections.
- B. Related Sections include:
 - 1. Section 01 45 00 – Quality Control.
 - 2. Section 01 75 00 – Starting and Adjusting.
 - 3. Section 01 77 00 – Closeout Procedures.

1.02. SUBMITTALS

- A. Draft Training Plans: Buyer will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit to Engineer for transmittal to Buyer.
 - 2. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such as slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Installation Contractor.
- B. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- C. Training Reports:
 - 1. Identification of each training session, date, time, and duration.
 - 2. Sign-in sheet showing names and job titles of attendees.
- D. Taping of Training Sessions:

1. The Buyer reserves the right to use any types of audio/visual recording devices during start-up and training activities.

1.03. QUALITY ASSURANCE

- A. Provide authorized and qualified manufacturer's representative to inspect, check, and approve equipment installation prior to start-up and to assist with demonstration testing.
- B. Authorized representative shall supervise placing equipment into operation.
- C. Prior to demonstration to Buyer and Engineer, provide written confirmation that systems have been tested, adjustments have been made, and equipment is ready for start-up demonstration.
- D. Provide access to equipment and systems. Operate systems at designated times and under conditions required.
- E. Seller shall submit four (4) copies of written demonstration testing report following completion of demonstration testing for each equipment item. Report shall describe the test, test conditions, and result.

1.04. SCHEDULE

- A. Demonstration training shall occur after written acceptance of Functional Test completion.
- B. Demonstration training may be conducted prior to or during Performance and Operational Testing.

PART 2 **PRODUCTS**

2.01. NOT USED.

PART 3 **EXECUTION**

3.01. DEMONSTRATION TESTING

- A. Upon completion of inspection, adjusting, and balancing per Section 01 75 00 – Starting and Adjusting; demonstrate that each separate piece of equipment of each system and related mechanical or instrumentation and control equipment operate in accordance with the requirements of the Contract Documents. Where no performance requirements are specified, demonstrate the equipment operates in accordance with the manufacturer's requirements and industry standards for the specific application.
- B. Demonstration tests shall confirm smooth operation, without excessive noise or vibration; equipment is responsive to manual and automatic controls; control and protective devices are properly set; and equipment will run on controlled or intermittent basis.

- C. Demonstrate all alarm and safety lockout systems for correct functioning with instrumentation and control. Each remote-control point and alarm point shall be tested.
- D. In the event of demonstration test failure, the equipment shall be adjusted, repaired, or replaced subject to approval of the Engineer. Following adjustment, repairs, or replacement the equipment shall be demonstration tested again. All costs for adjustment, repairs, or replacement shall be the responsibility of the Installation Contractor.
- E. All costs associated with the demonstration testing, including power and fuel costs shall be the responsibility of the Installation Contractor.

3.02. EQUIPMENT TRAINING

- A. The Seller shall provide competent personnel who fully understand the operation of the equipment and who are authorized by the manufacturer to instruct the Buyer on the operation and maintenance of each equipment item and/or system.
- B. Instruction and training shall take place following initial start-up, balancing, and testing of equipment or system. The instruction and training may take place prior to demonstration testing or during the 15-day operation period but shall take place prior to acceptance of the installation by the Buyer.
- C. Training shall be of the on-the-job type, and shall cover all areas of control, operation, and maintenance.
- D. Provide hands-on training on all operational modes possible and preventive maintenance.
- E. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
- F. For equipment or systems requiring seasonal operation, perform demonstration for other season within six (6) months.
- G. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Buyer's personnel in detail to explain all aspects of operation and maintenance.
- H. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- I. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- J. The amount of time required for instruction on each item of equipment and system is not less than that specified in individual sections.

- K. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 01 91 00 - COMMISSIONING

PART 1 GENERAL

1.01. SUMMARY

- A. Requirements for functional testing, performance and operational testing, and commissioning of equipment and systems.
- B. Description of the commissioning process and responsibilities common to all parties.
- C. Commissioning, including Functional Tests, performance and operational testing, O&M documentation review, and training, is to occur after startup and initial checkout and be completed before Substantial Completion.

1.02. SCOPE OF COMMISSIONING

- A. The following are to be commissioned:
 - 1. Mechanical Systems
 - 2. Electrical Systems
 - 3. Other equipment and systems identified elsewhere in Contract Documents as requiring commissioning.
- B. The commissioning process will be directed by the Installation Contractor and monitored by the Engineer.
- C. Commissioning during the construction phase is intended to achieve the following specific objectives according to the Contract Documents:
 - 1. Verify applicable equipment and systems are installed according to the manufacturer's recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installing contractors.
 - 2. Verify and document proper performance of equipment and systems
 - 3. Verify that O&M documentation is complete.
 - 4. Verify that Buyer's operating personnel are adequately trained.

1.03. RELATED REQUIREMENTS

- A. Section 01 75 00 - Starting and Adjusting
- B. Section 01 78 23 - Operation and Maintenance Data

1.04. SUBMITTALS

- A. Manufacturers' Instructions: Submit copies of all manufacturer-provided instructions that are shipped with the equipment as soon as the equipment is delivered.
- B. Product Data: If submittals to Engineer do not include the following, submit copies as soon as possible:

1. Manufacturer's product data, cut sheets, and shop drawings.
 2. Manufacturer's installation instructions.
 3. Startup, operating, and troubleshooting procedures.
 4. Fan and pump curves.
 5. Factory test reports.
 6. Warranty information, including details of Buyer responsibilities with regard to keeping warranties in force.
- C. Startup Plans and Reports.
- D. Completed Checklists.
- E. Commissioning Plan.
- F. Commissioning Reports.
- 1.05. DEFINITIONS
- A. Commissioning Plan: An overall plan, developed in conjunction with Buyer, Engineer, and Installation Contractor, that provides the structure, schedule, and coordination planning for the commissioning process.
- B. Functional Tests (FT): Test of the dynamic function and operation of equipment and systems using manual (direct observation) and/or remote monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operations. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying temperatures, alarm, power failure, local/remote, etc. FTs are performed after prefunctional tests and startups are completed.
- C. Performance and Operational Testing (POT): Test of systems after written acceptance of the FT. The POT test period will be used develop adequate process conditions to fully establish compliance with the performance requirements of the Contract Documents. Installation Contractor shall supervise, control and be responsible for the operation and maintenance of equipment and systems during POT providing qualified and appropriately licensed personnel.

PART 2 PRODUCTS

2.01. TEST EQUIPMENT

- A. Provide all standard testing equipment required to perform startup and initial checkout and required Functional Testing; unless otherwise noted such testing equipment will not become the property of Buyer.
- B. Calibration Tolerances: Provide testing equipment of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified. If not otherwise noted, the following minimum requirements apply:

1. Temperature Sensors and Digital Thermometers: Certified calibration within past year to accuracy of 0.5 degree F and resolution of plus/minus 0.1 degree F.
 2. Pressure Sensors: Accuracy of plus/minus 2.0 percent of the value range being measured (not full range of meter), calibrated within the last year.
 3. Calibration: According to the manufacturer's recommended intervals and when dropped or damaged; affix calibration tags or keep certificates readily available for inspection.
- C. Equipment-Specific Tools: Where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in order to accomplish startup or Functional Testing, provide such equipment, tools, and instruments as part of the work at no extra cost to Buyer; such equipment, tools, and instruments are to become the property of Buyer.
- D. Dataloggers: Independent equipment and software for monitoring flows, currents, status, pressures, etc., of equipment.
1. Dataloggers required for Functional Tests will be provided by the Installation Contractor and will not become the property of Buyer.

PART 3 EXECUTION

3.01. COMMISSIONING PLAN

- A. Engineer, Buyer, and Installation Contractor will develop the Commissioning Plan.
1. Engineer to attend meetings called by the Installation Contractor for purposes of completing the commissioning plan.
 2. Require attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.
- B. Installation Contractor is responsible for compliance with the Commissioning Plan.
- C. Commissioning Schedule. Installation Contractor shall:
1. Submit anticipated dates of startup of each item of equipment and system to Engineer within 30 days after award of Contract.
 2. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.
 3. Perform prefunctional Checklists and Functional Tests in sequence from components, to subsystems, to systems.
 4. Provide sufficient notice to Engineer for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.02. STARTUP PLANS AND REPORTS

- A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.
- B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan or field checkout sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entity.
- C. Submit directly to the Engineer.

3.03. FUNCTIONAL TESTS

- A. Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.
- B. Installation Contractor is responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before Substantial Completion.
- C. Engineer will witness Functional Tests, Installation Contractor shall provide adequate notice to Engineer in advance of functional testing.
- D. Installation Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Buyer; if a deficiency is not corrected and re-tested immediately, the Engineer will document the deficiency and the Installation Contractor's stated intentions regarding correction.
 - 1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents or does not perform properly.
 - 2. When the deficiency has been corrected, the Installation Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Engineer; the Installation Contractor will reschedule the test and the Installation Contractor shall re-test.
 - 3. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
 - 4. Installation Contractor shall bear the cost of Buyer and Engineer's personnel time witnessing re-testing.
- E. Functional Test Procedures:
 - 1. Some test procedures are included in the Contract Documents; where Functional Test procedures are not included in the Contract Documents, test procedures will be determined by the Engineer and Contractor.

2. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Engineer is Functional Testing.
- F. Deferred Functional Tests: Some tests may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these tests remains the Installation Contractor's responsibility regardless of timing.

3.04. FUNCTIONAL TEST PROCEDURES – GENERAL

- A. Provide skilled technicians to execute starting of equipment and to execute the Functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.
- B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and conditions necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.
- C. Manual Testing: Use hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the “observation”).
- D. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example, apply hot air to a space sensor using a hair dryer to see the response in a VAV box.
- E. Simulating Signals: Disconnect the sensor and use a signal generator to send an amperage, resistance or pressure to the transducer and control system to simulate the sensor value.
- F. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.
- G. Indirect Indicators: Remote indicators of a response or condition, such as a reading from a control system screen reporting a damper to be 100 percent closed, are considered indirect indicators.
- H. Monitoring: Record parameters (flow, current, status, pressure, etc.) of equipment operation using dataloggers or the trending capabilities of the relevant control systems; where monitoring of specific points is called for in Functional Test Procedures:
 1. All points that are monitored by the relevant control system shall be trended by Installation Contractor; at the Engineer's request, Installation

Contractor shall trend up to 20 percent more points than specified at no extra charge.

2. Other points will be monitored by the Installation Contractor using dataloggers.
3. At the option of the Engineer, some control system monitoring may be replaced with datalogger monitoring.
4. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
5. Graphical output is desirable and is required for all output if the system can produce it.
6. Monitoring may be used to augment manual testing.

3.05. PERFORMANCE AND OPERATIONAL TESTING

- A. Installation Contractor shall supervise, control, and be responsible for the operation and maintenance of the new equipment and/or system during a period of at least three (3) days or until performance requirements are met, whichever is greater, after the written acceptance of the FT for each individual item that is placed into operation. The Installation Contractor shall remain responsible for making required changes, repairs and replacements to the installation during this period. Final written acceptance of the equipment shall not be given until after three (3) days of continuous successful operation.
- B. The POT test period will be used to develop adequate process conditions to fully establish compliance with the performance requirements of the Contract Documents.
- C. During the POT, the Contractor shall provide supervisory and appropriately licensed personnel satisfactory to the Engineer. It is the intent that during the POT period, the Buyer's personnel will become completely familiar with the operation and maintenance of the systems undergoing POT.
- D. During the POT, the Buyer will arrange to have a complement of operating personnel available, and these operators will be paid by the Buyer.

3.06. OPERATION AND MAINTENANCE MANUALS

- A. See Section 01 78 23 for additional requirements.
- B. Add design intent documentation furnished by Engineer to manuals prior to submission to Buyer.
- C. Submit manuals related to items that were commissioned to Engineer for review; make changes recommended by Engineer.
- D. Installation Contractor will add commissioning records to manuals prior to submission to Buyer.

END OF SECTION

**DIVISION 23
HEATING,
VENTILATION,
AND
AIR-CONDITIONING
(HVAC)**

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SECTION 23 74 00

PACKAGED AIR HANDLING UNITS

PART 1 GENERAL

1.01 GENERAL

- A. Furnish packaged rooftop air handling units as specified in this Section.

PART 2 PRODUCTS

2.01 PACKAGED ROOFTOP AIR HANDLING UNITS

- A. Air handling units shall be Trane, Daikin, Carrier, or approved equal, horizontal, roof mounted air handling units. Unit shall be factory assembled and tested, piped, internally wired, fully charged with R-410A compressor oil, factory run tested and shipped in one piece. Units shall be direct expansion cooling only. Filters, outside air system, exhaust air system, non-fused disconnect switches and all operating and safety controls shall be furnished factory installed. All units shall be UL listed to US and Canadian Safety Standards. Cooling capacity shall be rated in accordance with AHRI Standard 360. All units shall have decals and tags to aid in service and indicate caution areas. Electrical diagrams shall be printed on long life water resistant material and shall ship attached to control panel doors.
1. Unit Casings:
 - a. Exterior panels shall be zinc-coated, galvanized steel painted with a slate gray air-dry finish durable enough to withstand a minimum of 672 hours consecutive salt spray application in accordance with ASTM B117.
 - b. Double wall construction steel hinged access doors shall provide access to filters, return/ exhaust air, and supply fan section. Refrigeration components, and compressor shall be accessible through removable panels as standard. Unit control panel shall be accessible through hinged access panels as standard. All access doors and panels shall have neoprene gaskets.
 - c. Double wall construction with interstitial insulation.
 - d. Unit base shall be watertight with heavy gauge formed load-bearing members, formed recess and curb overhang.
 - e. Unit lifting lugs shall accept chains or cables for rigging.
 2. Compressors:
 - a. The compressor shall be industrial grade, direct drive 3600 RPM maximum speed scroll type. The motor shall be suction gas-cooled hermetic design. Compressor shall have centrifugal oil pump with dirt separator, oil sight glass, and oil charging valve. Compressor shall also be provided with thermostatic motor winding temperature control to protect against excessive motor temperatures resulting from over-/under-voltage or loss of charge, high and low pressure cutouts, and reset relay.
 3. Air-Cooled Condenser Coil:

- a. Condenser coils shall have all aluminum microchannel coils. All coils shall be leak tested at the factory to ensure pressure integrity. The condenser coil shall be pressure tested to 650 psig. Subcooling circuit(s) shall be provided as standard.
 - b. Provide one (1) extra set of filter media for each unit.
- 4. Air-Cooled Condenser Fans and Motors:
 - a. All condenser fans shall be vertical discharge, direct drive fans, statically balanced, with aluminum blades and zinc plated steel hubs. Condenser fan motors shall be three-phase motors with permanently lubricated ball bearings, built-in current and thermal overload protection and weather-tight slingers over motor bearings.
- 5. Supply Fan:
 - a. Supply fans shall have two double-inlet, forward-curved fans mounted on a common shaft with fixed sheave drive. Fans shall be factory-tested to reach rated rpm before the fan shaft passes through first critical speed. Fan shaft shall be mounted on two grease lubricated ball bearings designed for 200,000 hours average life. Fan motor and fan assembly shall be mounted on common base to allow consistent belt tension with no relative motion between fan and motor shafts. Entire assembly shall be completely isolated from unit and fan board by two-inch nominal deflection spring isolators.
 - b. Provide with extended grease lines to allow greasing of bearings from unit filter section.
 - c. Supply fan motors shall be open drip-proof. All supply fans shall be dynamically balanced in factory.
- 6. Controls:
 - a. Variable Air Volume (VAV) discharge temperature control with Variable Frequency Drives (VFD) with bypass.
 - b. Controls shall provide all necessary controls to operate a VAV rooftop from the discharge air temperature, including discharge air microprocessor controller and discharge air sensor. The microprocessor controller shall coordinate the economizer control and the stages of cooling with discharge air temperature reset capabilities. Option shall include factory installed and tested VFDs to provide supply fan motor speed modulation. VFD shall receive 0-10 VDC from the unit microprocessor based upon supply static pressure and causes the drive to accelerate or decelerate as required to maintain the supply static pressure setpoint.
 - c. Modulating relief fan VFD shall be modulated in response to building pressure. A differential control system shall use differential pressure transducer to compare indoor building pressure to outdoor ambient atmospheric pressure. The exhaust fan shall be turned on when required to lower building static pressure setpoint.
 - d. Controls shall be factory-installed and mounted in the main control panel. All factory-installed controls shall be fully commissioned at the factory. The unit shall have a human interface panel with a 16

- key keypad, a 2 line x 40 character display to provide the operator with full adjustment and display of control data functions. The unit controls shall be used as a stand-alone controller.
- e. Provide with a remote human interface panel that performs all the same functions as the unit mounted human interface panel, except for service mode. Remote panel shall include a 2 line x 40 character display, red LED to indicate an alarm condition, 16 key keypad.
7. Economizer:
- a. Economizer option shall be operated through the primary temperature controls to automatically utilize outside air for "free" cooling. Automatically modulated return and outside air dampers shall maintain proper temperature in the conditioned space. Economizer shall be equipped with an automatic lockout when the outdoor high ambient temperature is too high for proper cooling. Minimum position control shall be standard and adjustable at the user interface or through the building management system. A spring return motor shall ensure closure of OA dampers during unit shutdown or power interruption. Mechanical cooling shall be available to aid the economizer mode at any ambient.
 - b. Economizer return and outside air dampers shall be provided with horizontal airfoil blades and spring-return actuators. The economizer shall have a functional life of 60,000 opening and closing cycles. Dampers shall be AMCA 511 Class 1A certified with a maximum leakage rate of 3 CFM/sq-ft at 1.0 in WC pressure differential thus exceeding requirements of ASHRAE 90.1-2013, California Title 24-2013, and IECC-2012.
 - c. Two enthalpy sensors shall be provided to compare total heat content of the indoor air and outdoor air to determine the most efficient air source when economizing.
8. Electrical:
- a. Unit shall be completely factory wired with necessary control and contactor pressure lugs or terminal block for power wiring. Units shall be provided with a non-fused disconnect with external handle for safety.
 - b. Unit shall operate from a single point 460 volt, 3 phase, 60Hz power supply.
 - c. Provide with high fault SCCR option that provides a 65,000A SCCR.
 - d. Provide with phase monitor to protect equipment from phase loss, phase reversal and phase imbalance. Any fault condition shall produce a failure indicator LED and send the unit into an auto stop condition.
 - e. Factory powered 15A GFI convenience outlet.
9. Filters:
- a. Two-inch high efficiency media filters with average dust spot efficiency of 25-35 percent and an average arrestance in excess of 90 percent when tested in accordance with ASHRAE 52-76.

- b. Filters shall mount integral within the unit and be accessible by hinged access panels.
- 10. Relief Fan:
 - a. Two, double-inlet, forward curved fans shall be mounted on a common shaft with fixed sheave drive. All fans shall be dynamically balanced and tested in factory before being installed in unit. Exhaust fan shall be test run as part of unit final run test. Unit shall reach rated rpm before fan shaft passes through first critical speed. Fan shaft shall be mounted on two grease lubricated ball bearings designed for 200,000-hour average life.
 - b. Provide with extended grease lines to allow greasing of bearings from unit filter section.
 - c. Fan motor and assembly shall be mounted on common base to allow consistent belt tension with no relative motion between fan and motor shafts. Entire assembly shall be completely isolated from unit and fan board by spring isolation.
- 11. Refer to AHU Schedule for Air handling unit performance capacities and characteristics shall be as scheduled on the Drawings.
- 12. The air handling units shall be put into operation under the direct supervision of the manufacturer's factory-trained service engineer and his services shall be paid for by the Mechanical Contractor. The service engineer shall check the calibration and control settings and shall verify the proper operation of all safety and operating controls. He shall instruct the Owner's designated Representative on the operation of the unit and its control system.

PART 3 EXECUTION

3.01 ROOFTOP UNIT INSTALLATION

- A. Install equipment in strict accordance with manufacturer's recommendations.
- B. Level and align rooftop unit in accordance with the manufacturers published data, after leveling and aligning, adequately bolt the unit to its roof curb.

3.02 INSTALLATIONS SPECIFIED UNDER OTHER SECTIONS

- A. Motor starting switch and power wiring to air handling units will be provided under Division 26, unless otherwise specified.

END OF SECTION 23 74 00

ROOFTOP AIR HANDLING UNIT SCHEDULE

			MECHANICAL																							
EQUIP NO.	SERVES	ELEVATION	COOLING COIL	DESIGN SUPPLY CFM	DESIGN OA CFM	MAX OA CFM	FILTERS TYPE & EFFICIENCY	SUPPLY FANS							RETURN/RELIEF FANS							ELECTRICAL				NOTES
								MAX CFM	EXT SP (IN)	BLADE TYPE	FAN RPM	BHP	VAV CONTROL	MOTOR HP	MAX CFM	EXT SP (IN W.C.)	BLADE TYPE	FAN RPM	VAV CONTROL	MOTOR HP	VOLTAGE & PHASE	MCA	MOP	SCCR		
RTU-1	PUMP ROOM	3100	CC-1	22,000	0	22,000	2" MERV 8	22,000	0.75	FC	1763	20.04	VFD	30	22,000	0.5	FC	605	VFD	10	460/3/60	150	175	65,000A	1-7	
RTU-2	ELECTRICAL ROOM	3100	CC-2	20,000	0	20,000	2" MERV 8	20,000	0.75	FC	1637	16.84	VFD	30	20,000	0.5	FC	615	VFD	10	460/3/60	144	175	65,000A	1-5,8,9	

NOTES:

1. SINGLE POINT ELECTRIC CONNECTION WITH READILY ACCESSIBLE NON-FUSED DISCONNECTING MEANS.
2. W/ INTERNAL VIBRATION ISOLATION
3. ALL DAMPERS TO BE ACTUATED
4. W/ EXTENDED LUBE LINES
5. W/ 14" ROOF CURB
6. RIGHT SIDE SUPPLY AIR DISCHARGE (WHEN LOOKING IN DIRECTION OF AIRFLOW)
7. END RETURN AIR INLET
8. BOTTOM SUPPLY AIR DISCHARGE
9. BOTTOM RETURN AIR INLET
10. FACTORY POWERED 15A GFI CONVENIENCE OUTLET

RTU COOLING COIL SCHEDULE

EQUIP NO.	AHU NO.	MAX CFM	NO. OF COILS	FLUID	ROWS	AIR DATA					SUCTION TEMP	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	NOTES	
						FACE		EAT (F)		LAT (F)					
						VELOCITY (FPM)		DB	WB	DB					WB
CC-1	RTU-1	22,000	1	R410-A	4	579		85.0	63.0	57.4	52.4	45.0	676.4	620.8	
CC-2	RTU-2	20,000	1	R410-A	4	526		85.0	63.0	56.6	51.9	45.0	637.6	590.9	

NOTES: