

SPECIFICATIONS & CONTRACT DOCUMENTS



CITY OF SANDY

Bull Run Supply Pump Station Pump and Pump Can Procurement

VOLUME No. 1 of 1
CITY OF SANDY PROJECT NO. W23001

November 2024



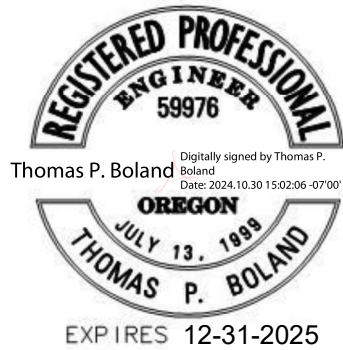
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SECTION 00 01 07 - SEALS PAGE
FOR
BULL RUN SUPPLY PUMP STATION
PUMP AND PUMP CAN PROCUREMENT
FOR
CITY OF SANDY

See Table of Contents for author of each specification section, identified by author's initials as follows:

AUTHOR'S NAME = INITIALS

THOMAS P. BOLAND TPB
EDWARD P. KREIPE EPK



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BULL RUN SUPPLY PUMP STATION
PUMP AND PUMP CAN PROCUREMENT
FOR
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City of Sandy

BID ADVERTISEMENT DATE:
November 1, 2024

INVITATION TO BID ON

BULL RUN SUPPLY PUMP STATION PUMP AND PUMP CAN PROCUREMENT

PROJECT No. W23001

Address proposals to:

AJ Thorne, Assistant Public Works
Director
City of Sandy
39250 Pioneer Boulevard
Sandy, OR 97055

Submit proposals electronically to:

portia.inman@stantec.com

Refer all technical questions in writing to:

Eddie Kreipe, P.E.
Conсор
One Columbia Street, Suite 1700
Portland, Oregon 97204
Phone: 503-989-2414
Email: eddie.kreipe@Consoreng.com

**All questions must be received
by 5:00 PM, November 14, 2024**

**Refer all requests to receive
Contract Documents and be placed
on the bidder's list by email to:**
ajthorne@ci.sandy.or.us

Bids due: By 2:00 PM, November 26, 2024.

Bid proposal packets shall be submitted electronically and shall include one (1) original copy of the bid proposal packet in PDF not exceeding 15 MB via email to portia.inman@stantec.com, no later than 2:00 PM, November 26, 2024. Bids must include the Bid Package Pump and Pump Barrel (Can) Submittal as described in Section 43 21 27 Vertical Turbine Pumps, Can Type, Open Lineshaft. The City of Sandy (Owner) reserves the right to reject any or all bid proposals or cancel this solicitation in the best interests of the Owner.

SECTION 00 01 11 - INVITATION TO BID

Bull Run Supply Pump Station Pump and Pump Can Procurement

Bid proposal packets shall be submitted electronically, and shall include one (1) original copy of the bid proposal packet in PDF not exceeding 15 MB via email to portia.inman@stantec.com, no later than 2:00 PM, November 26, 2024. No bids will be received after **2:00 PM, November 26, 2024**. At **2:00 PM, November 26, 2024**, in person and via Zoom Meeting, bids will be publicly opened and read. The Owner reserves the right to change the date and time for opening bids. All bidders will receive an emailed invite to attend the Zoom Meeting.

The City of Sandy desires to procure two (2) vertical turbine pumps and four (4) vertical turbine pump cans that will be incorporated into their planned Bull Run Supply Pump Station. The four pump cans will be installed by the Portland Water Bureau's (PWB) construction contractor that is currently constructing the Water Bureau's new water filtration facility located along Carpenter Lane in Multnomah County. The City and the PWB have an Inter-Governmental Agreement in place for the PWB's contractor to complete the installation of the four pump cans, along with some other miscellaneous suction piping for the City at their proposed Bull Run Supply Pump Station located on PWB's site. The two vertical turbine pumps will be installed by the City's construction contractor during the full construction of the pump station project that is anticipated to go out for public bids in spring of 2025.

This Project is anticipated to be partially funded by the United States Environmental Protection Agency (EPA)'s Water Infrastructure Finance and Innovation Act (WIFIA). As such, all work on this Project is subject to the Federal American Iron and Steel (AIS) requirements, as well as all other WIFIA requirements. Materials specified to be incorporated into this Project shall meet the AIS requirement of P.L. 113-76, Consolidated Appropriations Act, 2014. The Contractor awarded the Project shall adhere to all requirements stated within the Specifications and other WIFIA requirements. Each bid form shall include specific acknowledgment, in the space provided, of bidder's understanding of the WIFIA funding requirements. Failure to so acknowledge may result in the bid being rejected as not responsive.

Copies of the Invitation to Bid and Contract Documents for this equipment procurement may be obtained electronically only. Plans and Specifications are available for download at no charge from the City's website at <https://www.ci.sandy.or.us/rfps>. Each bid form shall include specific acknowledgment, in the space provided, of receipt of all addenda issued by the Owner during the bidding period. Failure to so acknowledge may result in the bid being rejected as not responsive.

The Project is a public works project as defined in ORS 279C. Prevailing Wage Rates and Davis-Bacon Wage Rates will apply for this Project. Bidders shall comply with the requirements of those statutes and codes.

The Owner reserves the right to reject any and all bids not in compliance with all prescribed public bidding procedures and requirements and to reject for good cause any or all bids upon a finding of the Owner that it is in the public interest to do so. Bidders are solely responsible for all of their costs incurred in preparing and submitting a bid.

Bidders must be a registered Supplier by the State of Oregon, hold all other necessary licenses, and be qualified in accordance with the applicable portions of ORS 279C in order to enter into a contract with the Owner for material procurement agreement project in Oregon.

CITY OF SANDY
AJ Thorne, Assistant Public Works Director
Dated: November 1, 2024

BID PROPOSAL INSTRUCTIONS AND PROJECT SCHEDULE

Bid Proposal Title: Bull Run Supply Pump Station Pump and Pump Can Procurement

SCHEDULE OF EVENTS:

Release Invitation to Bid documents	November 1, 2024
Deadline to Ask Questions	November 14 2024, at 5:00 PM
Deadline to Protest Invitation to Bid Materials	November 15, 2024, at 5:00 PM
Deadline for Proposal Submission/Bid Opening	November 26, 2024, at 2:00 PM
Notice of Intent to Award Distributed (tentative)	December 2, 2024
City of Sandy Approval (tentative)	January 6, 2025
Notice of Award Distributed (tentative)	January 7, 2025
Commencement of Contract (tentative)	November 21, 2025
Required Delivery of Pump Cans	March 1, 2025

City of Sandy reserves the right to modify this schedule of events at any time in the best interests of the City of Sandy. Any changes to the schedule occurring before bid opening will be issued within an addendum.

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**SECTION 00 21 13.13 - INSTRUCTIONS TO BIDDERS
FOR
BULL RUN SUPPLY PUMP STATION
PUMP AND PUMP CAN PROCUREMENT
FOR
CITY OF SANDY**

PART 1 DEFINED TERMS

- 1.1 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. Apparent Low Bidder – that Bidder whose Bid as offered in the Bid Form represents the lowest total as determined by the Lump Sum Bid.
 - B. First-Tier Subcontractor - an individual, firm or corporation having a direct contract with the Seller for furnishing labor or furnishing labor and materials in connection with the performance of a part of the work and will have a contract value that is equal to or greater than five percent of the total bid project or \$15,000, whichever is greater, or \$350,000 regardless of the percentage of the total project bid.
 - C. Issuing Office—The office and/or website from which the Bidding Documents are to be issued, and which registers plan holders.
 - D. Lump Sum Bid – Bid for Lump Sum Work including indicated Base Bid Major Equipment items listed on the Major Equipment Schedule.
 - E. Successful Bidder – the lowest, responsible Bidder with a responsive Bid to whom Buyer (on basis of Buyer’s evaluation as hereinafter provided) makes an award.

PART 2 BIDDING DOCUMENTS

- 2.1 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder’s responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.2 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.

- 2.3 Copies of the Invitation to Bid and Contract Documents for this equipment procurement may be obtained electronically only. Plans and Specifications are available for download at no charge from the City's website at <https://www.ci.sandy.or.us/rfps>.
- 2.4 Bids shall be submitted on unaltered Bid Forms furnished by the Buyer, or on exact duplicates thereof. Bids shall be made in accordance with all instructions, requirements and specifications to be considered. All blanks on Bid Forms shall be completed in ink or typewritten. Alterations and erasures shall be initialed by the signatory of the Bid. Bidder shall not make their Bid contingent upon the Buyer's acceptance of specifications, plans or contract terms that conflict with or are in addition to those in the Invitation to Bid documents.
- 2.5 Bids shall be digitally signed or a copy signed in ink, with the signer's name typed or printed in the space provided. Where Bidder is a corporation, Bids shall be signed with the legal name of the corporation and the legal signature of an officer authorized to bind the corporation to a contract. At least one Bid submitted by Bidder must bear an original signature.
- 2.6 Electronic Documents
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format, .pdf). It is the intent of the Engineer and Buyer that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Buyer and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Bidder's means of reproduction of such documents, the Buyer and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.
- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.4.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.
- C. After award and per the process described in Section 01 33 00 - Submittals of the technical specifications, Engineer can provide Electronic Documents in native file formats that were developed by Engineer as part of the Project design process for the use of the Successful Bidder (Supplier).
1. Release of such documents will be solely for the convenience of the Supplier. No such document is a Contract Document.
2. Supplier is not entitled to rely on the availability or accuracy of such information in the preparation of its Bid or pricing of the Work. In all cases, the Supplier shall take appropriate

measures to verify that information provided in Electronic Documents is appropriate and adequate for the Supplier's specific purposes.

3. In no case will the Seller be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related Electronic Documents in native file format.

PART 3 BIDDER RESPONSIBILITY CRITERIA AND OTHER REQUIREMENTS

3.1 Bidder Responsibility. It is the intent of Buyer to award a contract to the lowest responsible Bidder. Before award, the Bidder must meet the following Bidder responsibility criteria to be considered a responsible Bidder. The Bidder may be required by the Buyer to submit documentation demonstrating compliance with the criteria. The Bidder must fully complete and return the Bidder Responsibility Document in order for the Buyer to determine its responsibility. Submission of a signed Bid shall constitute approval for the Buyer to obtain any information that the Buyer deems necessary to conduct the evaluation.

3.2 Request to Change Criteria During Bidding:

Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility Package required in these bidding documents may make or submit requests to the Buyer to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria that will make the criteria more relevant and/or less restrictive of competition. Bidders must submit such requests to the Buyer and Engineer no later than ten (10) business days prior to the bid submittal deadline and address the request to AJ Thorne, Assistant Public Works Director at ajthorne@ci.sandy.or.us and Eddie Kreipe, P.E. at eddie.kreipe@consoreng.com.

PART 4 BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

4.1 Express Representations and Certifications in Bid Form, Agreement

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

PART 5 INTERPRETATIONS AND ADDENDA

5.1 Buyer on its own initiative or upon request from a Bidder may issue Addenda to clarify, correct, supplement, or change the Bidding Documents. All Bidder questions must be received by the deadline identified in the Invitation to Bid schedule.

- 5.2 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Buyer and Engineer in writing and address the request to AJ Thorne, Assistant Public Works Director at ajthorne@ci.sandy.or.us and Eddie Kreipe, P.E. at eddie.kreipe@consoreng.com.
- 5.3 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven (7) days prior to the date for opening of Bids may not be answered.
- 5.4 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

PART 6 BID SECURITY

- 6.1 A Bid must be accompanied by Bid Security made payable to Buyer in an amount of no more than (10) percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid Bond issued by a surety meeting the requirements of Paragraph 6.01 of the General and Supplementary Conditions. Such Bid Bond will be issued in the form included in the Bidding Documents.
- A. Bidder shall deliver to the Buyer a hard copy of the original Bid Bond within 48 hours of the Bid Opening.
- 6.2 The Bid Security of the Apparent Low Bidder will be retained until Buyer awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within fifteen (15) days after the Notice of Award, Buyer may consider Bidder to be in default, annul the Notice of Award, and the Bid Security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond. Such forfeiture will be Buyer's exclusive remedy if Bidder defaults.
- 6.3 The Bid Security of other Bidders that Buyer believes to have a reasonable chance of receiving the award may be retained by Buyer until the earlier of ten (10) days after the Effective Date of the Contract or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 6.4 Bid security of other Bidders that Buyer believes do not have a reasonable chance of receiving the award will be released within seven (7) days after the Bid opening.

PART 7 CONTRACT TIMES

- 7.1 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 7.2 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

PART 8 MATERIAL & EQUIPMENT

- 8.1 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Supplier to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 8.2 All prices that Bidder sets forth in its Bid will be based on the presumption that the Supplier will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

PART 9 PREPARATION OF BID

- 9.1 The Bid Form is included with the Bidding Documents. All blanks on the Bid Form must be completed. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and price item listed therein.
- 9.2 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a copy of the Bid Form from the Electronic Documents version of the Bidding Documents. The Bid Form must be clearly legible and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Buyer reserves the right to accept Bid Forms which nominally vary in appearance from the original version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 9.3 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature). The corporate address and state of incorporation must also be shown.
- 9.4 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature). The official address of the partnership must be also shown.
- 9.5 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person. The state of formation of the firm and the official address of the firm must also be shown.
- 9.6 A Bid by an individual must show the Bidder’s name and official address.
- 9.7 A Bid by a joint venture must be executed by an authorized representative in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must also be shown.
- 9.8 All names must be printed below the signatures.
- 9.9 Bidder, at City’s request, must provide evidence of Bid signatory’s authority to authority to sign the Bid Form.

- 9.10 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 9.11 Postal and email addresses and telephone number for communications regarding the Bid must be shown.
- 9.12 Work to be performed under the contract will not require the Bidder or any subcontractors to be licensed for asbestos abatement work under ORS 468A.720.
- 9.13 The Bid must include the **Bid Package Pump and Pump Barrel (Can) Submittal** as described in Section 43 21 27 Vertical Turbine Pumps, Can Type, Open Lineshaft.

PART 10 BASIS OF BID

10.1 Unit Price Bid

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

PART 11 SUBMITTAL OF BID

- 11.1 The Bid Form, Bid Security and the other documents required are to be submitted under the terms of Article 2 of the Bid Form.
- 11.2 Bids will only be accepted electronically. Bids must be received no later than the date and time prescribed and at the place indicated in the Invitation to Bid.
- 11.3 Bids must include the **Bid Package Pump and Pump Barrel (Can) Submittal** as described in Section 43 21 27 Vertical Turbine Pumps, Can Type, Open Lineshaft.
- 11.4 Bids received after the date and time prescribed for the submission of bids, or not submitted at the correct location or in the designated manner, will not be accepted.
- 11.5 Bidder shall complete and submit the following attachments with its Bid, or within the time required after the published bid submittal time (consistent with ORS 279C):
 - A. Bid Security

PART 12 MODIFICATION AND WITHDRAWAL OF BID

- 12.1 A submitted electronic Bid may be withdrawn prior to the date and time for the opening of Bids.
- 12.2 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.1 and submit a new Bid prior to the date and time for the opening of Bids.
- 12.3 If within three (3) hours after Bids are opened any Bidder files a duly signed written notice with Buyer and promptly thereafter demonstrates to the reasonable satisfaction of Buyer that there was a material and substantial mistake in the preparation of its Bid, the Bidder may request to withdraw its Bid, and if accepted, Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

PART 13 OPENING OF BIDS

- 13.1 Bids will be opened at the time and place indicated in the Invitation to Bid and, unless obviously non-responsive, announced as indicated in the Invitation to Bid. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

PART 14 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

PART 15 EVALUATION OF BIDS AND AWARD OF CONTRACT

- 15.1 Buyer reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Buyer also reserves the right to waive immaterial irregularities as an informality. Irregularities involving price, time, or changes in the Work are not generally material.
- 15.2 Buyer will reject the Bid of any Bidder that Buyer finds, after reasonable inquiry and evaluation, to not be responsible.
- 15.3 Buyer reserves the right to reject any Bid not in compliance with all prescribed public bidding procedures and requirements.
- 15.4 Buyer reserves the right to reject Bids based upon Buyer's finding that the Bidder (a) has been declared ineligible under ORS 279C.860 by the Commissioner of Bureau of Labor and Industries; or
- 15.5 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Buyer or Engineer, then Buyer will reject the Bid as nonresponsive.
- 15.6 If, at the time the contract is to be awarded, the total of the lowest acceptable Bid exceeds the funds then estimated by the Buyer as available, the Buyer may reject all Bids or take such other action that best serves the Buyer's interests.

15.7 If Buyer awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

15.8 If two or more Bidders quote identical amounts for the same Work, Buyer may award the contract by drawing lots between such Bidders or by such other means as it deems appropriate.

15.9 Buyer may return the Bids unopened, if only one Bid is received.

15.10 Evaluation of Bids

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

15.11 In evaluating whether a Bidder is responsible, Buyer will consider the qualifications of the Bidder as discussed in Paragraph 3.2.

15.12 Buyer may conduct such investigations as Buyer deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

PART 16 BONDS AND INSURANCE

16.1 Article 6 of the General and Supplementary Conditions, as may be modified by the Supplementary Conditions, sets forth Buyer's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Buyer, it must be accompanied by required bonds and insurance documentation.

16.2 Part 8, Bid Security, of these Instructions, addresses the requirements for providing bid bonds as part of the bidding process.

PART 17 SIGNING OF AGREEMENT

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

PART 18 FUNDING

18.1 The work performed for this project is subject to the wage requirements of ORS 279C.800 and the Davis-Bacon Act. Work performed on the project will be subject to the higher of prevailing state or federal Davis-Bacon wage rates.

18.2 The goods and services provided for this project are being funded with monies made available by the Special Public Works Fund (SPWF) and the Water Infrastructure Finance and Innovation Act (WIFIA) which contains provisions commonly known as "American Iron and Steel;" that requires all of the

iron and steel products used in the project be produced in the United States (“American Iron and Steel Requirements”).

PART 19 PROTESTS

19.1 Solicitation Protest.

- A. Any Bidder may submit a protest of solicitation terms and conditions, in writing, in accordance with OAR 137-049-0260 to AJ Thorne at ajthorne@ci.sandy.or.us. To be considered, the protest must be received within 24 hours following the question deadline identified in the Invitation to Bid schedule. The protest shall include the legal and factual grounds for the protest, a description of the resulting prejudice to the Bidder if the protest is not granted, and a statement of the relief or changes proposed.
- B. The Buyer shall promptly respond to each properly-submitted written protest. Where appropriate, the Buyer will issue ITB revisions via email.
- C. Failure to protest solicitation terms and conditions, contract terms and conditions or specifications, as indicated in this section, precludes appeal or protest of a decision to award based upon such solicitation terms and conditions, contract terms and conditions, or specifications.

19.2 Addenda Protest. Requests for clarification, requests for change and protests of Addendum must be received by the time and date specified in the Addendum or they will not be considered.

19.3 Protest of Intent to Award.

- A. Adversely affected or aggrieved Bidders shall have seven (7) calendar days from the date of the Notice of Intent to Award within which to file a written protest of award. Protests received after that date will not be considered. Protests must specify the grounds upon which the protest is based. Protests must be emailed to AJ Thorne at ajthorne@ci.sandy.or.us.
- B. In order to be an adversely affected or aggrieved Bidder, the Bidder must claim to be eligible for award of the contract as the lowest responsible and responsive Bidder and that any and all lower Bids are ineligible to receive contract award. An actual Bidder who is adversely affected or aggrieved by the award of the contract to another Bidder may protest award, in writing, within the timeline established. The written protest shall state the grounds upon which the protest is based. No protest of award shall be considered after the deadline.
- C. Pursuant to OAR 137-049-0260, no protest against award shall be considered because of the content of Bid Specifications, Plans, or contract terms after the deadline established for submitting protests of Bid Specifications, Plans or contract terms.
- D. The Project Manager will respond in writing to intent-to-award protests submitted by adversely-affected or aggrieved Bidders. The Buyer may also respond to intent-to-award protests submitted by other Bidders for purposes of clarification. However, any response provided by the Buyer is not intended to, and shall not in and of itself constitute, confirmation that the Bidder is, in fact, adversely affected or aggrieved, and therefore entitled to protest an intent to award, or that the protest was timely filed.

PART 20 ATTACHMENTS

20.1 The attachments listed below and following "END OF SECTION" are part of this Instructions to Bidders:

- A. Certification of Employee Drug Testing Program – to be completed and submitted with Bid Proposal
- B. Confidentiality Statement

END OF SECTION

CERTIFICATION OF EMPLOYEE DRUG-TESTING PROGRAM

Bidder Company Name: _____

Address: _____

The following information and **signature** must be provided **by the company which provides employee drug-testing services** to the company submitting this bid proposal, **not** by the bidder.

I hereby attest that my company provides employee drug-testing services to the firm submitting this bid proposal, consistent with ORS 279C.505(2) and the applicable administrative rules.

Drug-Testing Company Name: _____

Address: _____

Drug-Testing Company Signature: _____

Printed Name: _____

Title: _____

Telephone: _____

CONFIDENTIALITY STATEMENT

The City of Sandy abides by the public records laws of the State of Oregon. As such, proposal documents are generally considered to be a matter of public record after the contract for work has been awarded. Information in a proposal may or may not be considered to be exempt from public disclosure based on the following:

- Trade secrets as identified in ORS 192.345(2);
- Information submitted in confidence as identified in ORS 192.355(2).

To the extent of the law, the City will endeavor to keep information confidential if the proposer marks the subject information as confidential. If a proposal contains any information that the Proposer believes is exempt from disclosure under the various grounds specified in the Oregon Public Records Law, the Proposer must clearly designate each such portion of its proposal as exempt at the time of proposal submission, along with a justification and citation to the legal authority relied upon. Identifying the proposal, in whole, as exempt from disclosure is not acceptable. Failure to identify specific portions of the proposal as exempt shall be deemed a waiver of any future claim of that information as exempt.

The City will make available to any person requesting information, through the City processes for disclosure of public records, any and all information submitted as a result of this RFP not exempted from disclosure without obtaining permission from any Proposer to do so. City may also, in its sole discretion, elect to publish all such information at any time, regardless of whether or not a public records request has been received. However, if a public records request is made for material marked by the Proposer as exempt, the City will attempt to notify the impacted Proposer prior to any release of the material. Application of the Oregon Public Records Law by the City will determine whether any information is actually exempt from disclosure. The City accepts no liability for the release of any information submitted.

**SECTION 00 41 43.01 - BID PROPOSAL
FOR
BULL RUN SUPPLY PUMP STATION
PUMP AND PUMP CAN PROCUREMENT
FOR
CITY OF SANDY**

THIS BID IS SUBMITTED TO:

City of Sandy
39250 Pioneer Boulevard
Sandy, OR 97055

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the Buyer in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Advertisement, Invitation to Bid and Instructions to Bidders, including without limitations those dealing with the disposition of Bid security. This 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 ten (10) days after the date of Buyer's Notice of Intent to Award.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:
 - a. Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt of all which is hereby acknowledged: (List Addenda by Addendum Number)

Addendum No. <_____> through Addendum No. <_____>.
 - b. Bidder is a resident Bidder in the State of Oregon as defined in ORS 279A.120.

(Check the Appropriate Box)

 YES

 NO
 - c. Bidder has become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work;
 - d. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
 - e. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents.

- f. Bidder is aware of the general nature of Work to be performed by Buyer and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
 - g. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
 - h. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
 - i. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation 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 person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Buyer.
 - j. Bidder agrees to be bound by and will comply with and further agrees that the provisions required by ORS 279C.800 through 279C.870 and 40 U.S.C. 276(a) pertaining to prevailing wage rates, as applicable, shall be included in this contract.
 - k. Bidder agrees that if awarded the contract, Bidder will furnish to the Buyer, within ten (10) days after receiving from the Buyer Notice of Award, a signed Agreement, such Bonds, and certificates of insurance as are required by Buyer, and evidence of having obtained a \$30,000 public works bond with the Oregon Construction Contractors Board if the Project value exceeds \$100,000 and the Bidder is not exempted by the Board from the bond requirement.
 - l. Bidder agrees that if awarded the contract, the Bidder will commence the Work within ten (10) calendar days after the date of receipt of written Notice to Proceed, and that the Bidder will complete the Work within the time limits specified in the Agreement.
4. Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Schedule of Unit Price Work
For
BULL RUN SUPPLY PUMP STATION-PUMP AND PUMP CAN PROCUREMENT
For
CITY OF SANDY

Item No.	Item	Quantity	Unit	Unit Costs	Total Cost
1	Furnish and deliver two vertical turbine pumps and motors	1	LS	\$	\$
2	Furnish and deliver four vertical turbine pump cans	1	LS	\$	\$
3	Provide pump startup services	1	LS	\$	\$

Total Bid: \$ _____
 (Use words) (Use numbers)

***Abbreviations**

- LS – Lump sum
- LBS – Pounds
- CY – Cubic yards
- LF – Lineal feet
- EA – Each
- SY – Square yard

Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

Unit Prices have been computed in accordance with paragraph 10.05 of the General Conditions. Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid Items will be based on actual quantities provided, determined as provided in the Contract Documents.

LUMP SUM BID PRICE (\$ _____)
 (use words) (use figures)

5. Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with Paragraph 15.03 of the General Conditions of the Construction Contract on or before the dates or within the number of calendar days indicated in the Agreement. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.
6. The following documents are attached to and made a condition of this Bid:
 - a. Required Bid Security, in the form of < _____ > in the amount of \$< _____ > which is not more than ten percent (10%) of the total bid amount.

- b. Bid Package Pump and Pump Barrel (Can) Submittal as described in Section 43 21 27 Vertical Turbine Pumps, Can Type, Open Lineshaft.
- 7. Bidder certifies that Bidder will not discriminate against minority, women, or emerging small business enterprises in obtaining any subcontracts for this Work.
- 8. The signor certifies that he or she has knowledge regarding Bidder's payment of taxes and by signing below certifies that, to the best of his or her knowledge, Bidder is not in violation of any tax laws of the state or a political subdivision of the state, including, without limitation, ORS 305.620 and ORS chapters 316, 317 and 318.
- 9. Bidder understands that any statement or representation it makes, in response to this Invitation to Bid, if determined to be false or fraudulent, a misrepresentation, or inaccurate because of the omission of material information could result in a "claim" {as defined by the Oregon False Claims Act, ORS 180.750(1)}, made under the contract being a "false claim" {ORS 180.750(2)} subject to the Oregon False Claims Act, ORS 180.750 to 180.785, and to any liabilities or penalties associated with the making of a false claim under that Act.
- 10. Communications concerning this Bid shall be addressed to the address of Bidder indicated below.
- 11. Terms used in this Bid which are defined in the General Conditions of the Construction Contract or Instructions to Bidders will have the meanings indicated in the General Conditions of the Construction Contract or Instructions to Bidders.

SUBMITTED on _____, 20____.

If Bidder is:

An Individual

By: _____ (SEAL)
(Signature)

(Print Individual's Name)

doing business as: _____

Business address: _____

Phone No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of General Partner)

(Print General Partner's Name)

Business address: _____

Phone No.: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

By: _____ (SEAL)

(Signature of Person Authorized to Sign)

(Print Name of Person Authorized to Sign)

(Title)

(Corporate Seal)

Attest: _____

(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____

Date of Qualification to do business is: _____

A Joint Venture

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of Joint Venture Partner)

(Print Name of Joint Venture Partner)

(Title)

Business Address: _____

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of Joint Venture Partner)

(Print Name of Joint Venture Partner)

(Title)

Business Address: _____

(Each joint venturer 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

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SECTION 00 43 13 - BID BOND

Bidder Name: Address (<i>principal place of business</i>):	Surety Name: Address (<i>principal place of business</i>):
Buyer Name: <p align="center">CITY OF SANDY</p> Address: 39250 Pioneer Boulevard Sandy, OR 97055	Bid Project: Bull Run Supply Pump Station-Pump and Pump Can Procurement Bid Due Date: November 6, 2024
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder _____ <i>(Full formal name of Bidder)</i> By: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____	Surety _____ <i>(Full formal name of Surety) (corporate seal)</i> By: _____ <i>(Signature) (Attach Power of Attorney)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

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

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term “Bid” as used herein includes a Bid, offer, or proposal as applicable.

END OF SECTION

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**SECTION 00 52 43 – AGREEMENT BETWEEN BUYER AND SELLER
FOR
BULL RUN SUPPLY PUMP STATION
PUMP AND PUMP CAN PROCUREMENT
FOR
CITY OF SANDY**

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____ by and between City of Sandy, OR (hereinafter called Buyer) and _____ (hereinafter called Seller).

Buyer and Seller, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1—GOODS AND SPECIAL SERVICES

1.1 Seller shall furnish the Goods and Special Services as specified or indicated in the Contract Documents.

ARTICLE 2—WORK

2.1 The Work contemplated consists of furnishing, delivering, and providing start-up services for two (2) vertical turbine pumps and four (4) vertical turbine pump cans that will be incorporated into their planned Bull Run Supply Pump Station. The four pump cans will be installed by the Portland Water Bureau's (PWB) construction contractor that is currently constructing the Water Bureau's new water filtration plant facility located along Carpenter Lane in Multnomah County. The City and the PWB have an Inter-Governmental Agreement in place for the PWB's contractor to complete the installation of the four pump cans, along with some other miscellaneous suction piping, for the City at their proposed Bull Run Supply Pump Station located just north of the PWB Water Bureau's site. The two vertical turbine pumps will be installed by the City's construction contractor during the full construction of the pump station project that is anticipated to go out for public bids in spring of 2025.

ARTICLE 3—ENGINEER

3.1 The Contract Documents for the Goods and Special Services have been prepared by Consor North America, Inc ("Engineer"), which 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 Seller's furnishing of Goods and Special Services.

ARTICLE 4—POINT OF DESTINATION

4.1 The Point of Destination is designated as: *City of Sandy Bull Run Pump Station Site, located on the north side of the PWB Bull Run Filtration Facility site, across from 35319 SE Carpenter Lane, Gresham, OR 97080.*

ARTICLE 5—CONTRACT TIMES

- 5.1 Time is of the Essence: All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 5.2 Work shall be substantially completed by the following milestones for work elements:
 - A. Substantial Completion #1: Delivery of four vertical turbine pump cans: **March 1, 2025**
 - B. Substantial Completion #2: Delivery of two vertical turbine pumps and motors: **December 1, 2025**
 - C. Substantial Completion #3: Provide startup related services: **July 1, 2026**
- 5.3 The Work shall be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **July 1, 2026**. As further identified in the General Conditions, the number of days or the dates by which Seller shall (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work shall be referred to as the “Contract Times.”

The above completion dates are based on the following:

- Notice of Award no more than 45 days after Bid Opening Date
- Buyer Signing of Agreement and Issuance of Notice to Proceed within 30 days after Notice of Award.

Where the Buyer is prevented from signing of Agreement and issuing Notice to Proceed due to a delay in receiving signed agreements, bonds, and insurance certificates from Seller in the form required by the Contract Documents, the Contract Times will not be extended.

Where the Seller is prevented from starting to perform the Work due to reasonable and documented delay in issuance of Notice to Proceed beyond the control of the Seller, the Contract Times will be extended in an amount equal to the time lost due to such delay, and such extension of the Contract Times shall be Seller’s sole and exclusive remedy for such delay.

- 5.4 *Liquidated Damages.* Buyer and Seller recognize that time is of the essence of this Agreement and that Buyer will suffer financial loss if the Work is not completed within the times specified in Paragraph 2.2 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. Buyer and Seller also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Buyer if the Work is not completed on time. Accordingly, instead of requiring any such proof, Buyer and Seller agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion:* Seller shall pay Buyer

Eight Hundred dollars (\$ 800)

for each day that expires after the time specified in Paragraph 5.2 for Substantial Completion until the Work is substantially complete.

2. *Completion of Remaining Work:* After Substantial Completion, if Seller shall neglect, refuse, or fail to complete the remaining Work within the time specified in Paragraph 5.2 for completion and readiness for final payment or any proper extension thereof granted by Buyer, Seller shall pay Buyer

Five Hundred dollars (\$ 500)

for each day that expires after the time specified in Paragraph 5.2 for completion and readiness for final payment.

ARTICLE 6—CONTRACT PRICE.

Buyer shall pay Seller for completion of the Work in accordance with the Contract Documents an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the attached Bid Proposal, said sum being

(_____) (\$ _____)(the "Contract Price").
(use words) (use figures)

ARTICLE 7—PAYMENT PROCEDURES.

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.

7.1 Seller shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

7.2 *Progress Payments; Retainage.*

A. Buyer shall make progress payments on account of the Contract Price on the basis of Seller’s Applications for Payment as follows:

1. Upon receipt of the first Application for Payment submitted in accordance with Paragraph 10.01.A.1 of the General Conditions and accompanied by Engineer’s recommendation of payment in accordance with Paragraph 10.02.A of the General Conditions, an amount equal to 15 percent of the Contract Price, less such amounts as Engineer may determine in accordance with Paragraph 10.02.A.3 of the General Conditions.
2. Upon receipt of the second such Application for Payment accompanied by Engineer’s recommendation of payment in accordance with Paragraph 10.01.A.2 of the General Conditions, an amount sufficient to increase total payments to Seller to 90 percent of the Contract Price, less such amounts as Engineer may determine in accordance with Paragraph 10.02.A.3 of the General Conditions.

7.3 *Final Payment.*

A. Upon receipt of the final Application for Payment accompanied by Engineer’s recommendation of payment, Buyer shall 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.

ARTICLE 8—INTEREST

8.1 Interest: All moneys not paid when due as provided in Article 15 of the General Conditions shall bear interest from the date payment is due at the rate set forth in ORS 279C.570.

ARTICLE 9—SELLER’S REPRESENTATIONS

9.1 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, as applicable to Seller's obligations identified in Article 1 above.
- B. If required by the Bidding Documents to visit the Point of Destination and site where the Goods are to be installed or Special Services will be provided, 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 site where the Goods are to be installed or Special Services will be provided and become familiar with and is satisfied as to the observable local conditions that may affect cost, progress, and the furnishing of the Goods and Special Services.
- C. Seller is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and the furnishing of the Goods and Special Services.
- D. Seller has carefully studied, considered, and correlated the information known to Seller; 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; information and observations obtained from Seller’s visits, if any, to the Point of Destination and site where the Goods are to be installed or Services will be provided; and any reports and drawings identified in the Bidding Documents regarding the Point of Destination and the site where the Goods will be installed or where Special Services will be provided, with respect to the effect of such information, observations, and documents on the cost, progress, and performance of Seller's obligations under the Contract Documents.
- E. 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 (if any) thereof by Engineer is acceptable to Seller.
- F. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods and Special Services.

ARTICLE 10—CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between Buyer and Seller concerning the Work consist of the following:

10.1 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to Article 3.04 of the General Conditions

10.2 This Agreement (pages 1 to ____, inclusive)

10.3 Performance Bond (pages 1 to ____, inclusive)

- 10.4 Payment Bond (pages 1 to ____, inclusive)
- 10.5 Other Bonds (pages 1 to ____, inclusive)
- 10.6 General Conditions (pages 1 to ____, inclusive)
- 10.7 Supplementary Conditions (pages 1 to ____, inclusive)
- 10.8 Specifications bearing the title Technical Specifications, as listed in table of contents thereof
- 10.9 Addenda numbers ____ to ____, inclusive.
- 10.10 Seller's Bid Proposal (pages 1 to ____, inclusive).
- 10.11 Exhibits to this Agreement (enumerated as follows):
 - A. Exhibit A-1 to Agreement between Buyer and Seller dated _____, Assignment of Contract; Consent to Assignment; and Acceptance of Assignment.
 - B. Exhibit A-2 to Agreement between Buyer and Seller dated _____, Agreement to Assignment by Seller's Surety.
 - C. Seller's Bid, solely as to the prices set forth therein (pages ____ to ____, inclusive);
 - D. Documentation submitted by Seller prior to Notice of Award (pages ____ to ____ inclusive).

The documents listed in Article 10 are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 10.

The Contract Documents may only be amended or supplemented as provided in Paragraph 3.04 of the General Conditions.

In the event of a conflict between the Contract Documents, the Contract Documents shall be given precedence in the order listed above.

ARTICLE 11—MISCELLANEOUS.

- 11.1 Terms used in this Agreement which are defined in Article I of the General Conditions will have the meanings indicated in the General Conditions and Supplementary General Conditions.
- 11.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound. 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 Laws and Regulations). Unless specifically stated to the contrary in any written consent to such an assignment, such an assignment will not release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 11.3 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.

- 11.4 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 provision.
- 11.5 By its signature on this Agreement, Seller certifies that the service or services to be performed under the Contract Documents are those of an independent Seller as defined in ORS 670.600, and that Seller is solely responsible for the work performed under the Contract Documents. Seller represents and warrants that Seller, its subSellers, employees, and agents are not "officers, agents, or employees" of the City within the meaning of the Oregon Tort Claims Act (ORS 30.260 through 30.300). Seller shall be responsible for all federal, state, and local taxes and any and all fees applicable to payments for services under this Agreement.
- 11.6 Nothing contained in these Contract Documents shall create a contractual relationship with or a cause of action in favor of a third party against City or Seller. Seller's Work under these Contract Documents shall be performed solely for City's benefit, and no other entity or person shall have any claim against Seller because of the Contract Documents for the performance or nonperformance of Work hereunder.
- 11.7 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 11.7:
- A. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - B. "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;
 - C. "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
 - D. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.
- 11.8 Entire Agreement. The Contract Documents represent the entire agreement of the parties with respect to the subject matter hereof, and supersede and replaces all prior and contemporaneous oral and written agreements with respect to such subject matter. No amendment, modification or variation of the terms and conditions of the Contract Documents shall be valid unless it is in writing and signed by all parties hereto.
- 11.9 Governing Law, Jurisdiction and Venue; Waiver of Jury Trial. The parties acknowledge that the Contract Documents have been negotiated and entered into in the State of Oregon. The parties expressly agree that the Contract Documents shall be governed by, interpreted under, and construed and enforced in accordance with the laws of the Oregon. Venue and jurisdiction for any action at law or in equity relating to this Agreement shall lie exclusively in the Circuit Court of the State of Oregon for Multnomah County, and not in any other state or federal court that may have concurrent

jurisdiction. Should any action or proceeding arising under or as a result of this Agreement proceed to court, it shall be tried without a jury.

11.10 Attorney Fees. In the event action is instituted to enforce any term of the Contract Documents, the prevailing party shall recover from the losing party reasonable attorney's fees incurred in such action as set by the Trial Court and, in the event of an appeal, as set by the Appellate Court.

11.11 Limitations

- A. Buyer and Seller waive against each other, and against the other's officers, directors, members, partners, employees, agents, consultants, and subcontractors, any and all claims for or entitlement to incidental, indirect, or consequential damages arising out of, resulting from, or related to the Contract. Upon assignment the terms of this Paragraph 11.11.A shall be binding upon the assignee with respect to Seller and assignor. The terms of this mutual waiver do not apply to or limit any claim by either Buyer or Seller against the other based on any of the following: (a) contribution or indemnification, (b) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (c) intentional or reckless wrongful conduct, or (d) rights conferred by any bond provided by Seller under this Contract.
- B. Upon assignment the terms of this Paragraph 11.11.B shall be binding upon both the assignor and assignee with respect to Seller's liability, and upon Seller with respect to both assignor's and assignee's liabilities. The terms of this mutual limitation do not apply to or limit any claim by either Buyer or Seller against the other based on any of the following: (a) contribution or indemnification with respect to third-party claims, losses, and damages; (b) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (c) intentional or reckless wrongful conduct, or (d) rights conferred by any bond provided by Seller under this Contract.

IN WITNESS WHEREOF, BUYER and SELLER have signed this Agreement in triplicate. One counterpart each has been delivered to BUYER, SELLER and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by BUYER and SELLER or identified by ENGINEER on their behalf.

This Agreement will be effective on _____, 2024 (which is the Effective Date of the Agreement).

BUYER:

SELLER:

By:

By:

Attest:

Attest:

Address for giving notices:

Address for giving notices:

(If BUYER is a public body,

attach evidence of authority
to sign and resolution or other

documents authorizing

execution of Agreement?.

Seller License No.: _____

Agent for service of process:

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

SECTION 00 61 13.13 - PERFORMANCE BOND

Seller Name: Address (<i>principal place of business</i>):	Surety Name: Address (<i>principal place of business</i>):
Buyer Name: CITY OF SANDY Mailing address (<i>principal place of business</i>): 39250 Pioneer Boulevard Sandy, OR 97055	Contract Bull Run Supply Pump Station-Pump and Pump Can Procurement Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: (<i>Date of Bond cannot be earlier than Effective Date of Contract</i>) Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16	
Surety and Seller, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Seller as Principal	Surety
By: _____ <i>(Full formal name of Seller)</i> _____ <i>(Signature)</i>	By: _____ <i>(Full formal name of Surety) (corporate seal)</i> _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Seller, Surety, Buyer, or other party is considered plural where applicable.</i>	

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 Construction Contract, which is incorporated herein by reference.

2. If the Seller performs the Construction 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 Construction Contract, the Surety's obligation under this Bond will 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 may 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 will 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 Construction Contract, but such an agreement does not waive the Buyer's right, if any, subsequently to declare a Seller Default;
 - 3.2. The Buyer declares a Seller Default, terminates the Construction Contract, and notifies the Surety; and
 - 3.3. The Buyer has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a Seller selected to perform the Construction Contract.
4. Failure on the part of the Buyer to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the 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 Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent Sellers;
 - 5.3. Obtain bids or negotiated proposals from qualified Sellers acceptable to the Buyer for a contract for performance and completion of the Construction 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 Construction 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 will not be greater than those of the Seller under the Construction Contract, and the responsibilities of the Buyer to the Surety will not be greater than those of the Buyer under the Construction 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 Construction 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 Construction 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 Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Buyer or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of 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 will be applicable.
12. Notice to the Surety, the Buyer, or the Seller must be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Buyer to the Seller under the Construction 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 Construction Contract.
 - 14.2. *Construction 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 Construction Contract.
 - 14.4. *Buyer Default*—Failure of the Buyer, which has not been remedied or waived, to pay the Seller as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Buyer and Seller.
15. If this Bond is issued for an agreement between a Seller and subcontractor, the term Seller in this Bond will be deemed to be Subcontractor and the term Buyer will be deemed to be Seller.
16. Modifications to this Bond are as follows: None

**SECTION 00 70 00
STANDARD GENERAL CONDITIONS
FOR PROCUREMENT CONTRACTS**

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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.

SECTION 00 73 45 - WIFIA REQUIREMENTS

This project is partially funded through federal funds under the Water Infrastructure Finance and Innovation Act (WIFIA). As such, attention is drawn to the following federal laws which will apply to this contract. All references to the Buyer shall be synonymous with City of Sandy, OR (City), or any of its delegates. All references to Contractor shall be synonymous with Buyer.

Item 1: Economic and Miscellaneous Authorities

1.1 Debarment and Suspension, Executive Order 12549, 51 FR 6370, February 21, 1986

Contractor certifies that it will not knowingly enter into a contract with anyone who is ineligible under the 40 CFR Part 32 to participate in the Project. Suspension and debarment information can be accessed at <http://www.sam.gov>. Contractor represents and warrants that it has or will include a term or conditions requiring compliance with this provision in all of its subcontracts under this Agreement.

1.2 New Restrictions on Lobbying, 31 USC 1352

Recipients of federal financial assistance may not pay any person for influencing or attempting to influence any officer or employee of a federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress with respect to the award, continuation, renewal, amendment, or modification of a federal grant, loan, or contract. These requirements are implemented for USEPA in 40 CFR Part 34, which also describes types of activities, such as legislative liaison activities and professional and technical services, which are not subject to this prohibition. Upon award of this contract, Contractor shall complete and submit the certification and disclosure forms pursuant to 40 CFR Part 34. Contractor shall also require all subcontractors and suppliers of any tier awarded a subcontract over \$100,000 to similarly complete and submit the certification and disclosure forms pursuant to the process set forth in 40 CFR 34.110.

Item 2: Civil Rights, Nondiscrimination, EEO Authorities

2.1 Civil Rights Obligations

Contractor shall comply with the following federal non-discrimination requirements:

- a. Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP).
- b. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities.
- c. The Age Discrimination Act of 1975, which prohibits age discrimination.
- d. Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.
- e. 40 CFR Part 7, as it relates to the foregoing.
- f. Executive Order No. 11246

2.2 Equal Employment Opportunity (EEO) Obligations Under EO 11246:

The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60). Contractor's compliance with Executive order 11246 shall be based on implementation of the Equal

Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

During the performance of this contract, the contractor agrees as follows:

- 1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- 2) The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- 3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- 4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- 5) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- 6) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- 7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- 8) The contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect

to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States. [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966–1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230, EO 13665 of April 8, 2014, 79 FR 20749, EO 13672 of July 21, 2014, 79 FR 42971]

2.3 Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) located at 41 CFR 60-4.3:

- 1) As used in these specifications:
 - a) “Covered area” means the geographical area described in the solicitation from which this contract resulted;
 - b) “Director” means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c) “Employer identification number” means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d) “Minority” includes:
 - i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- 2) Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- 3) If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
- 4) The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being

performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

- 5) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- 6) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- 7) The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by

- posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
 - k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
 - l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- 8) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions

taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

- 9) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
- 10) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
- 11) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- 12) The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- 13) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- 14) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- 15) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

2.4 Segregated Facilities, 41 CRF 60-1.8

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term "facilities," as used in this section, means waiting rooms,

work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

2.5 Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) located at 41 CFR § 60-4.2:

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Time- tables	Goals for minority participation for each trade	Goals for female participation in each trade
	Insert goals for each year ¹	6.9% ²

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

¹ Goals can be found at: https://www.dol.gov/ofccp/TAGuides/TAC_FedContractors_JRF_QA_508c.pdf

² Nationwide goal for all covered areas

2.6 Participation by Disadvantaged Business Enterprises in Procurement under EPA Financial Assistance Agreements

**Note: Minimal requirement of the WIFIA program is to incorporate six good faith efforts during contract and subcontract procurement and maintain documentation of efforts. State may require additional DBE reporting.*

Disadvantaged Business Enterprises (DBE). The contractor must ensure that the DBE's six good faith efforts are used during the procurement of subcontractors for the [Project]. The six good faith efforts are found at:

<https://www.epa.gov/grants/disadvantaged-business-enterprise-program-requirements#sixgoodfaithefforts>.

Contractor agrees to comply with the requirements of USEPA's Program for Utilization of Small, Minority and Women's Business Enterprises. The DBE rule can be accessed at www.epa.gov/osbp. Contractor shall comply with 40 CFR Section 33.301, and retain all records documenting compliance with the six good faith efforts. The Contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

2.7 Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (Effective August 13, 2020). The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115-232), at Section 889, prohibits EPA financial assistance recipients, including WIFIA borrowers, from expending loan funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in the Act, "covered telecommunications equipment or services" means:

- a) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- b) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- c) Telecommunications or video surveillance services provided by such entities or using such equipment.
- d) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Act does not prohibit:

- a) Procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements.
- b) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

Item 3: American Iron and Steel and Federal Labor Standards

3.1 American Iron and Steel Requirement

The Contractor acknowledges to and for the benefit of the City of Sandy (“Purchaser”) and the United States Environmental Protection Agency (“EPA”) that it understands the goods and services under this Agreement are being funded with monies made available by the Water Infrastructure Finance and Innovation Act program of the EPA that has statutory requirements commonly known as “American Iron and Steel” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents, warrants and covenants to and for the benefit of the Purchaser and the EPA that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the EPA. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or the EPA to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or the EPA resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EPA or any damages owed to the EPA by the Purchaser). While the Contractor has no direct contractual privity with the EPA, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the EPA is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the EPA.

3.2 Compliance with Davis Bacon and related acts

(a) In any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 C.F.R. § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, provided that such modifications are first approved by the Department of Labor):

- (1) Minimum wages.
 - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29

CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

- (A) The WIFIA assistance recipient, the City of Sandy, on behalf of the U.S. Environmental Protection Agency (EPA), shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The WIFIA assistance recipient shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the WIFIA assistance recipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent to the Administrator of the Wage and Hour Division (WHD Administrator), U.S. Department of Labor, Washington, DC 20210. The WHD Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.
- (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the WIFIA assistance recipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the WIFIA assistance recipient shall refer the questions, including the views of all interested parties and the recommendation of the WIFIA assistance recipient, to the WHD Administrator for determination. The WHD Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the WIFIA

assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.

- (D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
 - (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
- (2) Withholding. the City of Sandy, shall upon written request of the WIFIA Director or an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the WIFIA Director may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
- (3) Payrolls and basic records.
- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under

approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- (ii) {no text here}
 - (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the City of Sandy. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the City of Sandy, for transmission to the EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the City of Sandy.
 - (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
 - (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.
 - (D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of [name of the borrower, EPA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA may, after written notice to the City of Sandy, take such action as may be necessary to cause the suspension of

any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees –

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the WHD Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the WHD Administrator determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
- (5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
- (6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
- (7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- (8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the City of Sandy, EPA, the U.S. Department of Labor, or the employees or their representatives.
- (10) Certification of eligibility.
 - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.
- (b) Contract Work Hours and Safety Standards Act.** The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section shall be inserted in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or § 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.
 - (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or

permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
 - (3) Withholding for unpaid wages and liquidated damages. The City of Sandy shall upon its own action or upon written request of an authorized representative of the Department of Labor, or the EPA, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
 - (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.
- (c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the EPA shall cause or require the City of Sandy to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the City of Sandy, EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

Item 4: Contract Clauses for Contracts Involving Federal Funds

1. **General.** Contractor agrees to comply with all applicable requirements set forth in 2 CFR Part 200. To the extent there is inconsistency with WIFIA requirements, the WIFIA clauses control.
2. **DUNS Number and SAM Registration.** Contractor must have both a DUNS number and have a SAM registration. The links below can help contractors if they have not already addressed this requirement.

<p>SAM http://www.sam.gov/portal/public/SAM/</p> <p>NOTE: The SAM registration expires annually and must be kept active until the SDWRLF project is closed</p>	<p>Registration:</p> <p>DUNS Number http://www.dnb.com/get-a-duns-number.html</p>
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3. **Inspections; Information.** Contractor shall permit, and cause its subcontractors to allow, the The City of Sandy, the federal government and any party designated by them to:
 - a. Examine, visit and inspect, at any and all reasonable times, the property, if any, constituting the Project.
 - b. Inspect and make copies of any accounts, books and records, including, without limitation, its records regarding receipts, disbursement, contracts, and any other matters relating to the Project, and to its financial standing, and shall supply such reports and information as reasonably requested.
 - c. Interview any officer or employee of Contractor, or its subcontractors, regarding the Project.
 - d. Contractor shall retain all records related to the Project for three years after final payments are made and any pending matters are closed.
4. **Whistleblower** (language to be included in all construction contracts and subcontracts)
 “Contractor receiving SDWRLF funds shall under or through this contract to, post notice of the rights and remedies provided to whistleblowers under No Fear Act Pub. L. 107-174. 29 CFR § 1614.703 (d).”
5. **Suspension and Debarment.** Contractor certifies that it is not debarred or suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549, “Debarment and Suspension,” and shall not contract or permit any subcontract at any level with any party similarly excluded or ineligible. A list of excluded parties is available in the System for Award Management (SAM) at www.sam.gov, under “search records.”
6. **Equal Employment Opportunity.** Contractor shall comply with Executive Order 11246 of September 24, 1965, entitled “Equal Employment Opportunity,” as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60).
7. **Energy Efficiency.** Contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201).
8. **Rights to Inventions Made Under the Contract.** If the Contract meets the definition of “funding agreement” under 37 CFR § 401.2((a) and there is an assignment or performance of experimental, developmental, or research work under that “funding agreement,” then Contractor shall comply with the requirements of 37 CFR Part 301 and any implementing regulations.
9. **Federal Labor Standards (“Davis-Bacon Act” Requirements).**
 - a. **Prevailing Wage Requirements.** The work to be completed under the contract must be carried out in compliance with federal Davis Bacon and related Acts and the Oregon Bureau of Labor and Industries (BOLI) requirements. Contractor shall pay each worker employed in the performance of this Contract not less than the higher of the wage rate for the type of work being performed as set forth in either the Oregon Prevailing Wage “Prevailing Wage for Public Works Contracts in Oregon” or the applicable federal Davis-Bacon Wage Decision. Contractor

shall download a US Department of Labor Employee Fair Compensation Notice and post it at the work site along with a list of locally prevailing wage rates. Contractor shall prepare and submit weekly Certified Payroll Reports. Contractor shall permit access to construction site in order to conduct on-site interviews with workers during working hours.

b. Minimum wages.

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

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

- ii. Contractor shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination.
- iii. If Contractor does not make payments to a trustee or other third person, Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- c. **Withholding.** Owner shall withhold or cause to be withheld from Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-

assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the Contract, Owner may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

d. Payroll and basic records.

- i. Payrolls and basic records relating thereto shall be maintained by Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- ii. Contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the Owner. Such documentation shall be available on request. As to each payroll copy received, Contractor shall provide written confirmation in a form satisfactory to the Owner indicating whether or not the project is in compliance with the requirements.
- iii. Contractor or subcontractor shall make the records required under this section available for inspection, copying, or transcription by authorized representatives of the federal government that was the source of the federal funds, and shall permit such representatives to interview employees during working hours on the job. If Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

- e. **Compliance with Related Requirements of Davis-Bacon Act.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
 - i. Disputes concerning Labor Standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors), the federal government, or the employees or their representatives.
 - ii. Certification of Eligibility. By entering into this contract, Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - iii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - iv. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.
- 10. **Termination for Cause and Convenience for Contract.** Contractor is directed to the Contract for provisions on termination for cause and for convenience.
- 11. **Copeland "Anti-Kickback" Act.** Contractor shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 847) as supplemented in Department of Labor regulations (29 CFR part 3).
- 12. **Byrd Anti-Lobbying Amendment.** Contractor shall sign a certification regarding lobbying through a form attached to the Contract.
- 13. **Procurement of Recovered Materials.** Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, including procuring recovered materials in a manner designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
- 14. **Compliance with Copeland Act requirements.** Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.
- 15. **Contract Work Hours and Safety Standards Act.**
 - a. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
 - b. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor

responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

- c. **Withholding for unpaid wages and liquidated damages.** The Owner, upon written request of an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by Contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
 - d. **Subcontracts.** Contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.
 - e. **Payroll Records.** In addition to the clauses contained above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, Contractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Contractor or subcontractor shall maintain records under this paragraph and shall make them available for inspection, copying, or transcription by authorized representatives of the Owner, the federal government that is the source of the federal funds, or the Department of Labor, and Contractor or subcontractor will permit such representatives to interview employees during working hours on the job.
16. **Penalties for Breach of Contract.** Contractor is directed to the Contract for provisions on the associated sanctions and penalties for breaching the Contract.
17. **Environmental and Natural Resource Laws.** Contractor shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15); and the Federal Water Pollution Control Act, as amended. Contractor shall report all violations to the federal agency providing funds for the Contract and the local Regional Office of the EPA.

END OF SECTION

SECTION 00 80 00

SUPPLEMENTARY CONDITIONS FOR PROCUREMENT CONTRACTS

These Supplementary Conditions amend or supplement the Standard General Conditions for Procurement Contracts (2010 Edition) as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.1:

In case of inconsistency between the Contract Documents and any Addenda, the Addenda supersede other Contract Documents.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.5:

The term "Proposer" shall be used interchangeably with the term "Bidder," and the term "Proposal" shall be used interchangeably with the term "Bid." The term "Contractor" shall be used interchangeably with the term "Seller".

SC-1.01. Add the following language at the end of Paragraph 1.01.A.9:

Extra Work will not be considered for a Change Order or for an adjustment in the Contract Price or the Contract Time unless the document is executed by both Buyer and Seller. Furthermore, the parties agree that under no circumstance will an act or failure to act on the part of the Buyer or Engineer constitute a waiver of the written Change Order requirement for extra or changed work. A written Change Order is a strict condition precedent for payment for extra work.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.18:

The Engineer will promptly obtain the signature of the Seller on all Field Orders. This signature confirms that the Seller is not entitled to any change in Contract Price or the Contract Time. The Engineer will endeavor to obtain the signature of the Seller on all Field Orders on a weekly basis.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.30:

For purposes of giving or receiving notice, directives, change orders, or any other information from the Engineer or Buyer to the Seller, the Seller shall designate one person as Project Manager to receive such notice, directives, change orders, or other information. If the person so identified by the Seller is not present on the job site during normal working hours for any consecutive 48-hour period, the Seller shall in writing addressed to the Engineer and the Buyer identify the individual who is acting as Project Manager.

SC-2.04. Delete Paragraph 2.04.A in its entirety and insert the following in its place:

2.04.A. The Buyer will provide the successful Proposer with a Notice to Proceed at a reasonable time after the Notice of Award. The Notice of Award will be accompanied by three copies each of the Agreements and Payment and Performance Bonds in form for signatures in addition to attached exhibits. Within ten (10) days after receiving from the Buyer Notice of Award and the agreements and Bonds in form for execution, Seller shall sign and return the Agreements and furnish to the Buyer such bonds and certificates of insurance as are required herein. The Contract Time will commence to run on the day indicated on the Notice to Proceed, which shall be no later than the 30th day after the Notice to Proceed is issued. In no event will the Buyer have any obligations or duties to the Seller under the Agreement until the Notice to Proceed is given to the successful Proposer/Seller.

SC-3.04. Replace the word “may” with the words “can only” in the first line of Paragraph 3.04.A. Also, add the word “Written” before the words “Change Order” and “Work Change Directive.”

SC-3.04. Add the following to the end of Paragraph 3.04.C:

Any variations and deviations in the Work arising from any of the methods set forth in Paragraph 3.04.C. will not authorize any Amendment to the Contract Price or Contract Time. The sole method to amend the Contract Price or Contract Time is pursuant to Paragraph 3.04.A.

SC-4.02. Add the following language after Paragraph 4.02.E:

4.02.F. Include the following parties or entities as additional insured:

4.02.F.1. The City of Sandy, its officers, and employees.

4.02.F.2. Consor North America, Inc., its officers and employees, and subconsultants.

4.02.G. The limits of liability for the insurance required by Paragraph 4.02 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

4.02.G.1. Worker’s Compensation and related coverages under Paragraphs 4.02.A of the General Conditions:

4.02.G.1.a. State: Statutory.

4.02.G.1.b. Applicable Federal (e.g., Longshoreman’s): Statutory.

4.02.G.1.c. Employer’s Liability: \$500,000.

4.02.G.1.d. In accordance with ORS 279C.530, Seller shall promptly, as due, make payment to any entity furnishing care incident to sickness or injury, to employees of Seller, of all sums which Seller agrees to pay for such care and all moneys which Seller deducted from the wages of employees pursuant to any law, contract, or agreement for the purpose of providing or paying for such service.

4.02.G.1.e.2. Seller and Subcontractors that employ workers who work under this Contract in the State of Oregon shall comply with ORS 656.017 and provide required Workers’ Compensation coverage, unless such employers are exempt under ORS 656.126. Seller shall ensure that each of its Subcontractors complies with these requirements.

4.02.G.2. Seller's General Liability shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Seller:

4.02.G.2.a. General Aggregate	\$1,000,000
4.02.G.2.b. Products - Completed Operations Aggregate	\$1,000,000
4.02.G.2.c. Personal and Advertising Injury (per person/Organization)	\$ 500,000
4.02.G.2.d. Each Occurrence (Bodily Injury and Property Damage)	\$1,000,000
4.02.G.2.e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.	
4.02.G.2.f. Excess or Umbrella Liability	
1) General Aggregate	\$1,000,000
2) Each Occurrence	\$1,000,000

4.02.G.3. Automobile Liability:

4.02.G.3.a. Bodily Injury:	
Each Person	\$1,000,000
Each Accident	\$1,000,000
4.02.G.3.b. Property Damage:	
Each Accident	\$1,000,000
4.02.G.3.c. Combined Single Limit of	\$1,000,000

4.02.G.4. Contractual Liability coverage shall provide coverage for not less than the following amounts:

4.02.G.4.a. Bodily Injury:	
Each Accident	\$1,000,000
Annual Aggregate	\$1,000,000
4.02.G.4.b. Property Damage:	
Each Accident	\$ 500,000

SC-4.03. Add the following new paragraph immediately after Paragraph 4.03.A:

4.03.B. Surety and insurance companies from which the bonds and insurance for this Project are purchased shall have an A.M. Best's rating of no less than VII in addition to other requirements specified herein.

SC-5.02. Add the following new Paragraph 5.02.B.4:

Seller agrees to assign to the Buyer at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work, and the Seller further agrees to perform the Work in such a manner to preserve any and all manufacturer's warranties.

SC-5.04. Add the following new Paragraphs to 5.04.A.2.a:

4) it will not materially increase anticipated maintenance or operating costs,

5) it is compatible with existing system components,

SC-5.08. Add the following new paragraphs immediately after Paragraph 5.07:

5.08. *Warranty*

5.08.A. Seller further warrants and guarantees to the Buyer and Engineer that all Work is guaranteed for a specified period from the date of final acceptance by the Buyer. If no warranty period is specified elsewhere in these Contract Documents, the Work shall be guaranteed for 1 year from the date of final acceptance by the Buyer. If, within the warranty period, repairs or changes are required in connection with the Work, the Seller shall promptly, without expense to the Buyer:

5.08.A.1. Place in satisfactory condition all guaranteed Work;

5.08.A.2. Correct all damage to the building, site, equipment or contents which is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the contract; and,

5.08.A.3. Correct any work, material, equipment, or contents of building, structure or site disturbed in fulfilling the guarantee.

5.08.B. Repairs, replacements or changes made under the warranty requirements shall be warranted for the specified warranty period, or for 1 year, beginning on the date of the acceptance of the repairs, replacements or changes.

5.08.C. If the Seller fails within 10 days to proceed to comply with the terms of this warranty, the Buyer may have the defects corrected. The Seller and the Seller's surety shall be liable for all expense incurred. In case of an emergency where delay would cause serious loss or damage, repairs may be made without notice to the Seller and the Seller or the Seller's surety shall pay the cost.

SC-7.01. Add the following to the end of Paragraph 7.01.A:

A change in the Contract Price or the Contract Time shall be accomplished only by a written amendment, a written Change Order, or a written Work change directive. Accordingly, no course of conduct or dealings between the parties, no expressed or implied acceptance of alterations or additions to the Work, and no claim that the Buyer has been unjustly enriched by any alterations or additions to the Work shall be the basis of any claim for an increase in any amount due under the Contract Documents or a change in any time period provided for in the Contract Documents.

SC-7.02. Add the following to the end of Paragraph 7.02.A:

Agreements on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Price and the Contract Time. In the event a Change Order increases the Contract Price, the Seller shall include the Work covered by such Change Order in applications for payments as if such Work were originally part of the Contract Documents.

SC-9.04. Replace the last sentence of Paragraph 9.04.A with the following:

The Engineer will obtain on a weekly basis the Seller's signature on all Field Orders that will contain an acknowledgement by the Seller that the Field Order does not involve an adjustment in the Contract Price or in the Contract Time.

END OF SECTION

SECTION 01 10 00 - SUMMARY OF WORK

PART 1 GENERAL

This Section further defines the Work for the project, including project coordination requirements and work to be performed by the Owner.

1.1 DEFINITIONS

Wherever used in these Technical Specifications the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

Owner:

Refers to City of Sandy with whom Supplier has entered into the Contract to pre-purchase materials and equipment. The term "Owner" shall be used interchangeably with the term "Buyer".

Supplier:

Refers to person, firm or corporation with whom the Owner has entered into the Agreement to pre-purchase materials and equipment. The Supplier shall be responsible for fulfilling all the obligations of this contract and providing the deliverables to the Owner as specified in this document. The term "Supplier" shall be used interchangeably with the term "Seller".

Engineer:

Refers to Consor Noth America, Inc. One Columbia Street, Suite 1700, Portland, Oregon 97204, (503) 225-9010, by whom the Project has been designed.

1.2 SCOPE OF CONTRACT WORK

- A. The Work contemplated consists of furnishing/supplying, delivering, and providing start-up services for two (2) vertical turbine pumps and four (4) vertical turbine pump cans that will be incorporated into the Owner's planned Bull Run Supply Pump Station. The four pump cans will be installed by the Portland Water Bureau's (PWB) construction contractor that is currently constructing the Water Bureau's new water filtration plant facility located along Carpenter Lane in Multnomah County. The City and the PWB have an Inter-Governmental Agreement in place for the PWB's contractor to complete the installation of the four pump cans, along with some other miscellaneous suction piping, for the City at their proposed Bull Run Supply Pump Station located just north of the PWB Water Bureau's site. The two vertical turbine pumps will be installed by the City's construction contractor during the full construction of the pump station project that is anticipated to go out for public bids in spring of 2025.
- B. Supplier shall provide a submittal package for the pump and pump barrel (can) as part of the Bid Package. Refer to Section 43 21 27-1.2.C for more information on the **Bid Package Pump and Pump Barrel (Can) Submittal**.

1.3 AMERICAN IRON AND STEEL (AIS) REQUIREMENTS

This project is being partially funded by the United States Environmental Protection Agency's (EPA) Water Infrastructure Finance and Innovation Act (WIFIA). As such, all work on this project is subject

to the Federal American Iron and Steel (AIS) requirements. Materials specified to be incorporated into this Project shall meet the AIS requirement of P.L. 113-76, Consolidated Appropriations Act, 2014. The Contractor shall adhere to all requirements stated within the Specifications and other WIFIA requirements.

See Section 01 33 00, Submittal Procedures, for information regarding certification documentation requirements. See Section 00 73 45 for additional description of the AIS requirements of this Contract.

The term “iron and steel products” means the following products made primarily (over 50% by cost) of iron or steel, including but not limited to: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

1.4 HANDLING STORAGE AND DELIVERY REQUIREMENTS

The Supplier acknowledges that all materials provided by this contract shall be delivered Free on Board (F.O.B.) to the Owner located in Sandy Oregon, exact location of Delivery will be coordinated with the Owner. Delivery arrangements shall be made by contacting the City of Sandy’s Assistant Public Works Director, AJ Thorne, at 503-489-2162. The Supplier shall transport all materials to the Bull Run Supply Pump Station site at the arranged time of delivery on weekdays only, between the hours of 7am and 4pm local time, with all materials off-loading and storage activities to be completed by 5pm daily. City of Sandy Bull Run Pump Station Site is located on the north side of the PWB Bull Run Filtration Facility site, across from 35319 SE Carpenter Lane, Gresham, OR 97080. Receipt of materials will be subject to inspection by the Owner and pump installation contractors, as applicable. Any materials damaged during the transfer of deliverables shall be replaced in kind or repaired at the Supplier’s expense as may be directed by the Owner.

Delivery shall include off-loading of all materials at the Bull Run Supply Pump Station site as identified above. Supplier shall provide off-loading services. The Owner, under no circumstances, will move or dedicate equipment or labor to move the deliverables.

Final acceptance of materials will be subject to inspection and testing by the Owner. Final payment for materials will be made following Owner inspections, approvals and acceptance.

1.5 GUARANTY PERIOD

A. Performance Warranty

The Supplier hereby warrants to the Owner that all materials provided in this contract will be new and shall conform to these specifications and shall be free of mechanical, structural or other defects that may develop or become evident within a period of thirty six (36) months from final delivery. It is understood that the above warranty shall apply to work done and to materials furnished by subcontractors of the Supplier as well as to work done by persons directly employed by the Supplier. Warranties and guarantees by the suppliers of various components in lieu of a single source responsibility by the Supplier will not be accepted.

B. Handling, Storage and Security Warranty

1. The Supplier warrants all materials during storage at the Supplier's site and during transport to the Owner's site. Any damages incurred during handling, storage and transport for materials respective to each Supplier shall be replaced in kind at each respective Supplier's expense.
2. Upon acceptance and receipt of delivery in full to the Owner, all handling, storage and security warranties shall be considered fulfilled by the Supplier.
3. Delivery of materials and acceptance by the Owner will in no way release the Supplier from the performance warranty. The warranty period for all materials supplied shall be thirty-six (36) months from the final installation, project startup and final acceptance by the Owner.

1.6 SUBMITTALS

A. Schedules

The Supplier, within fifteen (15) days after notice to proceed, shall prepare and submit to the Engineer a practicable schedule showing the order in which work will start and the contemplated completion dates. The schedule shall indicate clear landmarks for progress to completion. The Engineer may require the Supplier to submit updated schedules at regular intervals as materials preparation progresses.

B. Shop Drawings

The Supplier shall provide shop drawings, schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the contract documents or the Engineer's instruction.

Within fifteen (15) days after award of the contract, the Supplier shall submit to the Engineer the submittal for the vertical turbine pump cans.

The Engineer will review shop drawings to determine compliance with the design concept of the project and return them to the Supplier within five (5) working days following receipt from the Supplier. The Engineer may hold shop drawings in cases where partial submission cannot be reviewed until the complete submission has been received or where shop drawings cannot be reviewed until correlated items affected by them have been received. When such shop drawings are held, the Engineer will advise the Supplier in writing that the shop drawing submitted will not be reviewed until shop drawings for all related items have been received.

The Engineer will review the submitted data and shop drawings, and will make notations thereon indicating "No Exception Taken", "Make Corrections Noted", "Rejected", "Revise and Resubmit", or "Submit Specified Item". The Engineer's review of submittals and shop drawings is not a check of any dimension or quantity, and will not relieve the Supplier from responsibility for errors of any sort in the submittals and shop drawings.

When shop drawings and/or submittals are required to be revised or corrected and resubmitted, the Supplier shall make such revisions and/or corrections and resubmit those items or other materials in the same manner as specified above.

Submitted data shall be sufficient in detail for determination of compliance with the Contract Documents. Color samples for all items for which colors are to be selected shall be submitted at the same time. No equipment or material for which listings, drawings, or descriptive material is required shall be installed until the Supplier has received review from the Engineer.

Regardless of corrections made in or review given to the drawings by the Engineer, the Supplier shall be responsible for the accuracy of such drawings and for their conformity to the plans and specifications. The Supplier shall check all submittals before submitting them to the Engineer and shall stamp his approval on all copies of the shop drawing documents. Any submittals received by the Engineer which do not bear the Supplier's approval shall be returned without review. If more than two (2) submissions are required to meet the project specifications, the cost of reviewing these additional submissions may be charged directly against the Supplier and the Owner may withhold the funds necessary to cover these costs.

Materials and equipment shall be ordered a sufficient time in advance to allow time for reviews, and shall be available on the job when needed. Last minute review will not be given for inferior substitutes for material or equipment.

See additional requirements in specification Section 01 33 00-Submittal Procedures.

C. Storage and Handling Plans

No later than four (4) weeks prior to the first shipment delivery, the Supplier shall submit a yard plan clearly identifying the location and measures to protect the equipment and materials stored on the Owner's site. In addition, the Supplier shall submit drawings showing the method for enclosing fittings to protect applied coatings. Suitable storage and protection of equipment shall consist of but not limited to the following items:

1. Storage of products in accordance with the manufacturer's instructions, with seals and labels intact and legible.
2. Store all coated piping above ground, padded on some type of blocking, skids, or trailers which will prevent damage to coatings.
3. Store all fittings and specials in segmented compartmentalized and padded pallets so as to prevent any metal to metal contact.
4. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
5. Provide substantial coverings, fencing, and bordering as necessary to protect installed products from damage due to traffic and subsequent operations.
6. Provide security necessary to ensure products are secure and protected from damage by vandalism.

7. Provide permanent, labeled, packing for spare parts to be delivered at the time of contract delivery.
8. Supplier shall package materials and equipment in a manner that is suitable for the above storage conditions and as specified.

D. Affidavit of Compliance

Supplier shall provide affidavit stating that all equipment and materials supplied comply with these specifications and referenced standards. Such affidavit shall include certifications from materials manufacturer's and coatings applicators that respective specifications have been complied with.

1.7 FIELD SERVICE BY MANUFACTURER'S REPRESENTATIVE

It is the intent of the Owner to have a complete and operable facility. Equipment supplied under this contract will be fully tested and inspected in accordance with the specifications. During the installation of materials, by others, the Supplier shall provide for the services of the pipe manufacturer's representative to oversee for up to two (2) days total time, specified field construction relating to the installation of specials and pipe materials. The Supplier shall also provide for up to two (2) days, services from the coating manufacturer to train Contractor staff and to oversee any required field repair work. Upon completion of the work, completed facilities will be operated as required to test the equipment under the direction of the ENGINEER. During this period of operation, the new facilities will be tested thoroughly to determine their acceptance based on performance.

1.8 COORDINATION WITH OTHER CONTRACTORS AND WITH OWNER

Certain work within this contract may require connection to and coordination with the work of other contractors and Owner. The Supplier under these specifications shall cooperate fully with all other contractors and Owner and carefully fit its own work to such other work as may be directed by the Engineer. The Supplier shall not commit or permit any act to be committed which will interfere with the performance of work by any other contractor or the Owner.

1.9 ACCESS TO WORK

Access to the work shall be provided as may be required by the Owner or his representatives, and all authorized representatives of the state and federal governments and any other agencies having jurisdiction over any phase of the work, for inspection of the progress of the work, the methods of construction or any other required purposes.

1.10 "OR EQUAL" CLAUSE

In order to establish a basis of quality, certain processes, types of machinery and equipment or kinds of material may be specified on the drawings or herein by designating a manufacturer's name and referring to its brand or product designation. It is not the intent of these specifications to exclude

other processes, equipment or materials of a type and quality equal to those designated. When a manufacturer's name, brand, or item designation is given, it shall be understood that the words "or equal" follow such name or designation, whether in fact they do so or not. If the CONTRACTOR desires to furnish items of equipment by manufacturers other than those specified, he shall secure the approval of the ENGINEER prior to placing a purchase order.

No extras will be allowed the CONTRACTOR for any changes required to adopt the substitute equipment. Therefore, the CONTRACTOR's proposal for an alternate shall include all costs for any modifications to the drawings, such as structural and foundation changes, additional piping or changes in piping, electrical changes or any other modifications which may be necessary or required for approval and adoption of the proposed alternate equipment. Approval of alternate equipment by the ENGINEER before or after bidding does not guarantee or imply that the alternate equipment will fit the design without modifications.

1.11 NOISE LIMITATIONS

All applicable County ordinances and State regulations shall be complied with.

PART 2 MATERIALS AND PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 22 20 - UNIT PRICE MEASUREMENT AND PAYMENT

PART 1 GENERAL

Measurement and payment will be on a unit price basis in accordance with the prices set forth in the proposal for the individual work items. Where work is required but does not appear as a separate item in the proposal, the cost for that work shall be included and absorbed in the unit prices named in the proposal. Basis of measurement and payment for individual bid items will be as follows:

- 1.1 Furnish and deliver two vertical turbine pumps and motors: Measurement and payment will be on a lump sum basis to furnish and deliver the vertical turbine pumps and motors as specified and as shown. Supplier shall provide field testing, startup, and training services under separate bid item below.
- 1.2 Furnish and deliver four Vertical Turbine Pump Cans: Measurement and payment will be on a lump sum basis to furnish and deliver the vertical turbine pump cans as specified and as shown.
- 1.3 Provide Pump Startup Services: Measurement and payment will be on a lump sum for Supplier to provide field testing, startup, and training assistance services to the installing Contractor.

END OF SECTION

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SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. This Section contains administrative and procedural requirements for submittals for review, information, and for Project closeout.
- B. Section includes:
 - 1. Submittal requirements.
 - 2. Submittal procedures.
 - 3. Engineer review.
 - 4. Resubmittal procedures.
 - 5. Product data.
 - 6. Shop Drawings.
 - 7. Samples.
 - 8. Design data.
 - 9. Test reports.
 - 10. Certificates.
 - 11. Manufacturer's instructions.
 - 12. Manufacturer's field reports.
 - 13. Operation and maintenance (O&M) instructions.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SHOP DRAWING AND SAMPLE SUBMITTAL REQUIREMENTS

- A. Before submitting a Shop Drawing or Sample, Supplier shall have:
 - 1. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - 2. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - 3. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- B. With each submittal, Supplier shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This

notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review of each such variation.

1.4 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer-accepted transmittal form certifying compliance with requirements of Contract Documents.
- B. Sequentially number transmittal forms. Mark transmittal forms for resubmittals with original number and sequential alphabetic suffix.
- C. Show each Submittal with the following numbering and tracking system:
 - 1. Submittals shall be numbered according to specification section. For example, the first product submittal for Section 05 50 00 would be "05 50 00-1". Resubmittals of that submittal would be "05 50 00-1.1", followed by "05 50 00-1.2", and so on. The second product submittal for that Section would be "05 50 00-2".
 - 2. Alternative method of numbering may be used if acceptable to Engineer.
- D. Identify: Project, supplier, pertinent drawing and detail number, and specification Section number appropriate to submittal.
- E. Coordinate submission of related items.
 - 1. All shop drawings for interrelated items shall be scheduled for submission at the same time.
 - 2. The Engineer may hold shop drawings in cases where partial submission cannot be reviewed until the complete submission has been received or where shop drawings cannot be reviewed until correlated items affected by them have been received. When such shop drawings are held, the Engineer will advise the Supplier in writing that the shop drawing submitted will not be reviewed until shop drawings for all related items have been received.
- F. When electronic transmittals of submittals are provided by the Supplier under established protocols described elsewhere in the Contract Documents or as jointly developed by the Owner, Engineer and Supplier, provide electronic submittals in portable document format (PDF) in addition to the source document format (Word, Excel, AutoCAD, etc.). Reviewed submittals will be returned to the Supplier as PDF electronic files.
- G. For each submittal for review, allow not less than 14 days for Engineer review, excluding delivery time to and from Supplier.
- H. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- I. When revised for resubmission, the Supplier shall identify changes made since previous submission. A narrative of changes shall be provided, and shop drawings or calculations shall indicate that a revision was made.

- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with review comments.
- K. Submittals not requested will not be recognized nor processed.
- L. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

1.5 ENGINEER REVIEW

- A. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- B. The Engineer's review of submittals and shop drawings is not a check of any dimension or quantity and will not relieve the Supplier from responsibility for errors of any sort in the submittals and shop drawings.
- C. Submittals made by Supplier that are not required by Contract Documents may be returned without action.
- D. The Engineer will review the submitted data and shop drawings and return to the Supplier with notations thereon indicating "No Exception Taken", "Make Corrections Noted", "Rejected", "Revise and Resubmit", or "Submit Specified Item".
- E. Engineer's review will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
- F. Engineer's review of a separate item as such will not indicate approval of the assembly in which the item functions.
- G. Engineer's review of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order
- H. Neither Engineer's receipt, review, return of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

1.6 RESUBMITTAL PROCEDURES

- A. Supplier 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. Supplier shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
- B. Supplier shall furnish required submittals with sufficient information and accuracy to obtain required review of an item with no more than two submittals. Engineer will record Engineer's time for reviewing a third or subsequent submittal of a Shop Drawings, sample, or other item requiring review, and Supplier shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Supplier to secure reimbursement for such charges.

- C. If Supplier requests a change of a previously reviewed submittal item, Supplier shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Supplier to secure reimbursement for such charges, unless the need for such change is beyond the control of Supplier.

PART 2 PRODUCTS

2.1 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents. Submitted data shall be sufficient in detail for determination of compliance with the Contract Documents.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement Manufacturers' standard data to provide information specific to this Project.
 - 1. Note submittal will be returned to Supplier without review of submittal if products, models, options, and other data are not clearly marked or identified.
- C. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

2.2 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer licensed in the state of Project, responsible for designing components shown on Shop Drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. All dimensioned shop drawings shall be scalable and provided as full-sized (22-inch x 34-inch) sheets. PDF electronic files shall print as scalable full-sized sheets.
- E. After review, produce copies and distribute according to Paragraph 1.5.M and for record documents.

2.3 DESIGN DATA

- A. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

2.4 TEST REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge and records as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

2.5 CERTIFICATES

- A. Informational Submittal: Submit certification by Manufacturer, installation/application Subcontractor, or Supplier 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.

2.6 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: Submit Manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

2.7 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge and records as Contract administrator or for Owner.
- B. Submit report within 48 hours of observation to Engineer for information.
- C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

2.8 OPERATION AND MAINTENANCE (O&M) INSTRUCTIONS

- A. Submit preliminary O&M materials for review by Engineer. The Equipment Manufacturer may furnish instruction manuals prepared specifically for the equipment furnished or standard manuals may be used if statements like "if your equipment has this accessory..." or listings of equipment not furnished are eliminated. O&M materials will be returned to the Supplier for resubmittal if the O&M materials do not clearly indicate what specific equipment was furnished and all items not provided being clearly crossed out. Poorly reproduced copies are not acceptable. Operation and maintenance instructions shall contain the following as a minimum:
1. Reviewed shop drawings and submittal data;
 2. Model, type, size, and serial numbers of equipment furnished;
 3. Equipment and driver nameplate data;
 4. List of parts showing replacement numbers;
 5. Recommended list of spare parts;
 6. Complete operating instructions including start-up, shutdown, adjustments, cleaning, etc.;
 7. Maintenance and repair requirements including frequency and detailed instructions; and
 8. Name, address and phone numbers of local representative and authorized repair service.

Submit electronic copies of the draft operation and maintenance (O&M) manual for Engineer's review at least two (2) weeks prior to start-up, which will be reviewed and returned to Supplier with Engineer's comments.

- B. Following review of the preliminary O&M materials by the Engineer and before acceptance of the Work, submit four copies of complete final operation and maintenance instructions for all equipment supplied. Submit items in 8-1/2 x 11-inch heavy-duty three-ring binders when appropriate, or in 8-1/2 x 11-inch file folders. All binders and folders shall have clear plastic pockets on the front of the cover and the spine to allow for insertion of identifying information.

Electronic Copies: In the final O&M Manual, enclose one electronic copy of the manual in each hard-copy version. The file and folder structure of the electronic copy is to mirror the tabbed structure of the hardcopy. Electronic documentation shall be provided on standard thumb drive capable of being read by standard PC. All documents shall be provided in Adobe Systems portable document format (PDF), viewable with Adobe Reader, latest version. Where possible, the PDF documents shall be produced using a printer driver engine. Documents for which no electronic form exists may be scanned at 100 percent image scaling and a resolution of 300 dpi or better. All PDF files shall be text captured, image with hidden text, optimized, searchable, and indexable using the Adobe Acrobat Catalog engine. Drawings generated in AutoCAD shall be provided as both DWG files and PDF files.

PART 3 EXECUTION - Not Used

END OF SECTION

**SECTION 13 05 41 - DESIGN LOAD AND RESTRAINT REQUIREMENTS FOR
NON-STRUCTURAL COMPONENTS AND SYSTEMS**

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes architectural, plumbing, mechanical, and electrical building components and systems, non-structural components, and non-building structures that are designed and constructed for seismic demands. Exempt components include those that are specifically exempted in ASCE 7 and the items below:
 - 1. Temporary or movable equipment.
 - 2. Furniture, except storage cabinets greater than 6' tall

- B. Design, detail and provide complete restraint and anchorage systems for all environmental and operational loads to include seismic, wind, hydraulic, vibrational or other anticipated loading.

- C. Provide equipment and product certifications to be submitted for review by the Owner. The following systems and components are Designated Seismic Systems and specifically require Special Certification per ASCE 7-16, Section 13.2:
 - 1. Electrical Equipment:
 - a. Motor control centers (MCCs)
 - b. I&C panels and cabinets
 - c. Variable frequency drives (VFDs)
 - d. Switchgears
 - e. Automatic transfer switches
 - f. Standby generators
 - g. Electrical panels
 - h. Transformers

 - 2. Mechanical Equipment:
 - a. HVAC Systems, Ventilation fans and ducts

 - 3. Components with Hazardous Substances:
 - a. Chemical storage tanks and saturators

 - 4. Distribution Systems
 - a. Piping
 - b. Valves
 - c. Flowmeters
 - d. Vertical turbine pumps

 - 5. Other Equipment and Components:
 - a. None

1.2 DEFINITIONS AND ABBREVIATIONS

- A. Anchorage: Connection to structure typically through the use of welding, bolts, screws, anchor bolts, post-installed anchors or other fasteners selected to meet the Building Code.
- B. Authority Having Jurisdiction (AHJ): The governmental agency or sub-agency that regulates the construction process. This may be a local building department, state agency, federal entity or other body or bodies having statutory authority.
- C. Code or Building Code: Building Code currently in effect where the Project is located. For the purposes of this project, the term Building Code collectively refers to: 2022 OSSC, ASCE 7-16, and 2021 IBC (In the order listed).
- D. Designated Seismic System: Those architectural, electrical and mechanical systems and their components that require seismic design or qualification in accordance with ASCE 7 and for which the component importance factor, I_p , is 1.5 according to ASCE 7.
- E. International Accreditation Service, Inc. (IAS).
- F. International Building Code (IBC).
- G. International Code Council Evaluation Service (ICC-ES).
- H. Inspection Agency: Organization or individual accredited to ISO 17020 and regularly engaged in factory inspection services for seismic restraint or qualification of non-structural components and equipment.
- I. Nonstructural Component: A part or element of an architectural, electrical or mechanical system permanently attached to a structure including its supports and attachments.
- J. Oregon Health Authority – Drinking Water Services (OHA-DWS).
- K. Oregon Structural Specialty Code (OSSC)
- L. Restraint/Bracing: Bracing or anchorage used to limit movement under seismic forces. Cables or rigid elements, i.e., strut, pipe, and angles, used to resist forces by uniaxial tension or compression. Term "bracing" may also be used to describe design to resist lateral forces through the use of wall or frame elements.
- M. Seismic Deformations: Drifts, deflections, and relative displacements determined in accordance with the applicable seismic requirements of the Building Code.
- N. Seismic Demand: Forces and deformations caused by a Code seismic event that must be resisted or accommodated by a structure, component, or system.
- O. Seismic Forces: Forces acting in any direction due to the action of an earthquake as defined in the Building Code.
- P. Seismic Guidelines and Minimum Design Requirements (SGMDR).
- Q. Special Inspector: An IAS accredited OSSC Special Inspection Agency or qualified Professional Engineer who demonstrates competence, to the satisfaction of the building official (or

Authority Having Jurisdiction (AHJ)), for inspection of the Designated Seismic System. The Owner will employ one or more Special Inspectors to provide periodic inspections during installation of Designated Seismic Systems.

- R. Structural Engineer of Record (SER).
- S. Support: Elements used to support the weight (gravity load) of an item. Where the support is located at a seismic brace, the element may also resist tension/compression reactions from the restraint system.
- T. Supporting structure: Typically, a building floor, roof, wall, etc.
- U. Vibration Isolation and Seismic Control Manufacturers Association (VISCMA).

1.3 REFERENCE STANDARDS

- A. American Concrete Institute (ACI):
 - 1. ACI 355.2 – Qualification for Post-Installed Mechanical Anchors in Concrete and Commentary
 - 2. ACI 318 – Building Code Requirements for Structural Concrete including Chapter 17 – Anchoring to Concrete (2014)
 - 3. ACI 350 – Code Requirements for Environmental Engineering Concrete Structures and Commentary (2006)
 - 4. ACI 350.3 – Seismic Design of Liquid-Containing Concrete Structures and Commentary (2006)
- B. American Society of Civil Engineers (ASCE)
 - 1. ASCE 7 – Minimum Design Loads for Building and Other Structures (2016)
 - 2. ASCE 41 - Seismic Evaluation and Retrofit of Existing Buildings (2017)
- C. ASTM International
 - 1. ASTM E488 – Standard Test Methods for Strength of Anchors in Concrete Elements
- D. Electric Power Research Institute (EPRI)
 - 1. Experience-based Seismic Equipment Qualification, EPRI Report # 1016125 (EPRI Project Manager R. Kassawara), December 2007.
- E. Federal Emergency Management Agency (FEMA):
 - 1. FEMA 461 – Interim Testing Protocols for Determining the Seismic Performance Characteristics of Structural and Nonstructural Components
- F. Institute of Electrical and Electronics Engineers, Inc. (IEEE)
 - 1. IEEE C37.81 - Guide for Seismic Qualification of Class 1E Metal-Enclosed Power Switchgear Assemblies (2017)

- G. International Code Council (ICC)
 - 1. 2019 Oregon Structural Specialty Code (2019 OSSC)
 - 2. 2018 International Building Code (2018 IBC)
- H. International Code Council Evaluation Service (ICC-ES)
 - 1. AC156 Seismic Certification by Shake-table Testing of Nonstructural Components, Approved October 2010; editorially revised May 2015.
- I. International Organization for Standardization (ISO)
 - 1. ISO/IEC 17020 – Conformity assessment -- Requirements for the operation of various types of bodies performing inspection (2012; reviewed and confirmed in 2017)
- J. National Fire Protection Association (NFPA)
 - 1. NFPA 13 – Installation of Sprinkler Systems (2019)
- K. Where reference is made to one of the above standards or guidance documents, the revision in effect by reference in the model code at the time of bid opening shall apply, unless otherwise noted.

1.4 SUBMITTALS

- A. Product Data: For each type of product.
- B. Qualifications
 - 1. Professional Engineer Qualifications: Submit certification and experience documentation for the Professional Engineer performing engineering calculations to demonstrate compliance with the Special Seismic Certification requirements or other seismic calculations, indicating a minimum of 5 years' experience providing engineering services of the kind indicated when analysis or shake table testing is the justification for the Certification for each Designated Seismic System.
 - a. Qualified Mechanical Analysis Contact: Andy Lerche, Mechanical Solutions Incorporated, <https://www.mechsol.com/>
 - 2. Qualified Inspection Agency: A qualified IAS accredited Inspection Agency shall witness the shake table testing. Submit qualification of the qualified Inspection Agency, minimum 5-year experience records performing shake-table testing for Special Seismic Certification purpose, and qualifications of the inspection personnel overseeing the shake table testing.
- C. Shop Drawings:
 - 1. Delegated-Design Submittals: Prepare, seal, and sign restraint and anchorage Shop Drawings consisting of design drawings and supporting calculations signed by a Professional Structural or Mechanical Engineer registered in the State of Oregon. Indicate restraint details including materials, quantities, anchor bolts, size and embedment of anchor bolts, base plate setting details and locations, and location, direction and magnitudes of project related loads transferred to the structure.

2. Include sufficient information regarding the component attachments to verify compliance with applicable codes and standards.
 3. Use of proprietary restraint systems with a Certificate of Compliance verified and listed by an IAS accredited Inspection Agency is acceptable, provided that the seismic requirements for the project are met and the submittal has been reviewed and approved by SER.
- D. Calculations:
1. Prepare, seal, and sign calculations by a Professional Structural or Mechanical Engineer registered in the State of Oregon and submit with Shop Drawings.
 2. Include sufficient information regarding component attachments to verify a continuous load path of sufficient strength and stiffness that demonstrates compliance with applicable codes and standards.
- E. Special Seismic Certification of Designated Mechanical Equipment, Electrical Equipment, Distribution Systems, and other Equipment:
1. Each manufacturer of a Designated Seismic System shall submit a Certificate of Compliance, per ASCE 7-16, Section 13.2.1.2, indicating the following:
 - a. Equipment and its components satisfy the seismic qualification requirements herein (in PART 2)
 - b. Seismic qualification was done in accordance with the qualification methods herein (in PART 3).
 - c. Components, their mounting system, and anchorage meet the Special Certification requirements per ASCE 7-16, Section 13.2, to withstand required loading demands with a Component Importance Factor of 1.5 and are capable of being immediately operational following the design earthquake per the criteria in the project drawings.
 - d. Basis for Certification: Indicate whether certification is based on actual test of assembled components, supports and attachments, or based on experience based seismic qualification, or on calculation/ analysis of them.
 - e. The entity (i.e., manufacturer or qualified testing agency) that performed the seismic qualification testing, and the qualified testing agency that witnessed the testing.
 - f. The professional engineer that performed the engineering calculations that demonstrate the compliance of the Special Seismic Certification requirements.
 - g. Dimensioned Outline Drawings of Component: Identify center of gravity and locate and describe mounting, supports and attachment provisions.
 - h. Specifications for, and drawings of, the component, supports and attachments as necessary to install component in a manner consistent with the certification shall be provided.

- i. If anchorage to concrete applies to component attachment, provide detailed description of anchorage products/ devices on which the certification is based and their installation requirements.
 - 1) The description must clearly indicate how the use of the products will result in compliance with the anchorage requirements of ACI 318.
2. Submit evidence and supporting materials associated with the Certificate of Compliance that demonstrates the functional seismic qualification, as follows:
 - a. When the qualification is by testing, supporting material shall include Seismic Qualification Report (SQR) including all data, results and conclusions.
 - b. The SQR shall include the following content as a minimum:
 - 1) Title Page - The following information shall be shown on the title page:
 - a) Client
 - b) Supplier and Component Name
 - c) Specification Package Number/ Identification
 - d) Revision Number
 - e) Date
 - 2) General: A description of the component, its function and the method of qualification used to verify this function. In addition, the following information must be given:
 - a) Project and owner names.
 - b) Specification and purchase order numbers.
 - c) Component Name and Identification/number.
 - d) Organization(s) performing qualification programs.
 - 3) Data and Assumptions
 - a) Testing Section: The following data shall be included: Type of testing machine; Loads considered and simulated during the test; Methods used to simulate the supporting structure, details of the attachment to the supporting structure and/or testing machine; Position and orientation of setting component (photographs are recommended); Steps taken to monitor the function of component during the test and accelerometer locations and orientations (photographs are recommended); Means of generating test response spectra (if applicable);
 - b) Analytical Section: The following data shall be presented: Loads considered; Damping values used in the analysis; Codes and standards used as bases for the analysis; Assumptions and engineering judgements made for idealizing boundary conditions, converting the load criteria to actual loads used for analyses/ calculations and converting the design criteria to actual stress, deformation and stability limits. Justification shall be provided for all assumptions and engineering judgements used; and A list of the computer programs and software revision numbers, to keep track of verification and

validation (V&V), used in the analysis and the documentation which establish the validity of any computer program used, if not included in the public domain.

4) Qualification Procedure

- a) Testing Section: State type of test, wave form, frequency intervals and range, acceleration levels, axes of excitation, phase between inputs monitoring set-up and any other data to completely describe the input motion and show it is applied.
- b) Analytical Section: State the method used in the analysis, mathematical equations and their derivation from basic principles including appropriate references.

5) Results

- a) Testing Section: This section shall include the measurements obtained from the test and their interpretations. Findings and observations from monitoring the function of the component and/or inspection shall be presented. All results shall be presented in either numerical or graphical form.
- b) Analytical Section: Show actual design calculations and sketches for the mathematical models, including numbering used for the node points and numbers. If possible, show loads, resultant forces, moments, stresses and deformations on the mathematical model of the component.

6) Supporting-Structure Loads

- a) The loads transmitted by the component to the supporting structure, calculated in the previous section, shall be presented in this section.

7) Conclusions

- a) Give a brief summary of the results obtained from the qualification program. A concise statement of the conclusion reached, which should satisfy the qualification requirements, shall be stated in this section.

8) Drawings and Specifications

- a) Include dimensioned outline drawings of component. Identify center of gravity and locate and describe mounting and attachment provisions.
- b) Include drawings of, and specifications for, the component, supports and attachments as necessary to install component in a manner consistent with the certification shall be provided.
- c) If anchorage to concrete applies to component attachment, provide detailed description of anchorage products/ devices on which the certification is based and their installation requirements. Description must clearly indicate how the

use of the products will result in compliance with the anchorage requirements of ACI 318.

- c. When the qualification is by experience, supporting material shall include
 - 1) Basis for the conclusion that the component meets the Special Seismic Certification requirements herein, through Qualification by Experience requirements established herein.
 - 2) Supporting engineering calculations signed and sealed by a Professional Structural or Mechanical Engineer registered in the State of Oregon and submitted to the Owner for acceptance.
- d. When the qualification is by analysis, supporting material shall include
 - 1) Supporting engineering calculations signed and sealed by a Professional Structural Mechanical Engineer registered in the State of Oregon and submitted to the Owner for acceptance.

1.5 QUALITY ASSURANCE

- A. Comply with the Oregon Structural Specialty Code (OSSC 2019) and any modifications by the jurisdiction where the Project is located and applicable local and statewide adopted amendments.
- B. Special Seismic Certification: Provide Certification in accordance with OSSC, Chapter 17 and ASCE 7 Chapter 13 and 15 for Special Certification Requirements for Designated Seismic Systems.
- C. Provide Special Inspections for installation, inspection and testing of the following per OSSC Chapter 17:
 - 1. Designated seismic systems shall be examined and verify that the label, anchorage or mounting conforms to the certificate of compliance.
 - 2. Architectural and Mechanical Components: Periodic special inspection in accordance with Section 1705.11.5 & 1705.11.6.
 - 3. Seismic Isolation systems: Periodic special inspection in accordance with Section 1705.11.8.

1.6 FIELD QUALITY CONTROL

- A. Special Seismic Certifications:
 - 1. Verify that the label, anchorage and mounting conform to the Certificate of Compliance for Designated Seismic Systems.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Provide restraint of nonstructural components to withstand loading demands without displacing or overturning.
- B. Provide non-building structures designed and constructed to withstand loading demands as specified herein.
- C. For Designated Seismic Systems, provide installations capable of providing post-earthquake functionality.

2.2 PROJECT DESIGN CRITERIA

- A. Seismic:
 - 1. Minimum Seismic Design Requirements: Per ASCE 7-16 and the following additional SGMDR requirements:
 - a. Per Structural Drawings.
 - 2. Seismic Design Parameters:
 - a. Per Structural Drawings.
 - 3. Seismic Design Category: Per Structural drawings.
 - 4. Seismic Design Force: Base calculation of seismic design force on requirements of ASCE 7 including Chapter 11 through Chapter 15, and the seismic design parameters above.
 - 5. Seismic design forces for submerged components and equipment: Design of components and equipment that are submerged within tanks, reservoirs, water retention structures, etc. are to include the hydrodynamic forces. The forces due to hydrodynamic effects can be represented by the addition of an equivalent mass of water. Estimates of hydrodynamic forces shall be in accordance with ASCE 7-16, ACI 350.1-06, Goyal and Chopra (1989) described in USACE (2003).
 - a. Component analysis for columns and other compression members shall include secondary P-Delta effects caused by gravity and seismic loads.
 - b. Components located above static fluid surfaces to be designed for hydrodynamic sloshing forces.
 - c. If equipment components cannot be designed to resist hydrodynamic forces, the structural engineer for the equipment manufacturer shall predetermine strategic break points for approval by Engineer and Owner. The predetermined strategic break points shall be located such that these components can be easily replaced. In addition, flexible restraints (tethers) should be provided for "breakaway" components in order to keep broken elements off the structure's floor.

6. Seismic Relative Displacement:

- a. Design of the structural separation shall accommodate seismic relative displacement of 0.015 times the story height in addition to thermal movement that may be present.
- b. Design of the non-structural components shall accommodate seismic relative displacement calculated per ASCE 7-16, Section 13.3.2.

B. Wind:

1. Per Structural Drawings.

C. Other:

1. Operational loading as determined by component manufacturer.
2. Special loads as indicated on drawings or specifications.

2.3 SEISMIC QUALIFICATION REQUIREMENTS

A. Qualification shall be based on testing, analysis or testing per ASCE 7 Chapter 13, as noted below, or a combination of analysis and testing per subsequent portions of this Section.

1. Shake table test data in accordance with ASCE 7-16 Section 13.2.5, per ICC-ES AC156 (ICC-ES 2015) testing standard procedure.
2. Experience data in accordance with ASCE 7-16 Section 13.2.6.
3. Analysis according to sections 13.2 to 13.6 of ASCE 7-16 demonstrating compliance

B. Qualification shall demonstrate that the component, and its support(s) and attachment(s), is capable of achieving the seismic performance requirement(s) indicated in the Project Design Criteria herein.

1. Seismic Performance Requirement: Position retention and functional/operable following the design earthquake per the seismic criteria in the SGMDR.
2. The horizontal component of seismic load acting on a Designated Seismic Systems component shall be determined based on the Seismic Parameters provided herein and component response modification factor (R_p) parameters defined in ASCE 7-16, Section 13.3.1.

2.4 MATERIALS

A. Anchor Bolts and Post-Installed Anchors:

1. Cast-in Anchor Bolts or Headed Studs: Use whenever possible and design in accordance with Section 1912 of the OSSC and ACI 318 Chapter 17. Do not use post-installed expansion anchors for critical fastening such as vibrating conditions and impact loads.
2. Expansion or Sleeve Anchors: Pre-qualify for use in seismic applications per ASTM E488 and current ICC-ES evaluation reports.

3. Adhesive Anchors: Pre-qualify for use in seismic applications per ASTM E488 and current ICC-ES evaluation reports.
4. For components weighing over 400 pounds: Minimum 5/8-inch diameter anchor size with minimum 5-inch embedment.
5. For components weighing less than 400 pounds: Minimum 3/8-inch diameter anchor size with minimum 3-inch embedment.

PART 3 EXECUTION

3.1 SEISMIC QUALIFICATION METHODS

- A. The seismic qualification of a component, to include its support(s) and attachment(s), is achieved by demonstrating it is capable of achieving its seismic performance requirement when subjected to the design earthquake per the seismic criteria specified herein. Regardless of the qualification program(s) chosen, the applicable seismic performance requirements shall be as stated in the applicable table in PART 2 (herein). One of the following qualification methods shall be used:
 1. Qualification by testing.
 2. Qualification by experience.
 3. Qualification by analysis.
 4. A combination of the aforementioned testing and analysis, for which there are two options:
 - a. Qualification testing supported by analysis (i.e., "supporting analysis").
 - b. Qualification analyses supported by testing (i.e., "supporting tests").
- B. Qualification by Testing:
 1. The use of the qualification-testing method solely is appropriate when at least one of the following conditions apply:
 - a. The structural configuration of the component is extremely complex and/ or beyond the capability of mathematical modeling techniques.
 - b. The response of the component is expected to be significantly nonlinear.
- C. Qualification by Experience:
 1. The use of the qualification-testing method solely is appropriate when:
 - a. Component qualifies under OSSC 1705.13.2.

D. Qualification by Analysis:

1. The use of the qualification-analysis method solely is appropriate when at least one of the following conditions apply:
 - a. The structural configuration of the component is simple and/or within the capability of mathematical modeling techniques.
 - b. The response of the component is expected to be linear or exhibit simple nonlinear behavior.
 - c. The effect of attached components and the superposition of load conditions are too complex for testing.
2. The use of the qualification-analysis method for active parts or energized components of special-certification components that are active mechanical and electrical equipment is NOT permitted.
3. When the qualification-analysis method is used, any/ all assumptions must be documented and justified.

E. Qualification by testing supported by analysis:

1. This method shall be considered only when it is known/ suspected that qualification solely by testing, or solely by analysis, is inadequate.
2. The use of qualification testing supported by analysis is appropriate when at least one of the following conditions apply:
 - a. The component is too large to be qualified by solely by shake-table testing, thereby requiring a subsystem approach.
 - b. Subsystems of large, complex components can be qualified by testing individually, and the overall structural frame of the component can be evaluated by analysis.

F. Qualification by analysis supported by testing:

1. This method should be considered only when it is known/ suspected that qualification solely by testing, or solely by analysis, is inadequate.
2. The use of qualification analysis supported by testing is appropriate when at least one of the following conditions apply:
 - a. The component is a system comprised of components for which qualification by analysis is appropriate, and of "subcomponents" for which qualification by analysis is inappropriate.
 - b. Systems with components that contain hazardous materials (e.g., tanks, piping, vessels, etc.) can be qualified by analysis, and operational valving or other active equipment can be evaluated by testing.

3. Supporting tests may be used as follows:
 - a. To determine the deflection limits within which functionality/ operability is maintained (if not provided by the equipment manufacturer).
 - b. To determine the dynamic parameters needed for constructing or verifying mathematical models.
 - c. To determine the assumptions to be used in the analysis.
 - d. To determine the amount of nonlinear response involved.

3.2 QUALIFICATION BY TESTING

- A. Qualification testing of all components shall be per ASCE 7 paragraph 13.2.5 and the following:
 1. Shake-table testing shall be done per ICC-ES AC156.
 2. Shake-table testing is mandatory for active parts or energized subcomponents of the following components:
 - a. Special-certification components that are active mechanical or electrical equipment.
 - b. Special-certification components with hazardous substances
 - c. If the component being qualified is connected to other components (in service), the qualification shall provide the permissible forces (e.g., nozzle loads, etc.) and as applicable, anticipated displacements of the component at the connection points to facilitate assessment for consequential damage, in accordance with ASCE 7 paragraph 13.2.3.
 3. Verify shake table tests by an IAS accredited and qualified Inspection Agency or other independent inspection entity acceptable to the Authority Having Jurisdiction (AHJ) and Engineer.
 4. Label components with an identification applied on the product by manufacturer that contains manufacturer's name, function and performance characteristics of the product or material, and name and identification of accredited Inspection Agency. Indicate that representative sample of the product or material and its testing have been evaluated and listed by accredited Inspection Agency.
- B. Components meeting the shake table and/or seismic testing requirements of the following (and seismic requirements specified herein) are considered to meet the Special Seismic Certification requirements for the project:
 1. ANSI/AHRI Standard 1270
 2. IEEE Standard 344
 3. IEEE Standard 693
 4. ASME QME-1

3.3 QUAIFICATION BY EXPERIENCE

- A. Review the inclusion rules and caveats corresponding to the equipment class in the experience-based qualification database against the candidate component and establish the validity of application of the qualification by experience.
- B. Demonstrate by seismic analysis that the component's seismic capacity exceeds the seismic demand corresponding to the design seismic event per the seismic criteria in the SGMDR and specified herein, using one of the following approaches outlined in EPRI (2007):
 - 1. Simplified Method: Seismic equipment demand, calculated using the attachment height to building height ratio, is compared against a threshold spectral acceleration value of 1.2; this approach does not consider the natural frequency of the equipment.
 - 2. SQUG Method A: In this method, the design ground motion response spectrum is compared against the SQUG bounding spectrum for the seismic evaluation.
 - 3. SQUG Method B: In this method, the realistic median-centered in-structure response spectrum calculated for the design earthquake is compared with the SQUG Reference Spectrum.
- C. Evaluate any potentially significant seismic systems interaction concerns that may adversely affect component safe shutdown function and address such concerns.

3.4 QUALIFICATION BY ANALYSIS

- A. Include an evaluation of stress and deformation developed through the entire load path from the center of applied seismic load to equipment anchorage. Perform analysis considering dynamic characteristics and response spectrum required by this specification.
 - 1. Piping System and Ductwork: For distribution systems such as piping and ductwork, include a stress analysis of the pipe and duct, supports, bracing, and anchors. Include gravity and seismic demand stress analysis, an analytical assessment of connections, and consideration for movement of attachment points. In the analysis, consider the effects of in-line devices, where present.
 - a. Fire Protection Piping: Conformances with NFPA 13 will satisfy requirements for Special Seismic Certification.
- B. Qualification analysis of special-certification components shall be of adequate rigor such that the seismic performance requirement (e.g., containment of contents following the design earthquake per the seismic criteria) is demonstrated/proven and shall include the demands stipulated in ASCE 7 Chapter 13.
- C. The mathematical model used in qualification analyses shall include the "in-service" connectivity (to other components), support and attachment as applicable, and nonlinear models shall be used for all elements not responding linearly to the design seismic event.

- D. Capacity.
 - 1. Limiting strength(s) used in the analysis shall be per the OSSC and the standards referenced therein.
 - 2. Limiting deflection(s)/ displacement(s) used in the analysis shall be those maximum deflections that will not preclude the component from meeting its seismic performance requirement.
 - a. Use of deflection/ displacement limits either provided by the component manufacturer or determined from supporting tests is acceptable.
- E. Acceptability is based on the applicable demands (e.g., resultant stresses, deflections, etc.) not exceeding the associated capacities.
 - 1. Any deviation from this requirement shall be justified in terms of the component achieving its seismic performance requirement.
- F. If the component being qualified will be connected to other components, the qualification shall provide the permissible forces (e.g., nozzle loads, etc.) and, as applicable, anticipated displacements of the component at the connection points to facilitate assessment for consequential damage, in accordance with ASCE 7 paragraph 13.2.3.
- G. Components meeting the shake table and/or seismic testing requirements of the following and seismic requirements are considered to meet the Special Seismic Certification requirements for the project:
 - 1. ANSI/AHRI Standard 1270
 - 2. IEEE Standard 344
 - 3. IEEE Standard 693
 - 4. ASME QME-1

3.5 SUPPORTING ANALYSIS (FOR USE WITH QUALIFICATION BY TESTING)

- A. Supporting analysis/ analytical calculations may be used to develop data for use in qualification testing.
- B. The results of qualification testing may be used in supporting analysis/analytical calculations to complete the qualification of the component.
- C. Supporting analysis/ analytical calculations shall comply with all portions of the aforementioned Section "QUALIFICATION BY ANALYSIS", as applicable.

3.6 SUPPORTING TESTS (FOR USE WITH QUALIFICATION BY ANALYSIS)

- A. Supporting tests may be either static or dynamic in nature; however, static tests are not applicable to the active parts, or the energized subcomponents, of active components.

- B. Static supporting tests are conducted by applying static forces on the equipment. Typical data obtained from these tests are as follows:
 - 1. Static deflections and flexibility parameters are needed for constructing a mathematical model.
 - 2. Distortion in the equipment casing, due to nozzle loads, and the deformation limits within which the equipment would maintain its operability/ functionality.
- C. Dynamic supporting tests shall be conducted using a shake table. Typical data obtained from dynamic supporting tests are as follows:
 - 1. Dynamic characteristics of the equipment (natural frequencies, mode shapes and damping factors).
 - 2. Cross-coupling effects, i.e., the response in any direction due to the excitation in any other direction (in situations where installing accelerometers in some locations is impractical, cross-coupling may be estimated based on the response of the available accelerometer locations).
 - 3. The significance of the response of the equipment to vibratory motion to determine the necessity of combining equipment nozzle loads with other dynamic loads.

3.7 LOADS ON SUPPORTING STRUCTURE

- A. All loads transmitted by the component to the supporting structure shall be provided. The following loads, as applicable, shall be reported individually, and included in the determination of the transmitted loads:
 - 1. Dead load/ operating weight.
 - 2. Operational/ service loads.
 - 3. Nozzle loads.
 - 4. Pressure and thermal loads.
 - 5. Additional loads due to seismic excitations.
 - 6. Any other loads that are required to be transmitted to the structure/ foundation.

3.8 COORDINATION

- A. Do not fabricate or install restraints or non-building structures until submittals have been approved.
- B. Verify that multiple systems installed in the same vicinity can be installed without conflict.
- C. Verify tolerances between installed items to confirm that unbraced components will not come into contact with restrained equipment or structural members during an earthquake. When contact is possible, provide seismic restraint or provide justification to Owner's satisfaction that contact will not cause unacceptable damage to the components in contact, their supports, finishes or other elements that are contacted.

3.9 DESIGN AND GENERAL CONSTRUCTION

- A. Attach or anchor components and their supports, non-building structures, and Designated Seismic Systems to the structure. Provide a continuous load path of sufficient strength and stiffness between the component and the supporting structure.
- B. Design equipment support and bracing to resist seismic design force in any direction.
- C. Provide supports, braces, connections, hardware, and anchoring devices to withstand code-required forces and deformations without shifting or overturning.
- D. For components with $I_p = 1.5$, in addition to providing for code-required forces and deformations, construct installations capable of providing post-earthquake functionality.
- E. Bolt, weld, or otherwise positively fasten component attachments in accordance with ASCE 7 Chapter 13 without consideration of frictional resistance produced by the effects of gravity.
- F. Where equipment is mounted on vibration isolators and restraints, use isolators and restraints designed for amplified code forces per ASCE 7 and with demonstrated ability to resist required forces including gravity, operational, and seismic forces.
- G. As an alternate to project-specific design of bracing, use of proprietary restraint systems with a Certificate of Compliance verified and listed by an accredited Inspection Agency is acceptable. Use of a certified product does not preclude the requirement for Shop Drawings.
- H. Design piping, piping risers, ducts, and duct risers to accommodate inter-story drift.
- I. Provide flexible connections:
 - 1. Between floor-mounted equipment and suspended piping.
 - 2. Between unbraced piping and restrained suspended items.
 - 3. As required for thermal movement.
 - 4. At building separations and seismic joints.
 - 5. Wherever relative differential movements could damage piping in an earthquake.
- J. Where piping is explicitly exempt from seismic bracing requirements, provide flexible connections between piping and connected equipment, including in-line devices such as VAV boxes and reheat coils.
- K. Where piping is explicitly exempt from seismic bracing requirements, install piping such that swinging of the pipes will not cause damaging impact with adjacent components, finishes or structural framing. This will be considered satisfied if there is horizontal clear distance of at least $4/3$ the hanger length between subject components. If swinging of exempted piping can cause damaging contact with adjacent components, finishes or structural framing, add swing restraints as required to eliminate contact.
- L. Ductwork:
 - 1. Provide independent support for in-line devices weighing more than 20 pounds.
 - 2. Provide independent support and bracing for in-line devices weighing more than 75 pounds.

- M. Provide unbraced piping attached to braced in-line equipment with adequate flexibility to accommodate differential displacements.
- N. Tanks:
 - 1. Design tank to resist design forces.
 - 2. Design tank anchorage to resist design forces.
 - 3. Design tank legs or supporting structure to resist design forces.
 - 4. Provide flexible connections between tank and interconnected piping.
- O. Fire suppression equipment and piping:
 - 1. See requirements for piping.
 - 2. See requirements for equipment.
 - 3. Satisfy requirements of NFPA 13 and the force and displacement requirements of ASCE 7. All components shall be UL listed.
 - 4. Provide end of line restraint as required by NFPA 13.
- P. Conduit, cable tray, bus duct, raceways, bundled cabling:
 - 1. Where conduit tray or bus duct or raceway or bundled cabling, is explicitly exempt from seismic bracing requirements, install these such that swinging of the component(s) will not cause damaging impact with adjacent components, finishes or structural framing. This will be considered satisfied if there is horizontal clear distance of at least $4/3$ the hanger length between subject components. If swinging of exempted components can cause damaging contact with adjacent components, finishes or structural framing, add swing restraints as required to eliminate contact.
 - 2. Provide gravity support for conduit/cable tray/bus duct/raceway/bundled cabling that is independent of suspended ceiling framing.
 - 3. Provide bracing of conduit/cable tray/bus duct/raceway/bundled cabling to resist gravity and design forces.
 - 4. Design conduit/cable tray/bus duct/raceway/bundled cabling to accommodate interstory drift.
- Q. As an alternate to project-specific design of bracing, use of proprietary restraint systems with a Certificate of Compliance verified and listed by an accredited Inspection Agency is acceptable. Use of a certified product does not preclude the requirement for Shop Drawings.
 - 1. Provide flexible connections wherever relative differential movement could damage conduit/cable tray/bus duct/raceway/bundled cabling in an earthquake.

END OF SECTION

SECTION 26 05 88 - PREMIUM EFFICIENCY VERTICAL MOTORS

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

- A. Work consists of all motors and control shown on the drawings and specified herein and in other divisions of the specifications. In general, all motors shall be premium efficiency and furnished with the driven equipment. The requirements of all other sections of the specifications are equally applicable to the work to be performed under this section. Motors and controls are specified in this and other divisions of the specifications. In the event of conflicts, the more restrictive specifications shall apply.
- B. Motor rating and performance shall match that of pump. Pumping Unit Supplier shall be responsible to ensure pump and motor performance as a complete unit, under all operating conditions, defined for this project.

1.2 SUBMITTALS

Complete motor data shall be submitted and include the following data:

- A. Motor manufacturer.
- B. Motor type or model and dimension drawing to include motor weight.
- C. Nominal Horsepower.
- D. NEMA Design.
- E. Enclosure.
- F. Frame size.
- G. Winding insulation class and treatment.
- H. Bearing and insulation
- I. Rated ambient temperature.
- J. Service factor.
- K. Voltage, phase, and frequency ratings.
- L. Full load current at rated horsepower for application voltage.
- M. Starting code letter, or locked KVA, or current.
- N. Special winding configuration.
- O. Rated full load speed.
- P. Guaranteed minimum Power Factor at 100, 75 and 50 percent of full load.
- Q. Guaranteed minimum efficiencies at 100, 75 and 50 percent of full load.
- R. Starting torque.
- S. Full load torque.
- T. Breakdown torque.
- U. Rated temperature rise at rated horsepower.
- V. Full load current at rated voltage.
- W. Current at no load on shaft at rated voltage.
- X. Connection diagram.
- Y. RTD—Resistance Temperature Detector: 100-ohm Platinum.
- Z. Superimposed load speed torque curve over motor speed torque curve
- AA. Recommended spare parts list priced.

1.3 FACTORY TESTING

Motors rated 100 HP and larger shall be factory tested in conformance with ANSI/IEEE 112, IEEE 43, and NEMA MG-2. Tests shall include full load heat run, performance, bearing (temperature, noise), locked rotor, speed torque, no-load saturation, surge, megohmmeter testing, and dielectric absorption ratio. Test report shall indicate test procedure and instrumentation used to measure and record data. Test report shall be certified by the Motor Manufacturer's test personnel and submitted to and approved by Owner's Representative prior to shipment of equipment.

1.4 GUARANTY PERIOD

Warranty requirements for pump motors shall be as specified in 43 21 27 Vertical Turbine pumps, Open Lineshaft.

PART 2 PRODUCTS

2.1 SERVICE CONDITIONS

- A. All equipment shall be designed and built for industrial service and be capable of operating successfully under the following applicable conditions.
 - 1. 40 degrees C maximum ambient temperature.
 - 2. Voltage variations to $\pm 10\%$ of nameplate rating.
 - 3. Frequency variations to $\pm 5\%$ of nameplate rating.
 - 4. Combined voltage and frequency variations to $\pm 10\%$ total, as long as frequency does not exceed $\pm 5\%$.
 - 5. 3,300-foot maximum altitude.

2.2 ELECTRIC MOTORS

- A. General: Electric motors shall be premium efficiency, solid shaft electric motors, design B, high thrust, squirrel cage, induction type having NEMA weather protected type I enclosures unless otherwise specified. Motors shall utilize adjustable spacer couplings. Motors shall be suitable electrically and mechanically to efficiently and effectively drive pumps. Motors shall operate in accordance with these specifications.
- B. Unless specified otherwise, all materials, workmanship and tests shall conform with the applicable specifications to NEMA, IEEE, ASA and AFBMA.
- C. Motor frame shall be steel or cast iron, aluminum shall not be permitted. Motors shall be rated for operation at 460 VAC, 3 phase, 60 hertz, Service factor of 1.15 or greater. Motors shall operate at standard RPM's as required by the pump or equipment which they drive.
- D. Motors shall be rated for premium efficiency. Rated efficiencies shall be based on NEMA standards MG1-12.536 or standards imposed by the local electric utility, whichever is more restrictive.

- E. Motors shall be capable of full load operation with voltage variations of ± 10 percent and frequency variation of ± 5 percent.
- F. Motor starting current shall not exceed 650 percent of motor full load current.
- G. Insulation system: All motors shall be provided with Class "H" or better insulation systems except that motor lead insulation may be class "B" or better. Completed windings, when tested in accordance with IEEE #57 shall show a thermal rating not less than 150 degrees for 30,000 hours of life.
- H. Noise Level: Sound pressure levels shall be measured according to IEEE 85 and shall not exceed 85 decibels as measured on the A-weighted Scale at a distance of five feet from any motor surface under no load, free field conditions.
- I. Windings shall be held firmly in stator slots to prevent coil shift. Stator windings shall be of high conductivity copper magnet wire. Completed stator windings shall be provided with a properly cured, uniform impregnation for mechanical rigidity, moisture resistance, and protection against winding failure from accumulation of foreign conductive matter. The completed insulation system shall be capable of withstanding phase to ground rms voltage of 600 volts continuous and 2,300 volts instantaneous.
- J. All motors used with variable frequency drives shall be inverter duty rated and shall have a minimum of 1,600-volt rated insulation on the windings.
- K. Rated temperature rise above 40 degrees C ambient temperature, at service factor load of 1.15 shall not exceed 90 degrees C.
- L. Motors rated 50 HP and larger shall be rated NEMA locked rotor Code G or better.
- M. Motors shall be dynamically balanced to a maximum of .001 inches peak to peak amplitude.
- N. Motors shall be equipped with anti-friction type thrust and guide bearings. Angular contact thrust bearings shall be used. Bearings shall be of sufficient capacity to withstand all static and dynamic thrust loads, both momentary and continuous, imposed by the pump. Bearings shall provide minimum L-10 life of 60,000 hours based on continuous design thrust loads.
- O. Motor thrust bearings shall include an insulated thrust bearing carrier and motor shaft grounding ring.
- P. Motor thrust bearings shall be oil lubricated. Oil lubrication systems shall provide optimum lubrication of bearings. Oil lubricated motors shall have visual level indicators and accessible fill and drain plugs.
- Q. Motors shall be equipped with non-reverse mechanisms which shall limit maximum reversal to 10 degrees of rotation.
- R. Motors shall be equipped with fabricated steel terminal boxes. The motor terminal box shall be one size larger than the Manufacturer's recommendation. Separate accessory terminal boxes shall be provided for space heater and temperature sensors.

- S. Motor Nameplates shall include Manufacturer name, serial number, rated horsepower, service factor, frequency, phase, load voltage, full load amps, full load speed, design designation, locked rotor current and or designation, insulation class, temperature rise, maximum ambient temperature, NEMA efficiency, and full load power factor, time rating, model number, bearing identification, frame size, thermal protection, nominal and guaranteed efficiency.
- T. Motors shall be as manufactured by General Electric Company or US Motors.

2.3 ACCESSORIES

- A. Motors shall be equipped with two 100-ohm platinum winding RTDs per phase. Upper and lower bearing case shall be equipped with 100-ohm platinum RTDs. RTD wiring shall be brought out to a separate auxiliary terminal box. All RTDs shall be three wire configuration and suitable for input to the motor monitoring equipment.

PART 3 EXECUTION

3.1 MOTOR JUNCTION BOX

Provide motor junction box of sufficient size to accommodate the necessary incoming phase conductor conduit size and quantity shown on the drawings. Motor junction boxes shall be large enough to provide minimum NEC conductor bend radius. Coordinate and verify the size and location of the motor pull box to avoid conflict with equipment and maintenance activities.

END OF SECTION

SECTION 43 21 00 - LIQUID PUMPS GENERAL

1.1 SUMMARY

- A. The provisions of this Section shall apply to all pumps and pumping equipment except where otherwise indicated.
- B. Where two or more pump systems of the same type or size are required, all pumps shall all be produced by the same Manufacturer.
- C. Provide all labor, equipment and materials and perform all operations in connection with the supply and testing of pumps selected by the Owner.
- D. Coordinate and utilize all factory testing, installation, start-up, and field-testing services supplied in conjunction with the pumping equipment.
- E. All work performed under this Section shall be in accordance with all approved trade practices and Manufacturer's recommendations.
- F. Section includes:
 - 1. General pump material, components and appurtenances for liquid pumps.
 - 2. Quality control factory and field testing.
- G. Related Sections:
 - 1. Section 43 21 27, Vertical Turbine Pumps, Can Type, Open Lineshaft

1.2 REFERENCE STANDARDS

- A. American Society of Mechanical Engineers (ASME):
 - 1. ASME B1.20.1 - Pipe Threads, General Purpose (Inch).
 - 2. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - 3. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard.
- B. NSF International:
 - 1. NSF 61 - Drinking Water System Components - Health Effects.
 - 2. NSF 372 - Drinking Water System Components - Lead Content.
 - 3. NSF 600 - Health Effects Evaluation and Criteria for Chemicals in Drinking Water.
- C. Occupational Safety and Health Administration (OSHA):
 - 1. 29 CFR 1910 - Occupational Safety and Health Standards.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 00, Submittal Procedures: Requirements for submittals.

- B. Shop Drawings: Provide the following information:
1. Pump name, identification number, and applicable Section number from Project specifications.
 2. Performance Data Curves:
 - a. Provide performance curve showing head, capacity, horsepower demand, net positive suction head (NPSH) required and pump efficiency over the entire operating range of the pump.
 - b. Pump Manufacturer shall indicate separately the head, capacity, horsepower demand, overall efficiency, and minimum submergence required at the design flow conditions and the maximum and minimum flow conditions.
 3. The limits on the performance curves recommended for stable operation without surge, cavitation, or excessive vibration, known as the Acceptable Operating Range (AOR), per the Hydraulic Institute.
 4. Assembly and Installation Drawings: Including shaft size, seal, coupling, bearings, anchor bolt plan, part nomenclature, material list, outline dimensions, and shipping weights.
- C. Provide calculations for vertical turbine pumps as a designated seismic system and provide Special Seismic Certification as specified in 13 05 41-Design Load and Restraint Requirements for Non-Structural Components and Systems.
- D. All pump motor information as required in Division 26, including complete motor nameplate data as defined by NEMA, motor manufacturer and any motor modifications.
- E. Head structural analysis as specified herein and where required by individual pump sections.
- F. Provide lateral and torsional analysis as specified herein and where required by individual pump specifications.
- G. Operation and Maintenance Manual: Containing the required information for each pump section.
- H. Spare Parts List: Containing the required information for each pump section.
- I. Factory Test Data: Signed, dated, and certified for each pump system which requires factory testing submitted before shipment of equipment. Requirements for factory test data are specified below.
- J. Certifications:
 1. Manufacturer's certification of proper installation.
 2. Supplier's certification of satisfactory field testing.
- K. All pump motor information as required in Division 26.
- L. Certificate of Compliance:

1. Submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.

1.4 QUALITY ASSURANCE

- A. Materials in Contact with Potable Water: Certified to NSF Standards 61 and 372.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years' documented experience.
- B. The pumps shall be supplied by a distributor authorized to service them throughout the warranty period and beyond. The distributor shall be located within a 100-mile radius of the site.
- C. Pump supplier shall have at least 5 municipal vertical turbine pump installations of pumps larger than 150 horsepower within the last 10 years and located within 200 miles of the project site.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in Manufacturer's original packaging and inspect for damage.
- B. Store materials according to Manufacturer instructions.
- C. Protection:
 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 2. Provide additional protection according to Manufacturer instructions.

1.7 WARRANTY

- A. Furnish 36-month Manufacturer's warranty for pumping systems.

PART 2 PRODUCTS

2.1 GENERAL

- A. All materials and equipment shall be new and unused except for the testing specified herein.
- B. Compliance with the requirements of the individual pump sections may necessitate modifications to the Manufacturer's standard equipment.
- C. All centrifugal pumps shall have a continuously rising performance curve. In no case shall the required horsepower at any point on the performance curve exceed the rated horsepower of the motor or engine or encroach on the service factor.

- D. All components of each pump system provided under the pump sections shall be entirely compatible. Each unit of pumping equipment shall incorporate all basic mechanisms, couplings, electric motors or engine drives, variable speed controls, necessary mountings, and appurtenances.
- E. The pumping units shall all be supplied by one vendor (unit responsibility) and shall be complete including pumps, motors, column assemblies, suction cans, baseplates, couplings, guards, and other accessories.
- F. The complete pump assembly shall be designed and built for continuous service at any and all points within the specified range of operation, without overheating, without damaging cavitation, and without excessive vibration or noise.

2.2 MATERIALS

- A. All materials shall be suitable for the intended application; materials not specified shall be high-grade, standard commercial quality, free from all defects and imperfection that might affect the serviceability of the product for the purpose for which it is intended, and shall conform to the following requirements:
 - 1. Cast iron pump casings and bowls shall be of close-grained gray cast iron, conforming to ASTM A 48 - Gray Iron Casings, Class 30, or equal.
 - 2. Stainless steel pump shafts shall be Type 416 or 316.
 - 3. Miscellaneous stainless steel shall be of Type 316, except in a septic environment.
 - 4. Anchor bolts, washers, and nuts supplied by the Supplier for non-corrosive applications shall be ASTM A307, Grade 2 (60 ksi), hot-dip galvanized.

2.3 PUMP COMPONENTS, GENERAL

- A. Flanges: Suction and discharge flanges shall conform to ANSI/ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings, Class 12, 125, 250, and 800 or B16.5 - Flanges and Flanged Fittings dimensions.
- B. Handholes: Handholes on pump casings shall be shaped to follow the contours of the casing to avoid any obstructions in the water passage.

2.4 PUMP APPURTENANCES

- A. Nameplates: Each pump shall be equipped with a stainless steel nameplate indicating serial numbers, rated head and flow, impeller size, pump speed, and Manufacturer's name and model number.
- B. Gauges: Provide and install pressure gauges as shown on the Drawings.
 - 1. All pumps (except sample pumps, sump pumps, hot water circulating pumps, and chemical metering pumps) shall be equipped with pressure gauges on the pump discharge.
 - 2. Gauges shall be located in a representative location, where not subject to shock or vibrations, in order to achieve true and accurate readings.

3. Isolation diaphragms shall be provided for all gauges except where pumping potable water.
4. Where subject to shock or vibrations, the gauges shall be wall-mounted or attached to galvanized channel floor stands and connected by means of flexible connectors.

2.5 SHAFT COUPLING GUARDS

- A. Comply with OSHA requirements.

2.6 FINISHES

- A. As required in the individual pump specifications.

2.7 SOURCE QUALITY CONTROL

- A. Factory Testing:

1. Pump Systems: All centrifugal pump systems 100 horsepower (hp) and larger, and as specified in individual pump specification sections, shall be tested at the pump factory in accordance with the American National Standard for Rotodynamic Pumps for Hydraulic Performance Acceptance Test (ANSI/HI 14.6) and published by the Hydraulic Institute.
2. For motors smaller than 100 hp, the Manufacturer's certified test motor shall be acceptable. For motors larger than 100 hp, tests shall be performed using the complete pump system to be furnished, including the motor. The following minimum test data shall be submitted:
 - a. Hydrostatic test data.
 - b. A minimum of five hydraulic test readings between shutoff head and 25 percent beyond the maximum indicated capacity, recorded on data sheets as defined by the Hydraulic Institute.
 - c. Pump test data curves showing head, flowrate, bhp, and efficiency. Acceptance level shall be Grade 1U as defined by ANSI/HI 14.6.
 - d. Certification that the pump horsepower demand did not exceed the rated motor hp beyond the 1.0 service rating at any point on the curve.
 - e. Mechanical test data per ANSI/HI 14.6 Appendix E, including testing for vibration, lack of leakage at shaft seals, gaskets and other lubricated areas, and satisfactory operation of rotating parts at the rated pump operating conditions.
 - f. Vibration test results meeting ANSI/HI 9.6.4 requirements.
3. Factory Witnessed Tests: Factory witnessed testing for this Project not required.
4. Acceptance: In the event of failure of any pump to meet any of the requirements, the Supplier and Pump Manufacturer shall make all necessary modifications, repairs, or replacements to conform to the requirements of the Contract Documents and the pump shall be retested at no additional cost to the Owner until found satisfactory.

- B. Lateral, Torsional and Structural Rotordynamic Analysis - Where specified in the individual pump sections, the Supplier with system responsibility shall perform a complete lateral, torsional and head structural analysis of each distinct pump-motor system to be provided on this Project. These analyses shall be performed in accordance with the Level 1, Level 2 or Level 3 analysis guidelines outlined in HI 9.6.8 for the entire pump system.
1. Lateral and Torsional Analysis:
 - a. This analysis shall identify the dry and wet lateral critical and the torsional critical speeds.
 - b. This analysis shall be performed prior to fabrication of the machinery and shall be submitted for review as part of the pump submittal.
 - c. The pump and motor manufacturers shall furnish detailed mass elastic data to the Engineer, to be used for an independent evaluation of the analysis completed and no active critical speed shall be allowed within 25 percent of the operating speed range. Any encroachment within that range shall be eliminated to the satisfaction of the Engineer.
 2. Head Structural Analysis:
 - a. This analysis shall be performed prior to fabrication of the machinery and shall be submitted for review as part of the pump submittal.
 - b. Perform a complete head lateral analysis of each distinct pump-motor system that analyzes the head and motor combination.
 - c. This analysis shall include a Finite Element Analysis (FEA) to determine the natural frequencies of the above grade head and motor assembly, assuming a rigid foundation. The analysis shall show that the natural frequencies do not encroach within plus or minus 25 percent of any normal operating speed.
- C. Do not ship equipment until test data have been accepted by Engineer.

PART 3 EXECUTION

3.1 SERVICES OF PUMP MANUFACTURER

- A. An authorized service representative of the Manufacturer shall visit the Site to witness the following and to certify in writing that the equipment have been properly installed, aligned, lubricated, adjusted, and readied for operation:
1. Installation of the equipment.
 2. Inspection, checking, and adjusting the equipment.
 3. Startup and field testing for proper operation.
 4. Performing field adjustments to ensure that the equipment installation and operation comply with requirements.

5. Requirements are more specifically detailed herein and in individual pump specifications.
- B. Instruction of the Owner's Personnel:
1. An authorized training representative of the Manufacturer shall visit the Site to instruct the Owner's personnel in the operation and maintenance of the equipment, including step-by-step troubleshooting with necessary test equipment.
 2. Instruction shall be specific to the models of equipment provided.
 3. The Pump Manufacturer's representative shall have at least 2 years' experience in training.
 4. Training shall be scheduled a minimum of 3 weeks in advance of the first session.
 5. Proposed training material and a detailed outline of each lesson shall be submitted for review. Comments shall be incorporated into the training materials.
 6. The training materials shall remain with the trainees.
 7. The Owner may digitally record the training for later use with the Owner's personnel.

3.2 INSTALLATION-BY OTHERS

- A. Pump cans supplied under this contract will be installed by the PWB Bull Run Filter Facility contractor. Pumps supplied under this contract will be installed by the Owner's Pump Installation Contractor.
- B. General: Pumping equipment shall be installed in accordance with the manufacturer's written recommendations.
- C. Alignment:
1. All equipment shall be field tested to verify proper alignment, operation as specified and freedom from binding, scraping, vibration, shaft runout or other defects.
 2. Pump drive shafts shall be measured just prior to assembly to ensure correct alignment without forcing.
 3. Equipment shall be secure in position and neat in appearance.
- D. Lubricants: Provide the necessary oil and grease for initial operation.

3.3 FIELD TESTS

- A. Engineer shall be notified of witness field testing and shall witness portions of the testing, as determined by the Engineer.
- B. Each pump system shall be field tested after installation to demonstrate satisfactory operation without excessive noise, vibration, cavitation, or overheating of bearings.

- C. Test for proper alignment and freedom from binding, scraping, shaft runout, or other defects.
- D. Field testing methods and allowable tolerances shall comply with current version of the Hydraulics Institute standards for the type of pumps installed.
- E. The following field testing shall be conducted:
 - 1. Startup, check, and operate the pump system over its entire speed range. Where vibration analysis and measurement are required, it shall be within the amplitude limits specified and recommended by the Hydraulic Institute Standards at a minimum of four pumping conditions defined by the Engineer.
 - 2. Obtain concurrent readings of motor voltage, amperage, pump suction head and pump discharge head for at least four pumping conditions at each pump rotational speed. Check each power lead to the motor for proper current balance.
 - 3. Electrical and instrumentation tests shall conform to the requirements of the Section under which that equipment is specified.
 - 4. Field vibration readings shall be conducted by an Owner approved certified pump vibration testing agency, paid for by the Pump Installation Contractor, with readings taken at the following positions with the average not exceeding the current Hydraulic Institutes standards for the type of pump installed.
 - a. Measurements shall be taken at the locations as specified in the current Hydraulic Institute standards for the type of pump installed. Provide written proof of vibration readings and provide test data.
 - b. Owner approved testing agencies: OTS Precision Balancing.
 - 5. Sound test not to exceed 85 dbA at 3 feet from motor in any direction.
- F. Field testing will be witnessed by the Engineer.
- G. Equipment Acceptance:
 - 1. Acceptance shall include a comparison of measured installed pump performance with the Manufacturer's curve values. Any discrepancy shall be resolved prior to acceptance by the Owner.
 - 2. Adjust, repair, modify, or replace components failing to perform as specified and rerun tests until the performance is verified.
 - 3. Make final adjustments to equipment under direction of Manufacturer's representative.
 - 4. After each pumping system has satisfied the requirements, the Pump Installation Contractor shall certify in writing that it has been satisfactorily tested and that all final adjustments have been made. Certification shall include the date of the field tests, a listing of all persons present during the tests, and the test data.

END OF SECTION

SECTION 43 21 27 - VERTICAL TURBINE PUMPS, CAN TYPE, OPEN LINESHAFT

PART 1 GENERAL

1.1 SUMMARY

- A. Work covered in this Section includes furnishing, installing, start-up and operation training for vertical turbine pumps of the can type with open lineshaft.
- B. Like items of equipment specified herein shall be the end product of one manufacturer.
- C. Electrical controls and motor design requirements are specified in this section and the electrical section of these specifications.
- D. The pump supplier shall be responsible for coordinating the pump requirements with the Pump Drive Manufacturer and shall be responsible for the overall pump and drive requirements.
- E. Pump shall be NSF certified as required by Section 43 21 00, Liquid Pumps.

1.2 SUBMITTALS

- A. Submittals shall be made in accordance with Section 01 33 00, Submittal Procedures
- B. Provide fully engineered pump submittal as specified in Section 43 21 00-1.5, Liquid Pumps.
- C. **Bid Package Pump and Pump Barrel (Can) Submittal:**
 - 1. Pump barrel shall be submitted as part of the Suppliers Bid Package for early approval and installation by the Installation Contractor. Pump dimensional and performance curve information shall also be provided, however the fully engineered pump submittal can follow after the Supplier has been awarded and Notice to Proceed issued. Pump and pump barrel submittal shall be provided by the pump supplier/manufacturer and shall include the following:
 - a. Pump barrel material information.
 - b. Pump barrel coating and lining information.
 - c. Shop drawings of pump barrel, pump discharge head and pump. Shop drawings shall include dimensions of the pump can that are coordinated with the pump dimensions.
 - d. Performance curve of pump selection to confirm that pump selection meets the performance criteria specified herein.
 - e. Pump barrel fabrication lead time.

1.3 REFERENCES

Pumps shall meet the requirements of the latest version of the Hydraulic Institute Standards, except where modified herein.

1.4 PUMP ANALYSIS AND VIBRATION TESTING

- A. Pump vendor shall provide head structural analysis per Section 43 21 00, Liquid Pumps.
- B. Pump vendor shall provide lateral rotor dynamic analysis and torsional natural frequency analysis per Section 43 21 00, Liquid Pumps.
- C. Pump vendor shall provide Special Seismic Certification per Section 43 21 00, Liquid Pumps and Section 13 05 41-Design Load and Restraint Requirements for Non-Structural Components and Systems.
- D. Pump vendor shall provide factory vibration testing per Section 43 21 00-2.7.A, Liquid Pumps.
- E. Field vibration measurements during field testing of each pump-motor unit shall be provided per Section 43 21 00, Liquid Pumps.
 - 1. The Pump Installation Contractor shall provide the services of a pump vibration specialist who shall be experienced in this type of work and who shall be approved by the Owner as specified in Section 43 21 00. This specialist shall visit the project site during startup and testing of the equipment to analyze and measure the amount of pump vibration and make a written recommendation for keeping the vibration within hydraulic institute parameters and at a safe limit.
 - 2. If vibration results exceed the specified limits as identified in Section 43 21 00, Pump Installation Contractor and Pump Supplier shall make corrections until the vibration limits are met. This could include balancing of the pumps, resurfacing of pump mounting flanges or base plate, or other approved corrective measures to meet the vibration limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable pump manufacturers shall be Floway, Flowserve, or equal.

2.2 DESCRIPTION

- A. Identification :

Location	Bull Run Supply Pump Station
Pump Label(s)	Pump No. 1, Pump No. 2
Quantity	2 Pumps (4 Pump Cans)

- B. Performance Requirements at Full Pump Speed:

Maximum Shutoff Head (ft)	540
Minimum Shutoff Head (ft)	500
Design Flow Capacity:	
Duty Point #1	1,770 gpm @ Between 358' TDH to 367' TDH
Duty Point #2	1,275 gpm @ 450' TDH

Minimum Bowl Efficiency:	
Duty Point #1	82%
Duty Point #2	N/A
Maximum Pump Speed (rpm)	1,800
Motor Size (hp)	250

C. Operating Conditions:

Duty	Continuous
Drive	Constant Speed
Ambient Environment	Indoor
Ambient Temperature	33° - 110° F
Fluid Service	Potable Water
Fluid Temperature	33° - 75° F
Fluid pH Range	6.0 to 8.5
Fluid Specific Gravity	1.0
Fluid Viscosity (absolute) (centipoises at 60° F)	1.12
Pump Station Floor Elevation	Refer to Plans
Maximum NPSHr at Duty Point #1	18 ft

D. Pump Dimensions:

Suction Diameter	16
Suction Flange Rating (AWWA)	Class D Flange (AWWA) or Class 150 Flange (ANSI B16.5)
Discharge Head Flange Diameter (in)	10
Discharge Head Flange Rating (AWWA)	Class E Flange (AWWA) or Class 150 Flange (ANSI B16.5)
Minimum Column Shaft Diameter (in)	Per Manufacturer
Minimum Pump Bowl Shaft Diameter (in)	Per Manufacturer
Minimum Column Diameter (in)	8
Suction Barrel Diameter (in)	20
Maximum Pump Bowl Assembly Diameter (in)	To fit inside suction can with clearances provided for installation and removal and provide less than 5 ft/s suction velocity between can and largest pump diameter (bowl or column flange), per HI requirements.
Minimum Setting (Distance from underside of discharge head or base plate to column pipe connection at bowl assembly)	As required based on maximum can length and pump bowl submergence, Per HI Requirements
Approximate Suction Barrel Length (in)	513-11/16 (see note 1 below table)

Pump Bowl Submergence requirements (in)	As required by pump manufacturer to meet HI requirements
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- 1) Suction barrel length indicated is from bottom (exterior) of pump can to the mating surface of the pump can mounting flange.

E. Other Requirements

1. The head-capacity curve shall exhibit a uniformly rising characteristic from free discharge to shutoff. The pump motor shall be non-overloading throughout the entire pump curve.
2. All flow capacity and head duty points shall be within the Preferred Operating Range (POR) of 70% to 120% of the Best Efficiency Point (BEP). Pumps shall only operate within the POR.

2.3 PUMP CONSTRUCTION

A. Pump bowls shall be cast-iron, lined and coated with one of the following coating and lining systems:

1. Provided with a one part, heat curable, thermosetting epoxy coating designed for corrosion protection of metal. The epoxy shall be applied as a dry powder which melts and cures to the surface to create a uniform thickness. The lining and coating shall be NSF 61 600 approved Skotchkote 134, manufactured by 3M or equal.
2. Provided with a high solids polyamine epoxy that is formulated for use for potable water applications and meets requirements of AWWA C210 and NSF 61/600. The lining and coating shall be Hydroplate 1086, manufactured by Carboline or equal.

B. The impellers shall be ASTM B584 UNS C90300 bronze or Type 316 stainless steel and shall be statically and dynamically balanced. They shall be securely fastened to the shaft with tapered lock collets, threaded lock collets or double keys. The impellers shall be adjustable vertically by external means at the driver location.

C. Replaceable impeller and pump bowl wear rings shall be provided. Impeller wear rings shall be either B148 alloy C952 or B271 alloy C954, and pump bowls wear rings shall be B271 alloy C954 for pumps with bronze impellers. For pumps with stainless steel impellers, Type 316 stainless steel wear rings shall be provided on the impellers with bronze for the pump bowls.

D. The bowl shaft shall be stainless steel, Type 410, 416, or 316.

E. The suction bell shall be cast-iron with a bottom bearing and streamlined ribs. Lining and coating shall be the same as the pump bowls.

F. The column pipe shall be not less than Schedule 40 steel pipe. Pipe sections shall not exceed 10 feet in length. The column pipe shall be epoxy lined and coated with the same coating as the pump bowls.

G. The line shaft and couplings shall be Type 416 stainless and sized such that the natural frequency of the shaft is avoided by a minimum 25 percent throughout the entire operating range. Line shaft sections shall not exceed 10 feet in length.

- H. Line shaft shall be product lubricated.
- I. The shaft seal shall be a mechanical type and meet the requirements of one of the following options:
 1. Cartridge seal utilizing a flexible stator design. Metal parts shall be 316 stainless steel and seal faces shall be sintered silicon carbide with fluoroelastomer gaskets. Springs shall be isolated from the process fluid and be designed to eliminate shaft fretting and stress corrosion. Seal shall include multiple coil springs for even face loading. Seal shall be supplied with a tangential flush port and carbon throttle bushing with quench and drain ports. Seal shall be designed to dissipate heat at the seal face. Set screws shall be type 17-4 H900 stainless steel to securely engage the shaft or pump sleeve. Mechanical seal shall be model ISC2-PX-61 manufactured by Flowserve , or approved equal.
 2. Cartridge seal shall be equipped with non-clogging, single coil springs and non-sliding, internal, secondary elastomers. Metal parts shall be Type 316 stainless steel, alloy 20, or Hastelloy B or C. Sealing materials shall be resin impregnated carbon for primary ring and silicon carbide for mating ring. O-ring material shall be flouroelastemer. Seal shall be John Crane type 5610 or equal.
- J. The discharge head shall be fabricated steel. Fabricated steel discharge head shall be reinforced to withstand pipe thrust and the entire weight of the pump and driver. Discharge head shall be lined and coated with an NSF 61 coating system that matches the pump bowls and shall include flange and base plate. Forged steel half-couplings for air valve and drain connections shall be a minimum of 1 1/4-inch and 3000 lbs.
- K. The motor shaft coupling shall be a 4-piece, heavy-duty adjustable spacer coupling, to allow for mechanical seal removal, with machined registered fit per Pump Manufacturer and complying with ANSI/AWWA E-103 and ANSI/HI 2.1 through 2.5 specifications.
- L. The bottom bearing shall be a close tolerance sleeve type conforming to ANSI/AWWA E-103 and ANSI/HI 2.1 through 2.5 specifications with a length minimum of 2 1/2 times shaft diameter. Suction case shall be permanently grease lubricated with non-soluble grease.
- M. The bowl and suction case bearings shall be of the bronze sleeve type.

2.4 SUCTION BARREL FOR CAN TYPE PUMPS

- A. The suction barrels (cans) shall be supplied by the Pump Manufacturer or Supplier and shall be fabricated steel, 3/8-inch thick, lined with NSF 61 listed coating system that matches the pump bowls.
- B. Suction barrels shall come with an extra-heavy carbon steel mounting plate, drilled and tapped to match the discharge head. Provide pump can mounting plate with 1" threadolet for future connection of 1" piping and air release valve.
- C. Suction barrel shall come equipped with flow vanes, if required by HI and Pump Manufacturer requirements. If not required by HI or Pump Manufacturer then flow vanes are not required.
- D. Provide recommendation for touch up coating system for pump barrel for future Pump Station Installer that will be installing the pump onto the pump barrel mounting flange.

2.5 MOTORS

- A. Each pump shall be provided with a vertically mounted three-phase 480 Volt electric motor that conforms to the following requirements and the specifications in Division 26 20 00, Low Voltage AC Induction Motors.
- B. The brake horsepower required by the driven equipment anywhere on the pump curve shall not exceed the rated nameplate horsepower of the motor. The ratings indicated are minimums. Motors shall be designed to accept the total, unbalanced thrusts imposed by the pump.
- C. Pumps shall be provided with Resistance Temperature Detector (RTD's) as specified in Section 26 05 88-Premium Efficiency Vertical Motors.

2.6 PUMP CONTROLS

For controls see Specifications within Division 40.

2.7 SPARE PARTS:

- A. The pumps shall be provided with the following spare parts for each pump:
 - 1. One mechanical seal.

PART 3 EXECUTION

3.1 PUMP BARREL INSTALLATION-BY OTHERS

3.2 SERVICES OF MANUFACTURER

- A. Installation -- The service representative of the Manufacturer shall be continuously present at the site to supervise the assembly and installation of the pumps.
- B. Inspection, Startup and Field Adjustment -- The service representative of the Manufacturer shall be present at the site for not less than 4 workdays in addition to those days provided in the previous paragraph for pump installation.
- C. Instruction of Owner's Personnel -- The training representative of the Manufacturer shall be present at the site for 1 workday in addition to those days provided in the previous paragraphs, to furnish services required by Section 43 21 00, Liquid Pumps. Coordinate with Engineer and Owner.
- D. For the purposes of this paragraph, a workday is defined as an eight-hour period at the site, excluding travel time.
- E. The Engineer may require that the inspection, startup, and field adjustment services above be furnished in three separate trips.
- F. The Pump Supplier shall provide field vibration testing per Specification 43 21 00, Liquid Pumps.

END OF SECTION