

SPECIFICATIONS & CONTRACT DOCUMENTS



CITY OF SANDY

Alder Creek Water Treatment Plant Upgrades - Electrical Pre-Procurement

VOLUME No. 1 of 1

CITY OF SANDY PROJECT #: 520-152-722300

Engineer for Division 0 – Adam Odell, PE

Engineer for Division 1 & 26 – Bradley Culver, PE

AUGUST 2025



Keller Associates

4800 SW Griffith Dr., Suite 128
Beaverton OR 97005

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ALDER CREEK WATER TREATMENT PLANT UPGRADES – ELECTRICAL PRE-PROCUREMENT
FOR
CITY OF SANDY

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REQUESTING BIDS FOR ALDER CREEK WATER TREATMENT PLANT UPGRADES – ELECTRICAL PRE-PROCUREMENT

PROJECT SUMMARY

The City of Sandy (City) is addressing critical challenges with its aging drinking water infrastructure through the Sandy Drinking Water Reinvestment Program (SDWRP) to better serve the City's residents. These improvements include replacement of their filters with membrane filter system and upgrades to other assets. The City is requesting bids for long-lead electrical equipment pre-procurement to support these upgrades.

All questions regarding this bid shall be submitted via email to adam.odell@stantec.com (please cc benjamin.strate@stantec.com, portia.inman@stantec.com and ajthorne@ci.sandy.or.us) by **September 2nd, 2025 at 5:00 PM**.

Bid proposal packets shall be submitted electronically, and shall include one (1) original copy of the bid proposal packet in pdf format not exceeding 15 mb via email to ajthorne@ci.sandy.or.us no later than **2:00 pm, September 9th, 2025**. Submissions received after the specified time will not be accepted.

Bid documents are available through the City's site at www.ci.sandy.or.us/rfps

INSTRUCTIONS TO BIDDERS FOR PROCUREMENT CONTRACTS

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INSTRUCTIONS TO BIDDERS FOR PROCUREMENT CONTRACT

ARTICLE 1—SCOPE

- 1.01 The Buyer is seeking a Bidder to furnish and deliver separate pieces of electrical equipment: a switchboard, a standby generator, and automatic transfer switches for the Alder Creek Water Treatment Plant. These Goods are being procured to support critical infrastructure operations and must comply with all applicable specifications and performance standards.
- A. The Bidder shall provide all labor, materials, equipment, and services necessary to furnish and deliver the specified Goods. This includes procurement, inspection, testing (as applicable), delivery, and technical support related to:
 - 1. One (1) switchboard
 - 2. One (1) standby generator, and
 - 3. Automatic transfer switch (quantity and specifications as defined in the technical requirements).
 - B. The Bidder shall:
 - 1. Coordinate procurement and ensure delivery in accordance with Buyer's required schedule
 - 2. Comply with all technical specifications provided in the bid documents.
 - 3. Provide any documentation, certifications, or warranties required.
 - 4. Ensure the equipment is ready for installation upon delivery, with clear instructions and labeling.
 - 5. Assist with post-delivery support, including responses to any nonconformance issues.
 - 6. Follow Oregon public contracting laws including, but not limited to, those provided in Exhibit A.
 - C. The Bidder is expected to:
 - 1. Delivery of all Goods in new, unused condition in full compliance with the specified performance and quality requirements.
 - 2. Meet all delivery timelines and inspection protocols set forth by the Buyer.
 - 3. Coordinate with Buyer for delivery logistics.
 - 4. Respond promptly to any deficiencies or warranty claims.
 - D. Unless otherwise specified by the Buyer for Good Cause, the Bidder shall meet or exceed the highest standards prevalent in the electrical equipment manufacturing and supply industry for switchboards, standby generators, and automatic transfer switches. Delivery schedule, inspection procedures, and acceptance criteria will be detailed in the resulting Agreement and technical specifications.

ARTICLE 2—DEFINED TERMS

- 2.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below.
- A. *Issuing Office*—The office from which the Procurement Bidding Documents are to be issued and where the bidding procedures are to be administered.
 - B. *Apparent Low Bidder*—that Bidder whose Bid is offered in the Bid Form represents the lowest total as determined by the Lump Sum Bid.
 - C. *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.

ARTICLE 3—PROCUREMENT BIDDING DOCUMENTS

- 3.01 Bidder must use a complete set of the Procurement Bidding Documents in preparing the Bid; neither Buyer nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Procurement Bidding Documents.
- 3.02 Buyer and Engineer make copies of Procurement Bidding Documents available on the above terms only for obtaining Bids for furnishing Goods and Special Services, and do not authorize or confer a license for any other use.

ARTICLE 4—QUALIFICATIONS OF BIDDERS

- 4.01 Buyer may at any time conduct such investigations as Buyer deems necessary to establish the responsibility, qualifications, and financial ability of Bidder, and after the opening of Bids may require a Bidder to submit documentation of its qualifications, including but not limited to financial data and documentation of previous experience providing goods and services comparable to the specified Goods and Special Services.
- 4.02 Bidder is to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 5—SITE VISIT; PRE-BID CONFERENCE

- 5.01 A pre-bid conference will not be held for this procurement.

ARTICLE 6—INTERPRETATIONS AND ADDENDA

- 6.01 All questions about the meaning or intent of the Procurement Bidding Documents are to be submitted to Engineer in writing at:
- Adam Odell, P.E.**
adam.odell@stantec.com
- 6.02 Interpretations or clarifications considered necessary by Engineer in response to such written questions will be issued by Addenda mailed or delivered to all parties recorded as having received the Procurement Bidding Documents. Questions received less than 10 days prior to the date for opening of Bids will not be answered. Only answers in the Addenda will be binding. Oral

statements, interpretations, and clarifications may not be relied upon in the preparation of a Bid, and will not be binding or legally effective.

- 6.03 Addenda may be issued to clarify, correct, or change the Procurement Bidding Documents as deemed advisable by Buyer or Engineer.

ARTICLE 7—RESERVED

ARTICLE 8—PROCUREMENT CONTRACT TIMES

- 8.01 See applicable provisions in the Procurement Agreement.

ARTICLE 9—LIQUIDATED DAMAGES

- 9.01 Any provisions for liquidated damages, such as those for Seller's failure to attain a specified Milestone such as the delivery of the Goods, are set forth in the Procurement Agreement.

ARTICLE 10—CONFIDENTIALITY OF BID INFORMATION

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

- A. Trade secrets as identified in ORS 192.345(2);
- B. Information submitted in confidence as identified in ORS 192.355(2).
- C. If bidder believes any portion of its bid contains information considered a trade secret under ORS 192.345(2), or otherwise is exempt from disclosure under the Oregon Public Records Law, ORS 192.311 through 192.478, each page containing such information must include the following:

“This data is exempt from disclosure under the Oregon Public Records Law pursuant to ORS 192 and is not to be disclosed except in accordance with the Oregon Public Records Law, ORS 192.311 through 192.478.”

- 10.02 Identifying the bid in whole as exempt from disclosure is not acceptable. Cost information submitted in response to an ITB is generally not considered a trade secret under Oregon Public Records Law. If bidder fails to identify the portions of the Bid which Bidder claims are exempt from disclosure, bidder is deemed to have waived any future claim of non-disclosure of that information.
- 10.03 Notwithstanding any other provision of the Procurement Bidding Documents, it is stipulated and agreed that by accepting a Bid, Buyer has not and does not waive its legal immunity (if any) from suit or liability.

ARTICLE 11—“OR-EQUAL” ITEMS

- 11.01 The Procurement Contract, if awarded, will be based on material and equipment specified in the Procurement Bidding Documents without consideration of possible “or-equal” items. Whenever it is specified or described in the Procurement Bidding Documents that an “or-equal” item of

material or equipment may be furnished or used by Seller if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Procurement Contract. The procedure for submittal of any such application by Seller and consideration by Engineer is set forth in the General Conditions and may be supplemented in the Procurement Specifications.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Procurement Bidding Documents. Additional copies of Procurement Bidding Documents may be obtained from the Issuing Office.
- 12.02 All blanks on the Bid Form must be completed and the Bid Form must be signed by an individual authorized to act on behalf of the Bidder. Alterations must be initialed by an individual authorized to act on behalf of the Bidder. In the case of optional items, the words “No Bid” may be entered.
- 12.03 Bidder must acknowledge all Addenda by filling in the number and date of each Addendum in the Bid Form and sign where indicated to verify that the Addenda were received. A Bid that does not acknowledge receipt of all Addenda may be considered non-responsive.
- 12.04 Bidder shall:
 - A. Sign the Bid Form as indicated in the Bid Form.
 - B. Include evidence of authority to sign.
 - C. Provide information on the individual to be contacted for any communications regarding the Bid.
 - D. Provide evidence of the Bidder’s authority and qualification to do business in the locality of the Project, to the extent required, or indicate the ability to obtain such authority and qualification prior to award of the Procurement Contract.
- 12.05 The responsibilities of each Bidder submitting a Bid are described in the Bidder’s representations and certifications set forth in Article 6 of the Bid Form.

ARTICLE 13—BASIS OF BID; COMPARISON OF BIDS

- 13.01 *Series of Lump Sums*
 - A. Bidder shall submit a Bid for each lump sum item as set forth on the Bid Form, and shall compute and enter the total of all lump sum items in the space provided on the Bid Form.
 - B. The apparent low Bid will be determined on the basis of the total of all lump sum items.
 - C. Discrepancies between the indicated sum of any column of figures and the arithmetically correct sum will be resolved in favor of the arithmetically correct sum.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 Bidder shall refer to the **Alder Creek Water Treatment Plant Upgrades - Electrical Pre-Procurement Invitation to Bid** for specific identification of the date, time, and place where Bids are to be submitted.
- 14.02 Bidder must submit one separate unbound copy of the completed Bid Form, and, if required, the Bid Security and the other documents required to be submitted under the terms of Article 4 of the Bid Form.
- 14.03 A Bid must be submitted no later than the **September 9th, 2025**, electronically, less than 15 mb, or had delivered to the City of Sandy at 39250 Pioneer Blvd, Sandy, OR 97055 by **2:00 pm**. If submitted electronically, the subject of the email should be **“Alder Creek Water Treatment Plant Upgrades - Electrical Pre-Procurement”**. If delivered to the City, submit the Bid in an envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and the name and address of Bidder. Enclose the Bid security and other documents required to be submitted with the Bid as listed in the Bid Form. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation **“BID ENCLOSED.”**

ARTICLE 15—MODIFICATION OR WITHDRAWAL OF BID

- 15.01 A Bid may be modified or withdrawn by a document duly signed in the same manner that a Bid must be signed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 15.02 If, within 24 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, that Bidder may withdraw its Bid, and the Bid security will be returned.

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids, to the extent practicable, will be opened on **September 9th, 2025, at 2:30 pm**, unless obviously non-responsive, announced via Zoom at the following link: <https://stantec.zoom.us/j/92897206375>. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of the bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period 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.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF PROCUREMENT CONTRACT

- 18.01 Buyer reserves the right to reject any and all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Buyer also reserves the right to waive all informalities not involving price, time, or changes in the Goods and Special Services.
- 18.02 Buyer will reject the Bid of any Bidder that Buyer finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 In evaluating Bids, Buyer will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data as may be requested in the Bid Form or may be requested from Bidders prior to a Notice of Award.
- 18.04 If Buyer awards the Procurement Contract, such award will be to the responsible Bidder submitting the lowest responsive Bid. Notice of intent to award will be submitted to all bidders three (3) business days after the bid opening. Bidders have seven (7) calendar days to protest in accordance with OAR 137-048-0240.
- 18.05 City may award more than one contract by awarding separate items or groups of items to various bidders.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 Article 5 of the General Conditions and Article 5 of the Supplementary Conditions set forth Buyer's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the signed Procurement Agreement to Buyer, it must be accompanied by such bonds and acceptable evidence of insurance.

ARTICLE 20—SIGNING OF PROCUREMENT AGREEMENT

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

ARTICLE 21—RESERVED

ARTICLE 22—RESERVED

BID FORM FOR PROCUREMENT OF ELECTRICAL EQUIPMENT

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BID FORM FOR PROCUREMENT OF ELECTRICAL EQUIPMENT

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

ARTICLE 1—BUYER AND BIDDER

1.01 This Bid is submitted to:

Bids shall be submitted electronically, or hand delivered to AJ Thorne, Public Works Director, City of Sandy. The subject of the email should be titled: **“Alder Creek WTP Electrical Equipment Procurement”**.

AJ Thorne, PE
Public Works Director – City of Sandy
39250 Pioneer Blvd
Sandy, OR 97055
ajthorne@ci.sandy.or.us

Bid is to be submitted

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

ARTICLE 2—BASIS OF BID

2.01 *Lump Sum Bids*

A. Bidder will furnish the Goods and Special Services in accordance with the Procurement Contract Documents for the following Procurement Contract Price(s):

1. Lump Sum Bid Price

Item No.	Description	Item Total
1	Switchboard	\$
2	Standby-Generator	\$
3	Automatic Transfer Switches	\$

B. Bidder may elect to bid on select items or every item. Bidder shall clearly state “NO BID” for any items not bid.

2.02 *Total Bid Price*

A. The following Total Bid Price is the sum of the Lump Sum Bid Price from Paragraph 2.01.

Total Bid Price	\$
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ARTICLE 3—TIME OF COMPLETION

- 3.01 Bidder agrees that the furnishing of Goods and Special Services will conform to the schedule of Procurement Contract Times set forth in Article 2 of the Procurement Agreement.
- 3.02 Bidder accepts the provisions of the Procurement Agreement as to liquidated damages.

ARTICLE 4—ATTACHMENTS TO THIS BID

- 4.01 The following documents are attached to and made a condition of this Bid:
- A. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids.

ARTICLE 5—BIDDER'S ACKNOWLEDGMENTS

- 5.01 Bidder accepts all terms and conditions of the Instructions to Bidders. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period that Bidder may agree to in writing upon request of Buyer.
- 5.02 Bidder has examined and carefully studied the Procurement Bidding Documents, the related data identified in the Procurement Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 *Bidder's Representations*
- A. In submitting this Bid, Bidder represents that:
1. Bidder has examined and carefully studied the Procurement Contract Documents.
 2. If required by the Instructions to Bidders to visit the Point of Destination and the site where the Goods are to be installed or Special Services will be provided, or if, in Bidder's judgment, any observable local or site conditions may affect the delivery, cost, progress, or furnishing of the Goods and Special Services, then Bidder has visited the Point of Destination and site where the Goods are to be installed or Special Services will be provided (as applicable) and become familiar with and is satisfied as to the observable local and site conditions that may affect delivery, cost, progress, and furnishing of the Goods and Special Services.
 3. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect the cost, progress, and performance of Seller's obligations under the Procurement Contract.
 4. Bidder has carefully studied, considered, and correlated the information known to Bidder with respect to the effect of such information on the cost, progress, and performance of Seller's obligations under the Procurement Contract.

5. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Procurement Contract Documents, and the written resolution (if any) thereof by Engineer is acceptable to Bidder.
6. The Procurement Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of Seller's obligations under the Procurement Contract.
7. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of the Bidding Requirements, that without exception the Bid (including all Bid prices) is premised upon furnishing the Goods and Special Services as required by the Procurement Contract Documents.

6.02 *Bidder's Certifications*

A. Bidder certifies that:

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

This Bid is offered by:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

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

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

License No.:

Classification:

Limitation:

PERFORMANCE BOND FOR PROCUREMENT CONTRACT

Seller Name: _____ Address (principal place of business): _____	Surety Name: _____ Address (principal place of business): _____
Buyer Name: City of Sandy Mailing address (principal place of business): 39250 Pioneer Boulevard, Sandy, OR 97055	Procurement Contract Description (name and location): Alder Creek Water Treatment Plant Upgrades – Electrical Pre-Procurement Procurement Contract Price: _____ Effective Date of Procurement Contract: _____
Bond Bond Amount: \$ _____ Date of Bond: ____/____/_____ <i>(Date of Bond cannot be earlier than Effective Date of Procurement Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 15	
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
<i>(Full formal name of Seller)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to 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 Procurement Contract, which is incorporated herein by reference.
2. If the Seller performs the Procurement 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 Procurement 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 Procurement 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 Procurement Contract, and notifies the Surety; and
 - 3.3. The Buyer has agreed to pay the Balance of the Procurement Contract Price in accordance with the terms of the Procurement Contract to the Surety or to a seller selected to perform the Procurement 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 Procurement Contract;
 - 5.2. Undertake to perform and complete the Procurement Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified sellers acceptable to the Buyer for a contract for performance and completion of the Procurement 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 Procurement Contract, and pay to the Buyer the amount of damages as described in Paragraph 7 in excess of the Balance of the Procurement 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 Surety 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 (7) 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 Procurement Contract, and the responsibilities of the Buyer to the Surety will not be greater than those of the Buyer under the Procurement Contract. Subject to the commitment by the Buyer to pay the Balance of the Procurement Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Seller for correction of defective or non-conforming Goods and Special Services, and completion of the Procurement 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 Procurement 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 Procurement Contract, and the Balance of the Procurement 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 Procurement 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 where the Point of Destination 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 of the Point of Destination, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted herefrom 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 Procurement Contract Price*—The total amount payable by the Buyer to the Seller under the Procurement 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 Procurement Contract.

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

14.3. *Goods and Special Services*—The full scope of materials, equipment, other items, and services to be furnished by Seller, as defined in the Procurement Contract.

14.4. *Point of Destination*—The location where delivery of the Goods shall be made, as stated in the Procurement Contract.

14.5. *Procurement Contract*—The contractual agreement between the Buyer and Seller identified on the cover page, including all Procurement Contract Documents and changes made to the Procurement Contract.

14.6. *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 Procurement Contract.

14.7. *Procurement Contract Documents*—All the documents that comprise the contractual agreement between the Buyer and Seller.

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

PAYMENT BOND FOR PROCUREMENT CONTRACT

Seller Name: _____ Address (principal place of business): _____ _____	Surety Name: _____ Address (principal place of business): _____ _____
Buyer Name: City of Sandy Mailing address (principal place of business): 39250 Pioneer Boulevard, Sandy, OR 97055	Procurement Contract Description (name and location): Alder Creek Water Treatment Plant Upgrades – Electrical Pre-Procurement Procurement Contract Price: \$ _____ Effective Date of Procurement Contract: ____/____/____
Bond Bond Amount: \$ _____ Date of Bond: ____/____/____ <i>(Date of Bond cannot be earlier than Effective Date of Procurement Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 17	
Surety and Seller, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Seller as Principal	Surety
_____ <i>(Full formal name of Seller)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to 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 to pay for labor, materials, and equipment furnished for use in the performance of the Procurement Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Seller promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Buyer from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Procurement Contract, then the Surety and the Seller shall have no obligation under this Bond.
3. If there is no Buyer Default under the Procurement Contract, the Surety's obligation to the Buyer under this Bond will arise after the Buyer has promptly notified the Seller and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Buyer or the Buyer's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Procurement Contract, and tendered defense of such claims, demands, liens, or suits to the Seller and the Surety.
4. When the Buyer has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Buyer against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Seller
 - 5.1.1. have furnished a written notice of non-payment to the Seller, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Seller have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Buyer to the Seller, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Buyer, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Seller may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

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

- 16.2.4. A brief description of the labor, materials, or equipment furnished;
 - 16.2.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Procurement Contract;
 - 16.2.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.2.7. The total amount of previous payments received by the Claimant; and
 - 16.2.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.3. *Claimant*—An individual or entity having a direct contract with the Seller or with a subcontractor of the Seller to furnish labor, materials, or equipment for use in the performance of the Procurement Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Point of Destination is located or where the Goods and Special Services are to be installed or furnished. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Procurement Contract, architectural and engineering services required for performance of the work of the Seller and the Seller's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.4. *Goods and Special Services*—The full scope of materials, equipment, other items, and services to be furnished by Seller, as defined in the Procurement Contract.
- 16.5. *Point of Destination*—The location where delivery of the Goods shall be made, as stated in the Procurement Contract.
- 16.6. *Procurement Contract*—The contractual agreement between the Buyer and Seller identified on the cover page, including all Procurement Contract Documents and all changes made to the Procurement Contract.
- 16.7. *Procurement Contract Documents*—All the documents that comprise the contractual agreement between the Buyer and Seller.
17. Modifications to this Bond are as follows: **None**

AGREEMENT BETWEEN BUYER AND SELLER FOR PROCUREMENT CONTRACT

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AGREEMENT BETWEEN BUYER AND SELLER FOR PROCUREMENT CONTRACT

This Procurement Agreement is by and between **City of Sandy** ("Buyer") and _____ ("Seller") for **ALDER CREEK WATER TREATMENT PLANT IMPROVEMENTS – ELECTRICAL PRE-PROCUREMENT** ("Procurement Contract").

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

Buyer and Seller hereby agree as follows:

ARTICLE 1—PROCUREMENT CONTRACT

1.01 *Goods and Special Services*

- A. Seller shall furnish the Goods and Special Services as specified or indicated in the Procurement Contract Documents. The Goods and Special Services are generally described as follows: The City of Sandy requests Bids for the procurement of a switchboard, an automatic transfer switch, and standby generator for the Alder Creek Water Treatment Plant (ACWTP) Improvements Project.

1.02 *The Project*

- A. The Project, of which the Goods and Special Services are a part, is generally described as follows: Upgrading and improving the infrastructure at ACWTP.

1.03 *Engineer*

- A. Buyer has retained **Keller Associates** ("Engineer"), to prepare Procurement Contract Documents and act as Buyer's representative. Engineer assumes all duties and responsibilities and has the rights and authority assigned to Engineer in the Procurement Contract Documents in connection with Seller's furnishing of Goods and Special Services.

1.04 *Point of Destination*

- A. The Point of Destination is designated as: Alder Creek Water Treatment Plant, which contains no known address, but is accessible from a private gravel road in between Whiskey Creek Rd. and E. Terra Fern Drive 7 miles east of Sandy, OR. Coordinate with City for details prior to delivery.

1.05 *Project Funding*

- A. This project was funded in part with a financial award from the Special Public Works fund, funded by the Oregon State Lottery and administered by the Oregon Infrastructure Finance Authority.

ARTICLE 2—PROCUREMENT CONTRACT TIMES

2.01 *Time of the Essence*

- A. All time limits for Milestones, including the submittal of Shop Drawings and Samples, the delivery of Goods, and the furnishing of Special Services as stated in the Procurement Contract Documents, are of the essence of the Procurement Contract.

2.02 *Schedule of Procurement Contract Times*

- A. The following schedule sets forth the Procurement Contract Times:

Milestone	Date or Days	Notes
Submit Shop Drawings	30 days after Executed Agreement	
Shop drawing Resubmittal	60 days after Executed Agreement	
Deliver acceptable Goods to Point of Destination	480 days after Executed Agreement	Delivery may be made in the 15-day period before delivery date
Readiness for Final Inspection and Acceptance of Goods and Special Services		

2.03 *Shop Drawings and Samples*

- A. *Submittal of Shop Drawings and Samples:* Seller shall submit all Shop Drawings and Samples required by the Procurement Contract Documents to Engineer for its review and approval.
- B. *Engineer's Review:* It is the intent of the parties that Engineer will conduct its review of Shop Drawings and Samples and issue its approval, or a denial accompanied by substantive comments regarding information needed to gain approval, within **15** days after Seller's submittal of such Shop Drawings and Samples, or within such longer period that is needed because of the quantity and quality of such submittals. Resubmittals will be limited whenever possible.

2.04 *Liquidated Damages*

- A. Buyer and Seller recognize that time is of the essence as stated in Paragraph 2.01, and that Buyer will suffer financial and other losses if the Goods are not delivered to the Point of Destination and ready for receipt of delivery by Buyer within the time specified in Paragraph 2.02, plus any extensions thereof allowed in accordance with this Procurement Contract. The parties also recognize that the timely performance of services by others involved in the Project is materially dependent upon Seller's specific compliance with the delivery requirements of Paragraph 2.02. Further, the parties recognize the time, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the loss (whether direct, consequential, or otherwise) suffered by Buyer if complete, acceptable Goods are not delivered on time. Accordingly, instead of requiring any such proof, Buyer and Seller agree that as liquidated damages for delay (but not as a penalty) Seller shall pay Buyer **\$125** for each day that expires after the time specified in Paragraph 2.02 for delivery of acceptable

Goods. Liquidated damages for failing to timely attain the delivery Milestones are not additive, and will not be imposed concurrently.

ARTICLE 3—PROCUREMENT CONTRACT PRICE

3.01 *Procurement Contract Price and Total Price—Based on Attached Bid*

- A. For furnishing the Goods and Special Services in accordance with the Procurement Contract Documents, Buyer shall pay Seller the prices stated in Seller's Bid, attached hereto as an exhibit.
- B. City may award more than one contract by awarding separate items or groups of items to various bidders.
- C. The items awarded under this agreement are items _____.

ARTICLE 4—PAYMENT PROCEDURES

4.01 *Submittal and Processing of Applications for Payment*

- A. Seller shall submit Applications for Payment in accordance with Article 13 of the General Conditions and the following paragraphs. Engineer and Buyer will process such Applications for Payment in accordance with said Article 13.

4.02 *Progress Payments; Final Payment*

- A. Seller may submit an Application for Payment requesting the stated percentage of Procurement Contract Price upon attainment of each of the following Payment Line Items:

ID	Payment for Lump Sum Line <u>Item 1</u>	Percentage of Item Total
P1.1	Receipt of Approval of Shop Drawings and Samples	30
P1.2	Delivery of Goods to Point of Destination in accordance with the Procurement Contract Documents	60
P1.3	Final Payment: Correction of non-conformities, provision of final Operations and Maintenance manuals, submittal of warranties and other final documentation required by the Procurement Contract Documents	10

ID	Payment for Lump Sum Line <u>Item 2</u>	Percentage of Item Total
P2.1	Receipt of Approval of Shop Drawings and Samples	30

P2.2	Delivery of Goods to Point of Destination in accordance with the Procurement Contract Documents	60
P2.3	Final Payment: Correction of non-conformities, provision of final Operations and Maintenance manuals, submittal of warranties and other final documentation required by the Procurement Contract Documents	10

ID	Payment for Lump Sum Line <u>Item 3</u>	Percentage of Item Total
P3.1	Receipt of Approval of Shop Drawings and Samples	30
P3.2	Delivery of Goods to Point of Destination in accordance with the Procurement Contract Documents	60
P3.3	Final Payment: Correction of non-conformities, provision of final Operations and Maintenance manuals, submittal of warranties and other final documentation required by the Procurement Contract Documents	10

- B. Buyer shall pay Seller the amount owed under an Application for Payment within 30 days after Engineer's presentation to Buyer of the Application for Payment and Engineer's recommendation.

4.03 *Interest*

- A. All amounts not paid when due will bear interest as the rate of **10%** percent per annum.

ARTICLE 5—ASSIGNMENT OF PROCUREMENT CONTRACT

5.01 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Procurement Contract will be binding on another party hereto without the written consent of the party sought to be bound. Specifically, but without limitation, Procurement Contract payments or other money that may become due, and Procurement Contract payments or other money 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 Procurement Contract Documents.

ARTICLE 6—PROCUREMENT CONTRACT DOCUMENTS

6.01 *List of Procurement Contract Documents*

- A. The Procurement Contract Documents consist of the following:
1. Procurement Agreement.

2. General Conditions of the Procurement Contract.
 3. Supplementary Conditions of the Procurement Contract.
 4. Procurement Specifications and Technical Specifications as listed in the Procurement Specifications table of contents.
 5. Procurement Drawings listed in the Procurement Specifications table of contents
 6. Addenda (Numbers ____ through ____, inclusive).
 7. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 8. Exhibits to this Procurement Agreement (enumerated as follows):
 - a. Exhibit A, Assignment of Contract, Consent to Assignment, and Acceptance of Assignment.
 - b. Exhibit B, Surety's Consent to Assignment.
 - c. Documentation submitted by Seller
 9. The following which may be delivered or issued on or after the Effective Date of the Procurement Contract and are not attached hereto:
 - a. Change Orders;
 - b. Change Directives; and
 - c. Field Orders.
- B. The documents listed in Paragraph 6.01.A are attached to this Procurement Agreement (except as expressly noted otherwise above).
- C. There are no Procurement Contract Documents other than those listed above.
- D. The Procurement Contract Documents may only be amended or supplemented as provided in Paragraph 11.01 of the Procurement General Conditions.

ARTICLE 7—SELLER'S REPRESENTATIONS AND CERTIFICATIONS

7.01 *Seller's Representations*

- A. In order to induce Buyer to enter into this Procurement Agreement, Seller makes the following representations:
1. Seller has examined and carefully studied the Procurement Contract Documents.
 2. If required by the Instructions to Bidders to visit the Point of Destination and the site where the Goods are to be installed or Special Services will be provided, or if, in Seller's judgment, any observable local or site conditions may affect the delivery, cost, progress, or furnishing of the Goods and Special Services, then Seller has visited the Point of Destination and site where the Goods are to be installed or Special Services will be provided (as applicable) and become familiar with and is satisfied as to the observable

local and site conditions that may affect delivery, cost, progress, and furnishing of the Goods and Special Services.

3. Seller is familiar with and is satisfied as to all Laws and Regulations that may affect the cost, progress, and performance of Seller's obligations under the Procurement Contract.
4. Seller has carefully studied, considered, and correlated the information known to Seller with respect to the effect of such information on the cost, progress, and performance of Seller's obligations under the Procurement Contract.
5. Seller has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Procurement Contract Documents, and the written resolution (if any) thereof by Engineer is acceptable to Seller.
6. The Procurement Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of Seller's obligations under the Procurement Contract.
7. Seller's entry into this Procurement Contract constitutes an incontrovertible representation by Seller that without exception all prices in the Procurement Agreement are premised upon furnishing the Goods and Special Services as required by the Procurement Contract Documents.

7.02 *Seller's Certifications*

- A. Seller certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Procurement Contract. For the purposes of this Paragraph 7.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Procurement Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Procurement Contract to the detriment of Buyer, (b) to establish bid or contract prices at artificial non-competitive levels, or (c) to deprive Buyer of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Buyer, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Procurement Contract.

ARTICLE 8—CONFIDENTIALITY

8.01 *Confidential Information*

- A. Confidential information is information in documents submitted by Seller that Seller clearly and prominently labels in writing to be a trade secret, proprietary, or confidential. Such documents, if any, will be maintained in a manner that endeavors to avoid disclosing confidential information to third parties, to the extent allowed by Laws and Regulations.

- B. Seller shall clearly and prominently mark confidential information with the word “CONFIDENTIAL” on each page or sheet or on the cover of bound documents. Place “CONFIDENTIAL” stamps or watermarks so that they do not obscure any of the required information on the document, either in the original or in a way that would obscure any of the required information in a photocopy of the document.

8.02 *Disclosure of Confidential Information*

- A. If Buyer is requested to disclose confidential information, or becomes legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil or criminal investigative demand, public information requests, or other requests under Laws and Regulations) to disclose confidential information, or is required by a regulatory body, governing agency, or controlling authority to disclose confidential information, or make any other disclosure that is prohibited or otherwise constrained by the Procurement Contract, Buyer will provide Seller with prompt notice so Seller may seek an appropriate protective order or other remedy. Seller will be solely responsible for submitting to the regulatory body, governing agency, or controlling authority any arguments, briefs, memoranda, motions, authorities, or other information in opposition to disclosure.
- B. Buyer’s obligations with respect to confidential information are nullified by the following exceptions:
 - 1. Confidential information becomes a part of the public domain through publication or otherwise, through no fault of the Buyer;
 - 2. Buyer can demonstrate through suitable documentation that the confidential information was already in the Buyer’s possession, and not previously marked as confidential, or was otherwise publicly available prior to the Effective Date of the Procurement Contract;
 - 3. The confidential information is subsequently and independently disclosed to the Buyer by a third party who has a lawful right to disclose such information;
 - 4. Buyer has a good faith belief that disclosure is required or justified; or
 - 5. Buyer is required to disclose the confidential information by court order or by applicable Laws and Regulations.

8.03 *Waiver of Immunity*

- A. Notwithstanding any other provision of the Procurement Contract, it is stipulated and agreed that by accepting confidential information, Buyer has not and does not waive its legal immunity (if any) from suit or liability.

ARTICLE 9—MUTUAL WAIVER

9.01 *Mutual Waiver of Consequential Damages*

- 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 Procurement Contract. If Buyer (Project Owner) assigns this Procurement Contract to a construction contractor (Contractor/Assignee), then the terms of this Paragraph 9.01.A will be binding upon the Contractor/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) liquidated damages, (c) 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, (d) intentional or reckless wrongful conduct, or (e) rights conferred by any bond provided by Seller under this Procurement Contract.

IN WITNESS WHEREOF, Buyer and Seller have signed this Procurement Agreement. Counterparts have been delivered to Buyer and Seller.

The Effective Date of the Procurement Contract is _____ (month/day/year).

Buyer

Seller

(typed or printed name of organization)

(typed or printed name of organization)

By: _____
(individual's signature)

By: _____
(individual's signature)

Date: _____
(date signed)

Date: _____
(date signed)

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

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

Attest: _____
(individual's signature)

Attest: _____
(individual's signature)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

Address for giving notices:

Designated Representative:

Designated Representative:

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Address:

Phone: _____

Phone: _____

Email: _____

Email: _____

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

EXHIBIT A—ASSIGNMENT OF PROCUREMENT CONTRACT, CONSENT TO ASSIGNMENT, AND ACCEPTANCE OF ASSIGNMENT

This assignment will be effective on the effective date of the construction contract between Buyer (as “Owner”) and Contractor/Assignee (as “Contractor”).

The Procurement Contract between **City of Sandy** (“Buyer”) and _____ (“Seller”) for furnishing Goods and Special Services entitled ALDER CREEK WATER TREATMENT PLANT UPGRADES – ELECTRICAL PRE-PROCUREMENT (Procurement Contract) is hereby assigned, transferred, and set over to Contractor/Assignee, as assignee, by Buyer, as assignor. Upon assignment the Contractor/Assignee shall have the duties, rights, and obligations of Buyer under the terms of the Procurement Contract, and will be responsible to Owner under the construction contract for the performance of obligations by Seller, which will become a Subcontractor or Supplier to Contractor/Assignee. Buyer, Seller, and Contractor/Assignee hereby acknowledge and agree to be bound by the terms and conditions of assignment set forth in Article 5 of the Agreement Between Buyer and Seller for Procurement Contract.

Assignment Made by Buyer

(typed or printed name of organization)

By: _____ Date: _____
(individual's signature) (date signed)

Name: _____ Title: _____
(typed or printed) (typed or printed)

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

Assignment Acknowledged and Accepted by Seller

(typed or printed name of organization)

By: _____ Date: _____
(individual's signature) (date signed)

Name: _____ Title: _____
(typed or printed) (typed or printed)

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

Assignment Accepted by Contractor/Assignee

(typed or printed name of organization)

By: _____ Date: _____
(individual's signature) (date signed)

Name: _____ Title: _____
(typed or printed) (typed or printed)

If Contractor/Assignee is a corporation, attach evidence of authority to sign.

Surety hereby acknowledges, agrees, and consents that the Procurement Contract for furnishing Goods and Special Services entitled ALDER CREEK WATER TREATMENT PLANT UPGRADES – ELECTRICAL PRE-PROCUREMENT (“Procurement Contract”) by and between CITY OF SANDY (“Buyer”) and _____ (“Seller”) may be assigned, transferred, and set over to _____ (“Contractor/Assignee”), in accordance with Article 5 and Exhibit A of the Agreement between Buyer and Seller for Procurement Contract.

Agreement to Assignment Acknowledged and Accepted by Surety

Attach Power of Attorney.

STANDARD GENERAL CONDITIONS OF THE PROCUREMENT CONTRACT

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ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Whenever used in the Procurement Bidding Requirements or Procurement 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 Procurement 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 Procurement Contract Documents.
 2. *Application for Payment*—The document prepared by Seller, in a form acceptable to Buyer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Procurement Contract Documents.
 3. *Bid*—An offer or proposal of a prospective Seller submitted on the prescribed form setting forth the prices for the Goods and Special Services to be provided.
 4. *Bidder*—An individual or entity that, as a prospective Seller, submits a Bid to Buyer.
 5. *Buyer*—The individual or entity purchasing the Goods and Special Services.
 6. *Change Directive*—A written directive from Buyer to Seller issued on or after the Effective Date of the Procurement Contract, ordering an addition, deletion, or revision in the Goods and Special Services.
 7. *Change Order*—A document which is signed by Seller and Buyer and authorizes an addition, deletion, or revision to the Procurement Contract Documents or an adjustment in the Procurement Contract Price or the Procurement Contract Times, issued on or after the Effective Date of the Procurement Contract. Change Orders may be the result of mutual agreement by Buyer and Seller, or of resolution of a Claim.
 8. *Claim*—A demand or assertion by Buyer or Seller seeking an adjustment of Procurement Contract Price or Procurement Contract Times, or both, or other relief with respect to the terms of the Procurement Contract. A demand for money or services by a third party is not a Claim.
 9. *Contractor/Assignee*—A construction contractor with which Project Owner enters into a construction contract, and to which Project Owner, as initial Buyer, assigns this Procurement Contract.
 10. *Effective Date of the Procurement Contract*—The date indicated in the Procurement Agreement on which the Procurement Contract becomes effective.
 11. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

12. *Electronic Means*—Electronic mail (e-mail), upload/download from a secure Project website, or other communications methods that allow: the transmission or communication of Electronic Documents; the documentation of transmissions, including sending and receipt; printing of the transmitted Electronic Document by the recipient; the storage and archiving of the Electronic Document by sender and recipient; and the use by recipient of the Electronic Document for purposes permitted by this Procurement Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
13. *Engineer*—The individual or entity designated as such in the Procurement Agreement.
14. *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 Procurement Contract Price or Procurement Contract Times.
15. *Goods*—The tangible and movable personal property that is described in the Procurement Contract Documents, regardless of whether the property is to be later attached to realty.
16. *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.
17. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
18. *Milestone*—A principal event specified in the Procurement Contract that Seller must attain by the date or within the number of days indicated, including but not limited to the delivery of the Goods and the furnishing of Special Services.
19. *Notice of Award*—The written notice, by Buyer to a Bidder, of Buyer's acceptance of the Bid.
20. *Point of Destination*—The specific address of the location where delivery of the Goods will be made, as stated in the Procurement Agreement.
21. *Procurement Agreement*—The written instrument, executed by Buyer and Seller, that sets forth the Procurement Contract Price and Procurement Contract Times, identifies the parties and the Engineer, and designates the specific items that are Procurement Contract Documents.
22. *Procurement Bidding Documents*—The Procurement Bidding Requirements and the proposed Procurement Contract Documents (including all Addenda).
23. *Procurement Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and Bid Form with any supplements.
24. *Procurement Contract*—The entire and integrated written agreement between Buyer and Seller concerning the Goods and Special Services.

25. *Procurement Contract Documents*—Those items so designated in the Procurement Agreement, and which together comprise the Procurement Contract. Shop Drawings and other Seller submittals are not Procurement Contract Documents, even if accepted, reviewed, or approved by Engineer or Buyer.
26. *Procurement Contract Price*—The money that Buyer has agreed to pay Seller for furnishing the Goods and Special Services in accordance with the Procurement Contract Documents.
27. *Procurement Contract Times*—The times stated in the Procurement Agreement by which the Goods must be delivered, Special Services must be furnished, and other Milestones must be attained.
28. *Procurement Drawings*—That part of the Procurement 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 Procurement Drawings as so defined.
29. *Procurement Specifications*—That part of the Procurement 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.
30. *Project*—The total undertaking to be accomplished for Project Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Goods and Special Services are a part.
31. *Project Owner*—The entity that has retained (or will retain) engineers, contractors, and others for the planning, study, design, construction, testing, commissioning, and start-up of facilities and improvements. As of the Effective Date of the Procurement Contract, the Project Owner is the Buyer.
32. *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.
33. *Schedule of Submittals*—A schedule, prepared and maintained by Seller, of required Submittals and the time requirements for Engineer's review of the Submittals.
34. *Seller*—The individual or entity furnishing the Goods and Special Services.
35. *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. Shop Drawings, whether approved or not, are not Procurement Drawings and are not Procurement Contract Documents.
36. *Special Services*—Services to be performed by Seller (or its agents or subcontractors) in association with the Goods to be furnished by Seller, as required by the Procurement Contract Documents.
37. *Submittal*—A written or graphic document, prepared by or for Seller, which the Procurement Contract Documents require Seller to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals

may include Shop Drawings and Samples; schedules; product data; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or site quality-control testing and inspections; warranties and certifications; suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; record documents; and other such documents required by the Procurement Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Procurement Contract Documents. Change proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

38. *Successful Bidder*—The Bidder whose Bid the Buyer accepts, and to which Buyer makes an award of the Procurement Contract.
39. *Supplementary Conditions*—The part of the Procurement Contract that amends or supplements these General Conditions.
40. *Unit Price Goods and Special Services*—Goods and Special Services to be paid for on the basis of unit prices (if any).

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 Procurement Contract Documents.
- B. *Intent of Certain Terms or Adjectives*
 1. The Procurement 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 Procurement Contract Documents and conformance with the design concept of the completed Project as a functioning whole, as shown or indicated in the Procurement Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective will 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 Procurement 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 are unsatisfactory, faulty, or deficient in that they:
 - a. do not conform to or comply with the requirements of the Procurement Contract Documents;
 - b. do not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Procurement Contract Documents; or

- c. in the case of Special Services, have not been completed.
- 3. The word “receipt” when referring to the Goods, means the physical taking and possession by the Buyer under the conditions specified in Paragraph 9.02.B.2.
- 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 means 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 Procurement Contract Documents.
- C. *Procurement Contract Price or Procurement Contract Times*: References to a change in “Procurement Contract Price or Procurement Contract Times” or “Procurement Contract Times or Procurement Contract Price” or similar, indicate that such change applies to (1) Procurement Contract Price, (2) Procurement Contract Times, or (3) both Procurement Contract Price and Procurement Contract Times, as warranted, even if the term “or both” is not expressed.
- D. Unless stated otherwise in the Procurement Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Procurement Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Seller delivers the executed counterparts of the Procurement Agreement to Buyer, the Seller also shall deliver to Buyer the performance bond and payment bond (if the Procurement Contract requires Seller to furnish such bonds).
- B. *Evidence of Seller’s Insurance*: When Seller delivers the signed counterparts of the Procurement Agreement to Buyer, the Seller also shall deliver to Buyer, with copies to each additional insured (as identified in the Procurement Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Seller in accordance with Article 5. Evidence of insurance to be obtained at a later date, such as insurance relating to transit or storage of the Goods, will be provided to Buyer at the time of such insurance is obtained.
- C. *Evidence of Buyer’s Insurance*: After receipt of the signed counterparts of the Procurement Agreement and all required bonds and insurance documentation, Buyer shall promptly deliver to Seller, with copies to each additional insured (as identified in the Procurement Contract), certificates and other evidence of insurance (if any) required to be provided by Buyer.

2.02 *Copies of Documents*

- A. Buyer shall furnish to Seller four printed copies of the Procurement Contract (including one fully executed counterpart of the Procurement Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

2.03 *Electronic Transmittals*

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

2.04 *Preliminary Schedules*

- A. Within 15 days after the Effective Date of the Procurement Contract, Seller shall submit to Buyer and Engineer for timely review:
 - 1. a progress schedule of activities, consistent with the Procurement Contract Times, including at a minimum, Shop Drawing and Sample submittals, tests, and deliveries as required by the Procurement Contract Documents.
 - a. 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 of the Procurement Contract Times.
 - b. Such acceptance will not impose on Buyer or Engineer responsibility for the progress schedule, for sequencing, scheduling, or progress of Seller's performance of its obligations under the Procurement Contract, nor interfere with or relieve Seller from Seller's full responsibility therefor.
 - c. Such acceptance will not be deemed as an acknowledgment of the reasonableness and attainability of the schedule.
 - 2. a preliminary schedule of Submittals.
- B. No progress payment will be made to Seller until an acceptable progress schedule and acceptable schedule of Submittals are submitted to Buyer and Engineer (and other conditions applicable to progress payments are met).

2.05 *Preliminary Conference*

- A. Within 20 days after the Procurement 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 schedules referred to in Paragraph 2.04.A, procedures for handling Shop Drawings and other Submittals, processing Applications for Payment, and maintaining required records.

2.06 *Safety*

- A. Buyer and Seller shall comply with all applicable Laws and Regulations relating to the safety of persons or property, and to the protection of persons or property from damage, injury, or loss.

- B. 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.
- C. If Buyer or its representatives visit the Seller's manufacturing or storage facilities, for testing, inspection, or other purposes, Seller shall inform Buyer in advance of any safety preparations, standards, or programs with which Buyer and its representatives must comply.

ARTICLE 3—PROCUREMENT CONTRACT DOCUMENTS

3.01 *Intent*

- A. The Procurement 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 Procurement 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. Unless otherwise stated in the Procurement Contract Documents, if there is a discrepancy between the electronic or digital versions of the Procurement Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version will govern.
- D. The Procurement Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Procurement Contract Documents, as provided in Paragraph 3.04.
- F. Any provision or part of the Procurement Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Buyer and Seller.

3.02 *Reference Standards*

- 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, means 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 Procurement Agreement if there were no Bids), except as may be otherwise specifically stated in the Procurement Contract Documents.
- B. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a supplier, will be effective to change the duties or responsibilities of Buyer, Seller, or Engineer from those set forth in the part of the Procurement Contract Documents prepared by or for Engineer. No such provision or instruction will be effective to assign to Buyer or Engineer 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 part of the Procurement Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Seller's Review of Procurement Contract Documents:* If, before or during the performance of Seller's obligations, Seller discovers any conflict, error, ambiguity, or discrepancy within the Procurement Contract Documents, or between the Procurement Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any supplier to Seller, then Seller shall promptly report it to Engineer (or if the Procurement Contract is assigned, then directly to Contractor/Assignee) in writing. Seller shall not proceed with the Goods and Special Services affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer (or if the Procurement Contract is assigned, then by Contractor/Assignee) or by an amendment or supplement to the Procurement Contract Documents issued pursuant to Article 11.
2. Seller shall not be liable to Buyer or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Procurement Contract Documents unless Seller had actual knowledge thereof.

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

1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Procurement 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 Procurement Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Procurement Drawings and Procurement Specifications*

- #### A.
- During the performance of Seller's obligations and until final payment, Seller and Buyer shall submit to the Engineer all matters in question concerning the requirements of the Procurement Drawings and Procurement Specifications (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Goods and Special Services, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Procurement Drawings and Procurement Specifications, and judge of the acceptability of the Goods and Special Services thereunder.
1. After assignment (if any) Seller shall submit such matters directly to Contractor/Assignee for response or administration, and the Procurement Contract provisions in Paragraphs 3.04.B and C will not apply.
- #### B.
- Engineer will issue with reasonable promptness a written clarification, interpretation, or decision on the issue submitted, and if necessary, initiate an amendment or supplement to the Procurement Drawings or Procurement Specifications. Engineer's written clarification, interpretation, or decision will be consistent with the overall intent of the Procurement Contract Documents, and will be final and binding on Seller and Buyer. If either Buyer or Seller believes that a written clarification or interpretation justifies an adjustment in the

Procurement Contract Price or Procurement Contract Times, either may make a Claim for such adjustment as provided in Article 12.

- C. If a submitted matter in question concerns terms and conditions of the Procurement Contract Documents that do not involve (1) the performance or acceptability of the Goods and Services, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Buyer and Seller that Engineer is unable to provide a decision or interpretation.

3.05 *Reuse of Documents*

- A. Seller and its subcontractors and suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Procurement Drawings, Procurement Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Procurement Drawings, Procurement Specifications, other documents, or copies thereof, on extensions of the Project or any other project, without written consent of Buyer and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Procurement Contract Documents, reuse any such Procurement Contract Documents for any purpose without Buyer's express written consent, or violate any copyrights pertaining to such Procurement Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Procurement Contract. Nothing herein precludes Seller from retaining copies of the Procurement Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND SCHEDULE

4.01 *Commencement of Procurement Contract Times*

- A. The Procurement Contract Times will commence to run on the Effective Date of the Procurement Contract.

4.02 *Continuing Performance*

- A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.04.A., as duly adjusted, and the Goods will be delivered and the Special Services furnished within the Procurement Contract Times.
- 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 will be delayed or postponed pending resolution of any disputes or disagreements, except as expressly permitted herein, or as Buyer and Seller may otherwise agree in writing.

4.03 *Adjustments to Progress Schedule*

- A. The progress schedule established in accordance with Paragraph 2.04 may be adjusted from time to time as provided below.

1. Seller shall submit to Buyer for acceptance (to the extent indicated in Paragraph 2.04) proposed adjustments in the progress schedule that will not result in changing the Procurement Contract Times. Such adjustments will comply with any applicable provisions of the Procurement Specifications.
2. Proposed adjustments in the progress schedule that will change the Procurement Contract Times must be submitted in accordance with the requirements of Article 11. Adjustments in Procurement Contract Times may only be made by a Change Order.

4.04 *Delays*

- A. If Buyer, Engineer, or anyone for whom Buyer is responsible, delays, disrupts, or interferes with Seller's performance or progress, then Seller shall be entitled to an equitable adjustment in Procurement Contract Price or Procurement Contract Times.
- B. Seller shall not be entitled to an adjustment in Procurement Contract Price or Procurement Contract Times for delay, disruption, or interference caused by or within the control of Seller or anyone for whom Seller is responsible.
- C. If Seller's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Buyer, Seller, and those for which they are responsible, then Seller shall be entitled to an equitable adjustment in Procurement Contract Times. Such an adjustment will be Seller's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Procurement Contract Times under this paragraph include but are not limited to the following:
 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. inspection delays by governmental authorities, and custom delays;
 4. international shipping delays;
 5. acts or failures to act of third-party entities; and
 6. acts of war or terrorism.
- D. *Adjustments of Procurement Contract Times or Procurement Contract Price—General Provisions:* Seller's entitlement to an adjustment of Procurement Contract Times or Procurement Contract Price is limited as follows:
 1. Seller's entitlement to an adjustment of the Procurement Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of Seller's obligations, as of the time of the delay, disruption, or interference.
 2. Seller shall not be entitled to an adjustment in Procurement Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Seller. Such a concurrent delay by Seller does not preclude an adjustment of Procurement Contract Times to which Seller is otherwise entitled.

3. Adjustments of Procurement Contract Times or Procurement Contract Price are subject to the provisions of Articles 11 and 12.
- E. Each Seller request seeking a delay-related increase in Procurement Contract Times or Procurement Contract Price must be supplemented by supporting data that sets forth in detail the following: (1) the circumstances that form the basis for the requested adjustment; (2) the date upon which each cause of delay, disruption, or interference began to affect Seller's progress; (3) the date upon which each cause of delay, disruption, or interference ceased to affect Seller's progress; (4) the number of days' increase in Procurement Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and (5) the impact on Procurement Contract Price. Seller shall also furnish such additional supporting documentation as Buyer or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion.

ARTICLE 5—BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Seller shall furnish a performance bond and a payment bond, each in an amount at least equal to the Procurement Contract Price, as security for the faithful performance and payment of Seller's obligations under the Procurement Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 9.04, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Procurement Contract.
- B. Seller shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Procurement Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Buyer prior to execution of the Procurement Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Seller shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Seller is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then 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 bond and surety requirements of this Procurement Contract.

- F. If Seller has failed to obtain a required bond, Buyer may exercise Buyer's termination rights under Article 14.
- G. Upon request to Buyer from any subcontractor, supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of Seller's obligations, Buyer shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Seller from any subcontractor, supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of Seller's obligations, Seller shall provide a copy of the payment bond to such person or entity.

5.02 *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 will not be construed as a waiver of Seller's obligation to maintain such insurance.
- C. Upon assignment of this Procurement Contract, Seller shall name the Contractor/Assignee as an additional insured and comply with the written request of Contractor/Assignee to provide evidence of insurance.
- D. Buyer does not represent that insurance coverage and limits established in this Procurement Contract necessarily will be adequate to protect Seller.
- E. The insurance and insurance limits required herein will not be deemed as a limitation on Seller's liability under the indemnities and other rights granted to Buyer in the Procurement Contract.

5.03 *Surety or Insurance Companies*

- A. All bonds and insurance required by the Procurement 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 must also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

ARTICLE 6—LICENSES AND FEES

6.01 *Intellectual Property and License Fees*

- A. Except to the extent stated elsewhere in the Procurement Contract Documents, Seller is not transferring any patent rights, copyrights, or other intellectual property rights for the Goods delivered.
- B. To the extent Seller is manufacturing to Buyer's design, Buyer retains all patent rights, copyrights, and other intellectual property rights in such design.
- C. If an invention, design, process, product, or device is specified in the Procurement Contract Documents for incorporation in the Goods or for the performance of Special Services, and if, to the actual knowledge of Buyer or Engineer, its use is subject to patent rights, copyrights,

or other intellectual property rights calling for the payment of a license fee or royalty to others, then the existence of such rights and payment obligations will be disclosed to Seller in the Procurement Contract Documents.

- D. 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 Procurement Contract Documents.

6.02 *Seller's Infringement*

- A. Subject to Paragraph 6.01, to the fullest extent permitted by Laws and Regulations, 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 patent, copyright, or other intellectual property right by any of the Goods as delivered or Special Services as performed.
- B. Buyer will promptly notify Seller in writing of any claim, suit, or threat of suit by a third party for any infringement or alleged infringement of any patent, copyright, or other intellectual property right with respect to the Goods as delivered or Special Services as performed.
- C. Seller shall promptly defend or settle the claim or suit. Seller shall have control over such claim or suit, bear all expenses, and satisfy any adverse judgment.
 - 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, 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 the intellectual property rights of another, Seller may, at Seller's own expense, obtain the necessary licenses for Buyer's benefit, or replace the Goods and provide related design and construction, consistent with the requirements of the Procurement Contract Documents, to avoid the infringement.

6.03 *Buyer's Infringement*

- A. Subject to Paragraph 6.01, and to the fullest extent permitted by Laws and Regulations, Buyer shall be responsible to Seller for any infringement or alleged infringement of any patent, copyright, or other intellectual property right caused by Seller's compliance with the Procurement Drawings or Procurement Specifications, and will reimburse Seller for any license fee or royalties paid by Seller to others if such payment resulted from any invention, design, process, product, or device specified to be furnished or performed in the Procurement Drawings or Procurement Specifications, but not identified as being subject to payment of such license fee or royalty.
- B. Seller will promptly notify Buyer in writing of any claim, suit, or threat of suit by a third party for intellectual property infringement arising from Seller's compliance with the Procurement Drawings or Procurement Specifications.

- C. Buyer shall defend or settle the claim or suit. Buyer shall have control over such claim or suit, bear all expenses, and satisfy any adverse judgment.
 - 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, Seller shall be barred from any remedy against Buyer for such suit or claim.

ARTICLE 7—SELLER’S RESPONSIBILITIES

7.01 *Performance of Obligations*

- A. Seller shall be solely responsible for the means, methods, techniques, sequences, and procedures necessary to perform its obligations in accordance with the Procurement Contract Documents.
- B. 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 Procurement Contract Documents.
- C. Seller shall coordinate the provision of Special Services to avoid or limit interference or disruption of other activities at the location where the Special Services are to occur, including but not limited to ongoing facility operations and construction activities.

7.02 *Labor, Materials and Equipment*

- A. Seller shall provide competent, qualified and trained personnel in all aspects of its performance of the Procurement Contract.
- B. All Goods, and all equipment and material incorporated into the Goods, must be as specified, and unless specified otherwise in the Procurement Contract Documents, must 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.

7.03 *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 Procurement 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 will not be Seller’s responsibility to make certain

that the Procurement Specifications and Procurement Drawings are in accordance with Laws and Regulations, but this provision will 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 Procurement Contract if there were no Bids) that have a direct effect on the cost or time of Seller's performance will be the subject of an adjustment in Procurement Contract Price or Procurement 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 Article 12.

7.04 "Or Equals"

- A. Whenever an item of material or equipment to be incorporated into the Goods is specified or described in the Procurement Contract Documents by using the names of one or more proprietary items or specific suppliers or manufacturers, 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 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 (4) Seller certifies that if approved: a) there will be no increase in any cost, including capital, installation or operating costs, to Buyer; and b) the proposed item will conform substantially to the detailed requirements of the item named in the Procurement 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 7.04.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 Procurement 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.

7.05 *Taxes*

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

7.06 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Seller shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Procurement Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal; and
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of Seller's obligations.
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Seller has satisfied its obligations under the Procurement Contract Documents with respect to Seller's review of that Submittal, and that Seller approves the Submittal.
3. With each Shop Drawing or Sample, Seller shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Procurement Contract Documents. This notice will be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

- B. *Submittal Procedures for Shop Drawings and Samples:* Seller shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Seller shall submit the number of copies required in the Procurement Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Seller proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.06.C.

2. *Samples*

- a. Seller shall submit the number of Samples required in the Procurement Specifications.

- b. Seller shall clearly identify each Sample as to material, supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.06.C.
3. Where a Shop Drawing or Sample is required by the Procurement Contract Documents or the Schedule of Submittals, any related work performed by Seller prior to Engineer's review and approval of the pertinent Submittal will be at the sole expense and responsibility of Seller.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Goods, comply with the requirements of the Procurement Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Procurement Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, manufacturing, fabrication, installation, or shipping, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Seller from responsibility for any variation from the requirements of the Procurement Contract Documents unless Seller has complied with the requirements of Paragraph 7.06.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Procurement Contract Documents in a Field Order or other appropriate Procurement Contract modification.
5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Seller from responsibility for complying with the requirements of Paragraphs 7.06.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Procurement Contract Documents, will not, under any circumstances, change the Procurement Contract Times or Procurement Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing or Sample will result in such item becoming a Procurement Contract Document.
8. Seller shall furnish Goods that comply with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.06.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

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 revisions other than the corrections called for by Engineer on previous Submittals.

2. Seller shall furnish required Shop Drawing and Sample Submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Seller shall be responsible for Engineer's charges to Buyer for such time. Buyer may impose a set-off against payments due Seller to secure reimbursement for such charges.
3. If Seller requests a change of a previously approved Shop Drawing or Sample, Seller shall be responsible for Engineer's charges to Buyer for its review time, and Buyer may impose a set-off against payments due Seller to secure reimbursement for such charges, unless the need for such change is beyond the control of Seller.

E. *Submittals Other than Shop Drawings and Samples*

1. The following provisions apply to all Submittals other than Shop Drawings and Samples:
 - a. Seller shall submit all such Submittals to the Engineer in accordance with the schedule of Submittals and pursuant to the applicable terms of the Procurement Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Procurement Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Seller shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.04 and 2.05.

7.07 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer, Engineer, Project Owner, and any assignee of Buyer, including Contractor/Assignee, and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of Seller's obligations under the Procurement Contract, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the 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, Engineer, Project Owner, or any assignee of Buyer, including Contractor/Assignee, or their 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 7.07.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Seller or any such subcontractor, supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.08 *Concerning Subcontractors and Suppliers*

- A. Seller may retain subcontractors and suppliers for the performance of parts of the furnishing of the Goods and Special Services. The Seller's retention of a subcontractor or supplier will not relieve Seller's obligation to Buyer to perform and complete the furnishing the Goods and Special Services in accordance with the Procurement Contract Documents.

ARTICLE 8—SHIPPING AND DELIVERY

8.01 *Shipping*

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

8.02 *Delivery*

- A. Seller shall deliver the Goods free on board (FOB) to the Point of Destination, freight prepaid, in accordance with the Procurement Contract Times set forth in the Procurement Agreement, or other date agreed to by Buyer and Seller.
- B. At least 10 days before shipment, Seller shall provide written notice to Buyer of the manner of shipment and the anticipated delivery date. The notice must 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 at the time established for delivery, or on another date agreed to by Buyer and Seller.
- E. No partial deliveries will be allowed, unless permitted or required by the Procurement Contract Documents or agreed to in writing by Buyer.
- F. Provisions governing inspection on delivery are set forth in Paragraph 9.02.

8.03 *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 8.03.A, if Buyer rejects the Goods as non-conforming, the risk of loss on such Goods will 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.

ARTICLE 9—BUYER’S RIGHTS

9.01 *Seller’s Warranties and Guarantees*

- A. Seller warrants and guarantees to Buyer that the title to the Goods conveyed will 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 Procurement 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 Procurement Contract Documents do not otherwise specify the characteristics or the quality of the Goods, the Goods must comply with the requirements of Paragraph 7.02.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;
 - 2. excessive corrosion or chemical attack, unless corrosive or chemically-damaging conditions were disclosed by Buyer in the Procurement Contract Documents and the Procurement 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 Procurement Contract Documents will 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 Procurement Contract Documents:
 - 1. observations by Buyer, Engineer, or Project Owner;
 - 2. recommendation by Engineer or payment by Buyer of any progress or final payment;
 - 3. use of the Goods by Buyer or Project Owner;
 - 4. any acceptance by Buyer, Engineer, or Project Owner, or any failure to do so;
 - 5. the end of the correction period established in Paragraph 9.04;
 - 6. the issuance of a notice of acceptance;
 - 7. any inspection, test or approval by others; or
 - 8. any correction of non-conforming Goods and Special Services by Buyer or Project Owner.
- E. Buyer shall promptly notify Seller of any breach of Seller’s warranties or guarantees.

9.02 *Inspections and Testing*

A. *General Provisions*

1. The Procurement 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 Procurement 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 Procurement Contract Documents (other than any re-inspection or retesting resulting from a determination of non-conformity, as set forth in Paragraph 9.03); 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 Procurement 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, and a representative of Seller will attend such tests, inspections, and approvals.
6. If, on the basis of inspections or testing, the Goods appear to be conforming, Buyer will give Seller prompt notice thereof. If on the basis of 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 9.03.
7. Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections, will constitute acceptance of non-conforming Goods, or prejudice Buyer's rights under the Procurement Contract.

B. *Visual Inspection on Delivery*

1. Buyer will visually inspect the Goods upon delivery solely for purposes of identifying the Goods, general verification of quantities, and observation of apparent condition. 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. If, on the basis of the visual inspection specified in Paragraph 9.02.B.1, the Goods appear to comply with the requirements of the Procurement Contract Documents as to quantities and condition, then within 10 days of delivery Buyer shall issue to Seller Buyer's acknowledgment of the receipt of 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 required, and Seller has performed and completed all Special Services, Buyer will make a final inspection.
2. If, on the basis of the final inspection, Buyer determines that the Goods and Special Services are conforming, Buyer's notice thereof will constitute Buyer's acceptance of the Goods and Special Services, subject to any limitations stated in the notice.
3. If, on the basis of the final inspection, the Goods and Special Services are non-conforming, Buyer will identify the non-conformity in writing.

9.03 *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 9.04, 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 Procurement Contract Times, remove and replace the rejected Goods.
2. Seller shall bear all costs, losses and damages attributable to the removal, replacement, reinspection, and retesting of the non-conforming Goods.
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. *Buyer's Rejection of Non-Conforming Special Services*

1. If at any time Buyer elects to reject the Special Services in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Special Services.
2. Seller shall promptly provide conforming Special Services acceptable to Buyer.
3. If Seller fails to provide conforming Special Services, Buyer may remove the Special Services from the scope of the Procurement Contract, and equitably reduce the Procurement Contract Price.

- D. *Remedying Non-Conforming Goods:* 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.

- E. *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.

- F. *Seller Obligations:* 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 will 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.
- G. *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.

9.04 *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 acceptance of the Goods and Special Services in accordance with Paragraph 9.02.C.2.
- B. Where non-conforming Goods and Services (and damage to other work resulting therefrom) have been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Goods and Services will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- C. Seller's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph may not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 10—ENGINEER'S STATUS

10.01 *Engineer's Role Defined*

- A. Engineer will be Buyer's representative until assignment (if any) of the Procurement Contract.
- B. The duties and responsibilities and the limitations of authority of Engineer prior to assignment, if any, of the Procurement Contract, are set forth in the Procurement Contract Documents.
- C. Engineer's responsibilities, if any, after an assignment (if any) of the Procurement Contract, are set forth in the Procurement Agreement.

10.02 *Duties and Responsibilities; Authority; Limitations*

- A. As set forth in Article 3, Engineer will be the initial interpreter of the Procurement Contract Documents and judge of the acceptability of the Goods and Special Services, and will issue clarifications, interpretations, and decisions regarding such issues.
- B. Acting on behalf of Buyer under the provisions of Article 9, Engineer has the authority to disapprove or reject Goods and Special Services that Engineer believes to be non-conforming. Engineer also has the authority to require special inspection or testing of the Goods or Special Services as provided in Paragraph 9.02, whether or not the Goods are fabricated or installed, or the Special Services are completed.
- C. Engineer may authorize minor deviations or variations in the Procurement 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 7.06.A.3, or 2) a Field Order.
- D. As set forth in Article 12, Engineer will review Claims, and render decisions on Claims.
- E. In rendering any interpretations, clarifications, reviews, decisions, disapprovals, acceptances, rejections, authorizations, and judgments, Engineer will not show partiality to Buyer or Seller. Engineer will not be liable to Buyer, Seller, or others in connection with any interpretations, clarifications, reviews, decisions, disapprovals, acceptances, rejections, authorizations, or judgments conducted or rendered by Engineer in good faith.
- F. Engineer will not supervise, direct, control, or have authority over or be responsible for the means, methods, techniques, sequences, or procedures used by Seller to perform its obligations under this Procurement Contract, or the safety precautions and programs incident thereto, or for any failure of Seller to comply with Laws and Regulations applicable to the performance of its obligations. Engineer will not be responsible for Seller's failure to furnish the Goods and Special Services in accordance with the Procurement Contract Documents.

ARTICLE 11—CHANGES

11.01 *Amending and Supplementing the Procurement Contract*

- A. The Procurement Contract may be amended or supplemented by a Change Order, a Change Directive, or a Field Order.
- B. If an amendment or supplement to the Procurement Contract includes a change in the Procurement Contract Price or the Procurement Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Procurement Contract that involve (1) the conformance or acceptability of the Goods and Special Services, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Buyer and Seller may amend other terms and conditions of the Procurement Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Buyer and Seller shall execute appropriate Change Orders covering:
 - 1. Changes in Procurement Contract Price or Procurement Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Goods and Special Services furnished in accordance with a Change Directive;
 - 2. Changes in Procurement Contract Price resulting from a Buyer set-off, unless Seller has duly contested such set-off;
 - 3. Changes in the Goods and Special Services which are: (a) ordered by Buyer pursuant to Paragraph 11.05, (b) required because of Buyer's acceptance of non-conforming Goods and Services under Paragraph 9.03 or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Goods and Special Services involves the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Change Directive; Article 12, Claims; and similar provisions.
- B. If Buyer or Seller refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Change Directives*

- A. A Change Directive will not change the Procurement Contract Price or the Procurement Contract Times but is evidence that the parties expect that the modification ordered or documented by a Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Change Directive's effect, if any, on the Procurement Contract Price and Procurement Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Procurement Contract Documents governing adjustments, expressly including Paragraph 11.08 regarding change of Procurement Contract Price.
- B. If Buyer has issued a Change Directive and Buyer or Seller believes that an adjustment in Procurement Contract Times or Procurement Contract Price is necessary, then such party shall submit a Claim seeking such an adjustment no later than 30 days after the completion of the Goods and Services set out in the Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Goods and Services if the changes do not involve an adjustment in the Procurement Contract Price or the Procurement Contract Times and are compatible with the design concept as indicated by the Procurement Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Buyer and also on Seller, which shall perform the Goods and Special Services involved promptly.
- B. If Seller believes that a Field Order justifies an adjustment in the Procurement Contract Price or Procurement Contract Times, then before proceeding with the Goods and Special Services at issue, Seller shall submit a Claim as provided herein.

11.05 *Buyer-Authorized Changes in the Goods and Special Services*

- A. Without invalidating the Procurement Contract and without notice to any surety, Buyer may, at any time or from time to time, order additions, deletions, or revisions in the Goods and Special Services. Changes involving the design (as set forth in the Procurement Drawings, Procurement Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Goods and Special Services may be accomplished by a Change Order, if Buyer and Seller have agreed as to the effect, if any, of the changes on Procurement Contract Times or Procurement Contract Price; or by a Change Directive. Upon receipt of any such document, Seller shall promptly proceed with the Goods and Special Services involved; or, in the case of a deletion in the Goods and Special Services, promptly cease activities with respect to such deletion. Added or revised Goods and Special Services must be performed under the applicable conditions of the Procurement Contract Documents.

11.06 *Buyer's Contingency Allowance*

- A. The Buyer's Contingency Allowance, if any such is set forth in the Procurement Agreement, is for the sole use of Buyer to cover unanticipated costs.
- B. If Buyer exercises its unilateral right to use all or a portion of the Buyer's Contingency Allowance, Buyer will issue a written directive that documents the costs to which the allowance is applied, Seller's entitlement to compensation, and the consequent reduction in such allowance.
- C. Prior to final payment, the Total Price, as set forth in the Procurement Agreement, will be duly adjusted to account for any unused portion of the Buyer's Contingency Allowance.
- D. The Procurement Agreement, Article 5, addresses the impact on Buyer's Contingency Allowance of an assignment of the Procurement Contract.

11.07 *Unauthorized Changes in the Goods and Special Services*

- A. Seller shall not be entitled to an increase in the Procurement Contract Price or an extension of the Procurement Contract Times with respect to any work performed that is not required by the Procurement Contract Documents, as amended, modified, or supplemented.

11.08 *Change of Procurement Contract Price*

- A. The Procurement Contract Price may only be changed by a Change Order. Any Claim for an adjustment of Procurement Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Procurement Contract Price will be determined as follows:
 - 1. For changes in Unit Price Goods and Special Services, by application of the unit prices to the quantities of the items involved;
 - 2. To the extent the cost of the change is not covered by unit prices, then by a mutually agreed lump sum; or
 - 3. To the extent the cost of the change is not covered by unit prices and the parties do not reach mutual agreement to a lump sum, then on the basis of documented costs plus a Seller's fee for overhead and profit of 15%.

11.09 *Change of Procurement Contract Times*

- A. The Procurement Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Procurement Contract Times must comply with the provisions of Article 12.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Goods and Special Services or the provisions of the Procurement Contract (including, but not limited to, Procurement Contract Price or Procurement Contract Times), the giving of any such notice will be Seller's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS, DISPUTES, AND DISPUTE RESOLUTION

12.01 *Claims*

- A. 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 Claims process, including the time periods established in this Paragraph 12.01; if so, a written record of such mutual agreement should be made and jointly executed.
- B. Claimant shall deliver to Engineer and the other party to the Procurement Contract written notice of each Claim within 15 days after the occurrence of the event giving rise to the Claim.
- C. Claimant shall deliver written supporting data to Engineer and the other party within 45 days after such occurrence unless Engineer allows an additional period of time.
- D. 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.
- E. If Engineer does not render a formal written decision on a Claim within the time stated in Paragraph 12.01.D., 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.
- F. The rendering of a decision by Engineer pursuant to this Paragraph 12.01 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by Buyer or Seller of such rights or remedies as either may otherwise have under the Procurement Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter. If the exercise of such rights or remedies will imminently be time-barred, a party may take actions necessary to preserve such rights and remedies notwithstanding the lack of the condition precedent referred to in this paragraph.
- G. If a submitted matter in question concerns terms and conditions of the Procurement Contract Documents that do not involve (1) the performance or acceptability of Goods and Special Services under the Procurement Contract Documents, (2) the design (as set forth in the Procurement Drawings, Procurement Specifications, Addenda, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Buyer and Seller that Engineer is unable to provide a decision or interpretation. If Buyer and Seller

are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Paragraph 12.02.

- H. 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 12.01, 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 Paragraph 12.02.
- I. If Article 12 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 12, 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.
- J. No Claim for an adjustment in Procurement Contract Price or Procurement Contract Times will be valid if not submitted in accordance with Article 12.
- K. The effect on Claims of an assignment of the Procurement Contract by Buyer to a Contractor/Assignee is addressed in the Procurement Agreement, Article 5.

12.02 *Dispute Resolution Method*

- A. Either Buyer or Seller may initiate the mediation of (1) any Claim decided in writing by Engineer under Paragraph 12.01 before such decision becomes final and binding, or (2) any other dispute between the parties, including but not limited to any dispute arising after final inspection of the Goods and Services. 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 Procurement Contract. The request for mediation must be submitted in writing to the American Arbitration Association and the other party to the Procurement Contract. Timely submission of the request will stay Engineer's decision from becoming final and binding.
- B. Mediation is a condition precedent to seeking final dispute resolution under Paragraph 12.01.C. Buyer and Seller shall participate in the mediation process in good faith. The process must be concluded within 60 days of filing of the request. The date of termination of the mediation will be determined by application of the mediation rules referenced above.
- C. If the mediation process does not result in resolution of the dispute, then Engineer's written Claim decision under Paragraph 12.01.D or a Claim denial pursuant to Paragraph 12.01.E becomes final and binding, or if applicable such other dispute is deemed resolved in favor of respondent, unless, within 30 days after termination of the mediation, Buyer or Seller:
 - 1. elects in writing to invoke any final dispute resolution process provided for in the Supplementary Conditions, or
 - 2. agrees with the other party to submit the Claim or dispute to another final dispute resolution process, or
 - 3. if no final 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

EJCDC® P-700, Standard General Conditions of the Procurement Contract.

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or dispute to a court of competent jurisdiction, and within 60 days of the termination of the mediation institutes such formal proceeding.

ARTICLE 13—PAYMENT

13.01 *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 Procurement Contract Documents and also as Buyer or Engineer may reasonably require.
- B. The timing and amounts of progress payments will be as stipulated in the Procurement Agreement.
- C. Any Application for Payment that is based in whole or in part on the delivery of Goods must 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.
- D. Buyer shall notify Seller promptly of any deficiency in the required documentation.

13.02 *Review of Applications for Progress Payments*

A. *Review of Applications*

- 1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Buyer, or return the Application to Seller indicating in writing Engineer's reasons for refusing to recommend payment.
- 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Buyer, based on Engineer's observations of Seller's progress, as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Goods and Special Services or other obligations of Seller have progressed to the point indicated;
 - b. the quality of the Goods and Special Services or other obligations of Seller are generally in accordance with the Procurement Contract Documents; and
 - c. the conditions precedent to Seller being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Seller's progress.
- 3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Goods and Special Services or other obligations of Seller have been exhaustive, extended to every aspect of the Goods and Special Services or other obligations of Seller in progress, or involved detailed inspections of the Goods and Special Services or other

- obligations of Seller beyond the responsibilities specifically assigned to Engineer in the Procurement Contract; or
- b. there may not be other matters or issues between the parties that might entitle Seller to be paid additionally by Buyer, or entitle Buyer to withhold payment to Seller.
4. Neither Engineer's review of Seller's progress for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Seller's performance or furnishing of Goods and Special Services or other obligations of Seller; or
 - b. for the means, methods, techniques, sequences, or procedures of construction, manufacturing, fabrication, installation, or shipping, or the safety precautions and programs incident thereto; or
 - c. for Seller's failure to comply with Laws and Regulations applicable to Seller's performance under the Procurement Contract; or
 - d. to make any examination to ascertain how or for what purposes Seller has used the money paid for the Procurement Contract Price; or
 - e. to determine that title to any of the Goods or component parts have passed to Buyer free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Buyer stated in Paragraph 13.02.A.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Buyer from loss because:
- a. the Goods and Services are non-conforming, requiring correction or replacement;
 - b. the Procurement Contract Price has been reduced by Change Orders;
 - c. Buyer has been required to correct non-conforming Goods and Special Services in accordance with Paragraph 9.03.C, or has accepted non-conforming Goods and Special Services pursuant to Paragraph 9.03.E; or
 - d. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Seller and therefore justify termination for cause under the Procurement Contract Documents.

13.03 *Basis and Amount of Progress Payments*

- A. The basis and amounts of the progress payments will be as provided in the Procurement Agreement, subject to the provisions of this Article 13 regarding reductions in payment.

13.04 *Suspension of or Reduction in Payment*

- A. Buyer may temporarily cease making progress payments, or reduce the amount of a progress payment, 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 Procurement 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 Procurement Contract Documents, and Seller has failed to provide adequate assurances within ten days of Buyer's written request.
 3. In addition to any reductions in payment (set-offs) recommended by Engineer, Buyer is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Buyer based on Seller's conduct in the performance or furnishing of the Goods and Special Services, or has incurred costs, losses, or damages resulting from Seller's conduct in the performance or furnishing of the Goods and Special Services, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Seller has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Point of Destination or the worksite;
 - c. Seller has failed to provide and maintain required bonds or insurance;
 - d. Buyer has incurred extra charges or engineering costs related to Submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - e. the Goods and Special Services are non-conforming, requiring correction or replacement;
 - f. Buyer has been required to correct non-conforming Goods and Special Services, in accordance with Paragraph 9.03.C, or has accepted non-conforming Goods and Special Services pursuant to Paragraph 9.03.E;
 - g. the Procurement Contract Price has been reduced by Change Orders;
 - h. an event that would constitute a default by Seller and therefore justify a termination for cause has occurred;
 - i. liquidated or other damages have accrued as a result of Seller's failure to achieve Milestones, Substantial Completion, or final completion of the Goods and Special Services; or
 - j. liens have been filed in connection with the Procurement Contract, except where Seller has delivered a specific bond satisfactory to Buyer to secure the satisfaction and discharge of such liens.
- 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.

13.05 *Final Payment*

- A. After Seller has corrected all non-conformities to the reasonable satisfaction of Buyer and Engineer and furnished all Special Services, Seller may submit its final Application for Payment following the procedures for progress payments.
- B. The final Application for Payment will be accompanied by all documentation called for in the Procurement Contract Documents (including but not limited to all final operations and maintenance manuals, and any special warranties), a list of all unsettled Claims, and the written consent of surety to the making of final payment.
- C. 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 Procurement Contract Documents, and that Seller has fulfilled all other obligations under the Procurement Contract Documents, then Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment subject to the provisions of Paragraph 13.02, and present the final Application for Payment to Buyer. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Buyer from loss for the reasons stated in Paragraph 13.02.
- D. If Engineer does not recommend final payment, Engineer will return the final Application for Payment to Seller, indicating the reasons for refusing to recommend final payment, in which case Seller shall make the necessary corrections and resubmit the final Application for Payment.
- E. In support of its recommendation of final payment Engineer will also give written notice to Buyer and Seller that the Goods and Special Services are acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 13.06.
- F. If the final Application for Payment 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, pursuant to the provisions of Paragraph 13.04.
- G. Buyer will not make final payment, or return or release included retainage (if any) at any time, unless Seller submits written consent of the surety to such payment, return, or release.

13.06 *Waiver of Claims*

- A. By making final payment, Buyer waives its claim or right to liquidated damages or other damages for late completion by Seller, except as set forth in an outstanding Claim, appeal, set-off, or express reservation of rights by Buyer. Buyer reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Seller will constitute a waiver by Seller of all claims and rights against Buyer other than those pending matters that have been duly submitted or appealed under the provisions of Article 12.

ARTICLE 14—CANCELLATION, SUSPENSION, AND TERMINATION

14.01 *Cancellation*

- A. Buyer has the right to cancel the Procurement Contract, without cause, at any time prior to delivery of the Goods by written notice. Cancellation pursuant to the terms of this paragraph will 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 Procurement Contract Price of such Goods.

14.02 *Suspension of Performance by Buyer*

- A. Buyer has the right to suspend performance of the Procurement Contract for up to 90 days, without cause, by written notice. Upon suspension under this paragraph, Seller shall be entitled to an increase in the Procurement Contract Times and Procurement Contract Price caused by the suspension, provided that performance would not have been suspended or delayed for causes attributable to Seller.

14.03 *Suspension of Performance by Seller*

- A. 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 Procurement Contract; and
 - 2. Seller has requested in writing assurances from Buyer that future payments will be made in accordance with the Procurement Contract, and Buyer has failed to provide such assurances within ten days of Seller's written request.

14.04 *Breach and Termination*

A. *Buyer's Breach*

- 1. Seller shall have the right to terminate the Procurement Contract for cause by declaring a breach if Buyer fails to comply with any material provision of the Procurement Contract. Upon termination, Seller shall be entitled to all remedies provided by Laws and Regulations.
- 2. If Seller believes Buyer is in breach of its obligations under the Procurement 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 7 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. Buyer may terminate Seller's right to perform the Procurement Contract for cause by declaring a breach should Seller fail to comply with any material provision of the

Procurement Contract Documents. Upon termination, Buyer shall be entitled to all remedies provided by Laws and Regulations.

2. In the event Buyer believes Seller is in breach of its obligations under the Procurement Contract, 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 7 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.
3. If and to the extent that Seller has provided a performance bond under the provisions of Paragraph 5.01, the notice and cure procedures of that bond, if any, will supersede the notice and cure procedures of Paragraph 14.04.B.2.

ARTICLE 15—MISCELLANEOUS

15.01 *Giving Notice*

- A. Whenever any provision of the Procurement Contract requires the giving of written notice to Buyer, Seller, or Engineer, it will be deemed to have been validly given if delivered:
 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

15.02 *Controlling Law*

- A. This Procurement Contract is to be governed by the law of the state in which the Goods are to be installed.
- B. In the case of any conflict between the express terms of this Procurement 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 Procurement Contract will apply.

15.03 *Computation of Time*

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

15.04 *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 Procurement Contract, and the provisions of this paragraph will be as effective as if repeated specifically in the Procurement Contract in connection with each particular duty, obligation, right, and remedy to which they apply.

15.05 *Survival of Obligations*

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

15.06 *Entire Agreement*

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

15.07 *No Waiver*

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

15.08 *Headings*

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

15.09 *Successors and Assigns*

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

SUPPLEMENTARY CONDITIONS OF THE PROCUREMENT CONTRACT

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SUPPLEMENTARY CONDITIONS OF THE PROCUREMENT CONTRACT

These Supplementary Conditions amend or supplement EJCDC® P-700, Standard General Conditions of the Procurement Contract (2019). The General Conditions remain in full force and effect except as amended.

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

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

1.02 *Terminology*

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Copies of Documents*

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

Buyer shall furnish to Seller **digital** copy of the Procurement Contract Documents (including one fully signed counterpart of the Procurement Agreement) in electronic portable document format (PDF).

2.02 *Electronic Transmittals*

SC-2.03 Delete Paragraphs 2.03.B and 2.03.C in their entirety and insert the following in their place:

B. *Electronic Documents Protocol*: The parties shall conform to the following provisions in Paragraphs 2.03.B and 2.03.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any

third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.

- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. System Infrastructure for Electronic Document Exchange

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
 - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is **15 MB**. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security

software and systems, it shall not be liable to the other party for any breach of system security.

- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- h. The Owner will operate a Project information management system (also referred to in this EDP as "Project Website") for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:
 - 1) The Project Website (SharePoint site) will be operated and available for reliance by the parties for the duration of the project and for a period of 1 year following Final Completion or Project Closeout, unless otherwise agreed upon by the parties. During this time, the site will serve as the primary repository for project documentation, communications, and deliverables. After this period, the site may be archived or decommissioned in accordance with the document retention policy or mutual agreement.
 - 2) The Project Website will be hosted on Microsoft SharePoint Online, accessible through a secure web browser connection. Access will require users to have a valid Microsoft 365 account with appropriate permissions granted by the site administrator. All users must adhere to the security protocols of the hosting

organization, including multi-factor authentication (MFA), password policies, and role-based access controls. The site will be maintained within the Microsoft 365 environment. No additional software licensing is required beyond standard Microsoft 365 user licensing. Users are responsible for ensuring their devices meet minimum system requirements for browser compatibility and security compliance.

- 3) The Project Website will serve as a centralized collaboration and document management platform. Services provided will include secure document storage and version control; access to communication archives such as meeting agendas, minutes, and action items; large file uploads and downloads (within SharePoint size limits); shared calendars and task tracking; and a centralized location for project updates, deliverables, and submittals. The site will also support controlled access for stakeholders, enabling real-time collaboration, commenting, and workflows for document reviews and approvals. All project correspondence and key decisions will be archived on the site to ensure transparency and traceability.

C. Software Requirements for Electronic Document Exchange; Limitations

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
 2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
- 2.03 3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

ARTICLE 3—PROCUREMENT CONTRACT DOCUMENTS

No Supplementary Conditions in this Article.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF WORK

No Supplementary Conditions in this Article.

ARTICLE 5—BONDS AND INSURANCE

SC-5.01 Add the following paragraphs immediately after Paragraph 5.01.A:

1. *Required Performance Bond Form:* The performance bond that Seller furnishes will be in the form of EJCDC® P-610, Performance Bond (2010 or 2019 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® P-615, Payment Bond (2010 or 2019 edition).

5.02 Insurance

SC-5.02 Add the following new paragraphs immediately after Paragraph 5.02.E:

- F. Seller shall purchase and maintain such liability and other insurance as is appropriate for the furnishing of Goods and Special Services and as will provide protection from claims set forth below which may arise out of or result from Seller's furnishing of the Goods or Special Services and Seller's other obligations under the Procurement Contract Documents, whether the furnishing of Goods and Special Services or other obligations are to be performed by Seller, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to furnish the Goods and Special Services, or by anyone for whose acts any of them may be liable:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Seller's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Seller's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (a) by any person as a result of an offense directly or indirectly related to the employment of such person by Seller, or (b) by any other person for any other reason;
 5. claims for damages, other than to the Goods, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- G. The policies of insurance so required by this Paragraph 5.02 to be purchased and maintained must:
1. with respect to insurance required by Paragraphs SC-5.02.F.3 through SC-5.02.F.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) Buyer, Engineer, their consultants, and **[Here list by name, (not Project role) other persons or entities to be included on policy as additional insureds]** all of whom must be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds must provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided below or required by Laws or Regulations, whichever is greater;
 3. include completed operations insurance;
 4. include contractual liability insurance covering Seller's indemnity obligations under Paragraph 7.07;
 5. contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder will provide a copy of the notice to the other party, each other insured, and Engineer;
 6. remain in effect at least until final payment and at all times thereafter when Seller may be correcting, removing, or replacing non-conforming Goods in accordance with Paragraph 9.03 and 9.04; and
 7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and Seller shall furnish Buyer and each other additional insured identified in these Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Buyer and any such additional insured of continuation of such insurance at final payment and one year thereafter).
- H. The limits of liability for the insurance required by Paragraph SC-5.02.F must provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
1. Workers' Compensation, and related coverages under Paragraphs SC-5.02.F.1 and F.2:

Workers' Compensation and Related Policies	Policy limits of not less than
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Jones Act (if applicable)	
Bodily injury by accident—each accident	n/a
Bodily injury by disease—aggregate	n/a
Employer's Liability	
Each accident	\$500,000
Each employee	\$1,000,000
Policy limit	\$500,000
Stop-gap Liability Coverage	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	n/a

2. Seller's General Liability under Paragraphs SC-5.02.F.3 through F.6 which must include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Seller:

Commercial General Liability	Policy limits of not less than
General Aggregate	\$1,000,000
Products—Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

3. Automobile Liability under Paragraph SC-5.02.F.6:

Automobile Liability	Policy limits of not less than
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000

4. Professional Liability (if the Special Services include professional services):

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

- I. Seller shall deliver to Buyer, with copies to each additional insured identified in these Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Buyer or any other additional insured) which Seller is required to purchase and maintain.

ARTICLE 6—LICENSES AND FEES

No suggested Supplementary Conditions in this Article.

ARTICLE 7—SELLER'S RESPONSIBILITIES

SC-7.05 Add a new paragraph immediately after Paragraph 7.05.A:

- B. Buyer is exempt from payment of sales and compensating use taxes of the State of Oregon and of cities and counties thereof on all materials and equipment to be incorporated into the Project facilities.
1. Buyer is not required to furnish, as Oregon does not impose state sales tax or use tax on materials and equipment to be incorporated into the Project facilities.
 2. The Procurement Contract Price does not include the cost of sales or compensating use taxes to the extent such are exempted by this paragraph.

ARTICLE 8—SHIPPING AND DELIVERY

No Supplementary conditions in this article.

ARTICLE 9—BUYER'S RIGHTS

9.01 *Limitation of Seller's Liability*

SC-9.05 Add the following new paragraph after Paragraph 9.04:

9.05 *Limitation of Seller's Liability*

- A. Buyer and Seller agree that the total liability of Seller to Buyer for claims, costs, losses, and damages arising from this Procurement Contract will be limited to the amount established in the Procurement Agreement as the Procurement Contract Price.
- B. Upon assignment the terms of this Paragraph 9.05 will be binding upon both the assignor and assignee with respect to Seller's liability, The terms of this limitation do not apply to or limit any claim by Buyer against Seller 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.

ARTICLE 10—ENGINEER'S STATUS

No suggested Supplementary Conditions in this Article.

ARTICLE 11—CHANGES

No suggested Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS, DISPUTES, AND DISPUTE RESOLUTION

12.03 *Arbitration*

SC-12.03 Add the following new paragraph immediately after Paragraph 12.02:

12.03 *Arbitration*

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-12.03). This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Procurement Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 12, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when

institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.

- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Procurement Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Procurement Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Procurement Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party of the right to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Procurement Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Procurement Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Buyer or Seller, or consents to being joined in the arbitration; and
 - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Procurement Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

ARTICLE 13—PAYMENT

No Supplementary Conditions in this Article.

ARTICLE 14—CANCELLATION, SUSPENSION, AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 15—MISCELLANEOUS

No suggested Supplementary Conditions in this Article.

Exhibit A – Software Requirements for Electronic Document Exchange

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Project Website	DOC or PDF	(2)
a.3	Contractors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Project Website	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Project Website	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Project Website and/or Email	DWG or STP	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Project Website	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or Project Website	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Project Website and/or Email	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 15.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format readable by Adobe® Acrobat Reader Version [number] or later			
DWG	Autodesk® AutoCAD .dwg format Version or .STP			
DOC	Microsoft® Word .docx format Version			
EXC	Microsoft® Excel .xlsx or .xml format Version			
DB	Microsoft® Access .mdb format Version			

SECTION 01 33 01 - VENDOR SUBMITTALS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Vendor shall provide submittals for all aspects of the pre-purchased electrical equipment as described in Division 26.

1.2 SHOP DRAWINGS

- A. Shop drawings shall show the layout of the equipment, hydraulic profile in the equipment at the design flows, sections of the equipment, installation details drawings, catalog sheets of pumps and valves, data sheets, and similar items. Whenever the Vendor is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state of Oregon, unless otherwise directed.
- B. The submittals are to be accompanied by the transmittal form attached at the end of this Section. Sequentially number the transmittal forms; resubmittals shall have original number with an alphabetic suffix. A separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Electronic submittals are required except where hard copies are requested by the Engineer.
- C. Where the detailed Specifications require specific submittal data, submit all data at the same time.
- D. When preparing shop drawings, vendor shall utilize equipment naming conventions provided in the Contract Documents. Submittals with alternate naming will be returned as "Revise and Resubmit."
- E. Except as may otherwise be indicated herein, the Engineer will return electronic copies of each submittal or resubmittal to the Vendor with comments noted thereon, within 15 calendar days following their receipt by the Engineer. If more than one resubmittal on an item is needed, The Owner reserves the right to withhold monies due to the Vendor to cover additional costs of the Engineer's review beyond the second submittal.
- F. If a submittal is returned to the Vendor marked "NO EXCEPTIONS TAKEN" or "FURNISH AS CORRECTED", formal revision and resubmission of said submittal will not be required.
- G. Fabrication of an item shall be commenced only after the Engineer has reviewed the pertinent submittals and returned copies to the Vendor marked either "NO EXCEPTIONS TAKEN" or "FURNISH AS CORRECTED". Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements.

- H. Requirements of the contract documents regarding submittals shall be met. No consideration for review by the Engineer of any Vendor submittals will be made for any items which have not been certified by the Vendor. All non-certified submittals will be returned to the Vendor without action taken by the Engineer, and any delays caused thereby shall be the total responsibility of the Vendor.

1.3 OPERATIONS AND MAINTENANCE MANUAL

- A. The Vendor shall submit technical operation and maintenance information for each item of mechanical and electrical equipment in an organized manner in electronic format and 3-ring binders. It shall be written so that it can be used and understood by the Owner's operation and maintenance staff. The O&M manual information shall also be submitted in a text-searchable electronic format. All individual equipment sheets shall be submitted electronically as text-searchable PDFs.
- B. Manual Format:
 - 1. Manuals shall be divided into sections and indexed.
 - 2. Sections shall include Mechanical Equipment, Automatic and Special Valves, Control Systems, Electrical, and other component elements, as necessary.
 - 3. Under each section, there shall be a description of the operation and maintenance, lubrication schedules, and installation instructions of each component element.
 - 4. Sections shall be labeled and each item shall be sub-labeled.
 - 5. There shall be included in the front of each manual an index, laminated with plastic on both sides.
- C. Manual Contents:
 - 1. Equipment Summary: A summary table shall indicate the equipment name, equipment number, Model number, and Serial Number.
 - 2. Operational Procedures: Manufacturer-recommended procedures on the following:
 - a. Installation
 - b. Adjustment and calibration, and Startup
 - c. Location of controls, special tools, equipment required, or related instrumentation needed for operation
 - d. Operation procedures
 - e. Load changes and Shutdown
 - f. Troubleshooting, Disassembly, and Reassembly
 - g. Realignment

- h. Testing to determine performance efficiency
 - i. Tabulation of proper settings for all pressure relief valves, low and high pressure switches, and other protection devices
 - j. List of all electrical relay settings including alarm and contact settings
- 3. Preventive Maintenance Procedures: Preventive maintenance procedures shall include all manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by leaving the equipment in place.
- 4. Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.
- 5. Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest vendor and parts warehouse shall be included.
- 6. Drawings: Cross-sectional or exploded view drawings shall accompany the parts list.
- 7. Wiring Diagrams: Include complete internal and connection wiring diagrams for electrical equipment items.
- 8. Shop Drawings: This part shall include approved shop or fabrication drawings, complete with dimensions.
- 9. Safety: This part describes the safety precautions to be taken when operating and maintaining the equipment or working near it.
- 10. Documentation: All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.
- D. The Vendor shall submit to the Owner one electronic and one hard copy of identical Operations and Maintenance Manuals a minimum of 90 calendar days prior to the scheduled startup of the Goods.
- E. The Engineer will review the Operations and Maintenance Manuals within 30 days following their receipt by the Engineer. The Vendor shall then make any corrections and changes noted and compile all the corrected Operations and Maintenance Manuals for final submittal to the Engineer.
- F. Vendor's copy of complete manuals shall be available at the site of the Work for use by field personnel and Engineer during startup and testing of equipment.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION 01 33 01

STANDARD SUBMITTAL FORM

DATE: _____

SUBMITTAL NO. _____

FROM: _____

TO: _____

(To be completed afterward)

VENDOR: _____

This is: (Check one)

An Original Submittal _____

A 2nd Submittal _____

A ____ Submittal _____

Previous Submittal Nos. _____

No. of Submittal Copies _____

SPECIFICATION OR
SUBJECT OF SUBMITTAL

EQUIPMENT DESIGNATION

DRAWING REFERENCE

We have verified that this submittal contains all applicable material and information required for evaluation against the project Specifications. Furthermore, we submit these items, which comply with the Drawings and Specifications (check one):

____ With no exceptions

____ Except for the following deviations

NO. DEVIATIONS

Vendor's Authorized Representative

SECTION 26 05 00 – ELECTRICAL, GENERAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to all of Division 26 Specifications. This Specification section applies to all Division 26 Specifications and Electrical Drawings.
- B. Division 26 contractor shall review all other division specifications and drawings for additional requirements.

1.2 QUALITY ASSURANCE

- A. Comply with latest NEC, NFPA, UBC, UFC, UL and applicable Local and State Codes. Also comply with Utility Company regulations and industry standards and these Drawings.
- B. Work shall be done by only trained, licensed and experienced workmen familiar with the requirements.
- C. All microprocessor based equipment and software with equipment shall utilize 4 digits for the year part of all dates. A two digit date shall be an option for printing at Owner's preference.
- D. Hazardous Location Rating of Equipment: Equipment manufacturer shall reference the hazardous-area classification drawing in the Contract Documents and provide equipment in compliance with the defined NEC- classification requirements. It will be the manufacturer's sole responsibility to submit equipment in compliance with the Contract Documents, NFPA 820, and NEC requirements.

1.3 EXTENT OF DRAWINGS / SPECIFICATION

- A. Drawings indicate intent and general layout of electrical systems for the Project. Drawings are partly diagrammatic and do not indicate all fittings and accessories which may be required. Provide such fittings and accessories as required to form a complete and operating system in general conformance with Specifications and Drawings.

1.4 PRIOR APPROVALS

- A. Unless directed otherwise by Division 1, all products submitted for prior approval shall be received by the Engineer 10 business days prior to Bid. Supply technical data, photometrics and dimensional Drawings showing that substitutes are equal to product specified. Faxed prior approvals will not be accepted.

1.5 DISCREPANCIES

- A. Prior to submitting Bid, Contractor shall refer any apparent discrepancies or omissions to Engineer for clarification. The more stringent provisions shall take precedence where codes, Specifications and Drawings differ with one another. The Contractor shall Bid the more expensive requirement, unless discrepancy is addressed by Addendum prior to Bid.

1.6 TEMPORARY LIGHTING/POWER

- A. Provide temporary electrical power and lighting for all trades that require service during the course of this Project. Provide temporary service and distribution as required. Provide temporary power for all electrical equipment that will need to be installed due to the phased construction of this project. Comply with the NEC and OSHA requirements. Energy Costs by General Contractor.

1.7 SHOP DRAWING SUBMITTALS

- A. General: Follow the procedures specified in Section 01 33 01 – Vendor Submittals. Submit for final and official approval through the General Contractor.

1.8 SEQUENCING AND SCHEDULING

- A. Coordinate electrical equipment installation with other building components.
- B. Arrange for chases, slots, and openings in building structure during progress of construction to allow for electrical installations.
- C. Coordinate installing required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- D. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning prior to closing in the building.
- E. Coordinate connecting electrical service to components furnished under other Sections.
- F. Coordinate connecting electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Coordinate requirements for access panels and doors where electrical items requiring access are concealed by finished surfaces.

1.9 SUBSTANTIAL COMPLETION

- A. At Substantial Completion of Project, be ready to demonstrate the following list of items below. If this is not possible, inform the General Contractor and Engineer no less than 1 week prior to Engineer's visitation of the site for Substantial Completion.
- B. Demonstrate the operation and test of the emergency lighting system.

- C. Demonstrate the main service ground, bonding to neutral and resistance readings obtained at time of installation. This will involve having some covers removed from the main panels at the time of the Engineer's visitation.
- D. All electrical systems and items specified shall be installed and operational.
- E. Demonstrate exterior lighting controls.
- F. Demonstrate the operation of all emergency power systems including generators, uninterruptible power supplies and inverter systems.
- G. Demonstrate compliance with IEEE 519 for harmonic distortion within Portland General Electric's distortion limit requirement of 8%. Distortion limits apply to the entire plant load measured at the primary meter. This point in the system shall be defined as the point of common coupling (PCC). Meeting these requirements is a condition of service and a requirement of this project. Refer to Section 26 29 23 – Variable-Frequency Motor Controllers (VFCs/VFDs), Part 2.3.I.

1.10 RECORD DOCUMENTS

- A. Prepare Record Documents in accordance with the requirements in Section 01 77 00 – Closeout Procedures. In addition to the requirements specified in Division 1, indicate the following installed conditions:
- B. Actual location of all electrical service gear/feeders, panel/motor/special equipment feeders, all major underground or underslab conduits, all conduit stubs for future use, any change in branch circuitry from Drawings, key junction boxes and pull boxes not indicated on Drawings, any control locations or indicator lights not shown on Drawings.
- C. Addendum items, Change Order items and all changes made to Drawings from Bidding phase through to Project completion.
- D. Actual equipment and materials installed. Where manufacturer and catalog number are indicated on Drawings, generally or in fixture or equipment schedules, change to reflect actual products installed.
- E. Change service panel and branch panel breaker locations and schedules to reflect actual installed conditions.

1.11 MAINTENANCE MANUALS

- A. Prepare maintenance manuals in accordance with Section 01 77 00 – Closeout Procedures. In addition to the requirements specified in Division 1 assemble O & M Manuals as follows:
 - 1. Compile Operating and Maintenance Manuals for the electrical systems and equipment. The manuals shall be provided to the Engineer for approval complete and at one time, prior to requesting final payment. Partial or separate data will be returned for completion.

2. Manuals shall be assembled in three-ring binders. Binders shall be 3 inch thick or less and have slip sleeve jacket on binder side and front. More than one binder shall be used for each set of data if required to prevent overfilling of one binder. All information shall be arranged in Sections and each Section shall have a blank buff colored, heavy paper divider with a protruding tab clearly labeled. Sections shall be arranged in the same order that the equipment is listed in the Specification and each Specification section shall have a separate tab. Shop Drawings which are larger than 8-1/2-inch by 11 inch shall be individually folded so they are 8-1/2-inch by 11 inch or less and inserted behind the appropriate tab.
3. Tabs shall be labeled and arranged as follows:
 - a. Index: Furnish under the first tab an index of Sections listing name of Section and Specification numbers.
 - b. Equipment Manufacturers: Furnish under the second tab a complete typed list of equipment suppliers and manufacturers representative including type of equipment, name, address and phone number. The company listed here should be the one which could furnish replacement parts and offer technical information about the equipment.
 - c. Product Literature: Each tab, starting with the third shall contain the name of a Specification Section. Behind each tab shall be the previously submitted and approved Shop Drawing, factory published operation and maintenance instructions and parts lists. Also include description of function, normal operating characteristics and limitations, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions. Servicing instructions and lubrication charts and schedules.
4. Upon completion and approval of the booklets, one copy shall be given to the Architect, and two to the Owner. Using the booklet, the Electrical Contractor shall explain in detail and instruct the Owner's operating personnel in the correct operation and maintenance of the equipment.

PART 2 - PRODUCTS

2.1 SUPPORTING DEVICES

- A. Channel and angle support systems, hangers, anchors, sleeves, brackets, fabricated items, and fasteners are designed to provide secure support from the building structure for electrical components.

1. Material: Steel, except as otherwise indicated, protected from corrosion with zinc coating or with treatment of equivalent corrosion resistance using approved alternative finish or inherent material characteristics.
 2. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel, except as otherwise indicated.
- B. Steel channel supports have 9/16-inch diameter holes at a maximum of 8 inches o.c., in at least 1 surface.
1. Fittings and accessories mate and match with channels and are from the same manufacturer.
- C. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring steel clamps or "click"- type hangers.
- D. Sheet-Metal Sleeves: 0.0276-inch or heavier galvanized sheet steel, round tube, closed with welded longitudinal joint.
- E. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- F. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable iron casting with hot-dip galvanized finish.
- G. Expansion Anchors: Carbon-steel wedge or sleeve type.
- H. Toggle Bolts: All-steel springhead type.
- I. Powder-Driven Threaded Studs: Heat-treated steel.

2.2 CONCRETE EQUIPMENT BASES

- A. Forms and Reinforcing Materials: As specified in Section 03 30 00 – Cast-In-Place Concrete.
- B. Concrete: 3000 psi, 28-day compressive strength as specified in Section 03 33 00 – Cast-In-Place Concrete.

2.3 RACEWAY AND CABLE LABELS

- A. Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
 1. Color: Black letters on orange field.
 2. Legend: Indicates voltage.
- B. Adhesive Labels: Preprinted, flexible, self-adhesive vinyl with legend overlaminated with a clear, weather- and chemical-resistant coating.

- C. Pretensioned, Wraparound Plastic Sleeves: Flexible, preprinted, color-coded, acrylic band sized to suit the diameter of the line it identifies and arranged to stay in place by pretensioned gripping action when placed in position.
- D. Colored Adhesive Tape: Self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
- E. Underground-Line Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape.
 - 1. Not less than 6 inches wide by 4 mils thick.
 - 2. Compounded for permanent direct-burial service.
 - 3. Embedded continuous metallic strip or core.
 - 4. Printed legend indicating type of underground line.
- F. Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.

2.4 NAMEPLATES

- A. Engraved Plastic Nameplates: Engraving stock, melamine plastic laminate, minimum 1/16-inch thick for signs up to 20 sq. in. and 1/8-inch thick for larger sizes.
 - 1. Engraved legend with white letters on black face.
 - 2. Punched or drilled for mechanical fasteners.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Cable Ties: Fungus-inert, self-extinguishing, one-piece, self-locking, Type 6/6 nylon cable ties.
 - 1. Minimum Width: 3/16-inch.
 - 2. Tensile Strength: 50 lb minimum.
 - 3. Temperature Range: Minus 40 to plus 185 deg F.
 - 4. Color: According to color-coding.
- B. Paint: Formulated for the type of surface and intended use.
 - 1. Primer for Galvanized Metal: Single-component acrylic vehicle formulated for galvanized surfaces.
 - 2. Primer for Concrete Masonry Units: Heavy-duty-resin block filler.
 - 3. Primer for Concrete: Clear, alkali-resistant, binder-type sealer.

4. Enamel: Silicone-alkyd or alkyd urethane as recommended by primer manufacturer.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION REQUIREMENTS

- A. Install components and equipment to provide the maximum possible headroom where mounting heights or other location criteria are not indicated.
- B. Install items level, plumb, and parallel and perpendicular to other building systems and components, except where otherwise indicated.
- C. Install equipment to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Give right of way to raceways and piping systems installed at a required slope.

3.2 ELECTRICAL SUPPORTING METHODS

- A. Damp Locations and Outdoors: Hot-dip galvanized materials, U-channel system components.
- B. Dry Locations: Steel materials.
- C. Support Clamps for PVC Raceways: Click-type clamp system.
- D. Conform to manufacturer's recommendations for selecting supports.
- E. Strength of Supports: Adequate to carry all present and future loads, times a safety factor of at least 4; 200 lb minimum design load.

3.3 GENERAL INSTALLATION OF MATERIALS

- A. Install wires according to manufacturer's written instructions and NECA's "Standard of Installation."
- B. Conductor Splices: Keep to the minimum and comply with the following:
 1. Install splices and taps that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 2. Use splice and tap connectors that are compatible with conductor material.
- C. Connect outlets and components to wiring systems and to ground as indicated and instructed by manufacturer. Tighten connectors and terminals, including screws and bolts, according to equipment manufacturer's published torque-tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals according to tightening requirements specified in UL 486A.

- D. Install devices to securely and permanently fasten and support electrical components.
- E. Raceway Supports: Comply with NFPA 70 and the following requirements:
 - 1. Conform to manufacturer's recommendations for selecting and installing supports.
 - 2. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U bolts, clamps, attachments, and other hardware necessary for hanger assembly and for securing hanger rods and conduits.
 - 3. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
 - 4. Spare Capacity: Size supports for multiple conduits so capacity can be increased by a 25 percent minimum in the future.
 - 5. Support individual horizontal raceways with separate, malleable iron pipe hangers or clamps.
 - 6. Hanger Rods: 1/4-inch diameter or larger threaded steel, except as otherwise indicated.
 - 7. Spring Steel Fasteners: Specifically designed for supporting single conduits or tubing. May be used in lieu of malleable iron hangers for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings and for fastening raceways to channel and slotted angle supports in accordance with NEC.
 - 8. In vertical runs, arrange support so the load produced by the weight of the raceway and the enclosed conductors is carried entirely by the conduit supports, with no weight load on raceway terminals.
- F. Vertical Conductor Supports: Install simultaneously with conductors.
- G. Miscellaneous Supports: Install metal channel racks for mounting cabinets, panelboards, disconnects, control enclosures, pull boxes, junction boxes, transformers, and other devices except where components are mounted directly to structural features of adequate strength.
- H. Sleeves: Install for cable and raceway penetrations of concrete slabs and walls, except where core-drilled holes are used. Install for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.
- I. Fastening: Unless otherwise indicated, securely fasten electrical items and their supporting hardware to the building structure. Perform fastening according to the following:
 - 1. Fasten by means of wood screws or screw-type nails on wood; toggle bolts on hollow masonry units; concrete inserts or expansion bolts on concrete or solid masonry; and by machine screws, welded threaded studs, or spring-tension clamps on steel.

2. Threaded studs driven by a powder charge and provided with lock washers and nuts may be used instead of expansion bolts, machine screws, or wood screws.
 3. Welding to steel structure may be used only for threaded studs, not for conduits, pipe straps, or any other items.
 4. In partitions of light steel construction use sheet-metal screws.
 5. Drill holes in concrete beams so holes more than 1-1/2 inches deep do not cut main reinforcing bars.
 6. Drill holes in concrete so holes more than 3/4-inch deep do not cut main reinforcing bars.
 7. Fill and seal holes drilled in concrete and not used.
 8. Select fasteners so the load applied to any fastener does not exceed 25 percent of the proof-test load.
- J. Install concrete pads and bases where indicated.
- K. Install utility-metering equipment according to utility company's written requirements. Provide grounding and empty conduits as required by company.

3.4 LABEL INSTALLATION

- A. Identification Materials and Devices: Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Lettering, Colors, and Graphics: Coordinate names, abbreviations, colors, and other designations with corresponding designations in the Contract Documents or with those required by codes and standards. Use consistent designations throughout Project.
- C. Sequence of Work: If identification is applied to surfaces that require finish, install identification after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before applying.
- E. Install painted identification according to manufacturer's written instructions and as follows:
1. Clean surfaces of dust, loose material, and oily films before painting.
 2. Prime surfaces using type of primer specified for surface.
 3. Apply one intermediate and one finish coat of enamel.
- F. Color Identification of Junction boxes: Identify with spray paint. Apply colors as follows:
1. Emergency lighting and power: Orange.
 2. Mechanical/Electrical Supervisory System: Blue

3. Security System: Yellow.
- G. Caution Labels for Indoor Boxes and Enclosures for Power and Lighting: Install pressure-sensitive, self-adhesive labels identifying system voltage with black letters on orange background. Install on exterior of door or cover.
- H. Circuit Identification Labels on Boxes: Install labels externally.
 1. Exposed Boxes: Permanent black marker indicating panel and circuit designation.
 2. Concealed Boxes: Permanent black marker indicating panel and circuit designation.
- I. Paths of Underground Electrical Lines: During trench backfilling, for exterior underground power, control, signal, and communication lines, install continuous underground plastic line marker located directly above line at 6 to 8 inches below finished grade. Where width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches overall, use a single line marker. Install line marker for underground wiring, both direct-buried cables and cables in raceway.
- J. Color-Coding of Secondary Phase Conductors: Use the following colors for service, feeder and branch-circuit phase conductors:
 1. 208/120-V Conductors:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - d. Neutral: White.
 - e. Ground: Green.
 2. 480/277-V Conductors:
 - a. Phase A: Brown.
 - b. Phase B: Orange
 - c. Phase C: Yellow.
 - d. Neutral: Gray.
 - e. Ground: Green.
 3. Factory apply color the entire length of conductors, except the following field-applied, color-coding methods may be used instead of factory-coded wire for sizes larger than No. 10 AWG:

- a. Colored, pressure-sensitive plastic tape in half-lapped turns for a distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Use 1 inch wide tape in colors specified. Adjust tape bands to avoid obscuring cable identification markings.
- K. Power-Circuit Identification: Metal tags or aluminum, wraparound marker bands for cables, feeders, and power circuits in vaults, pull and junction boxes, manholes, and switchboard rooms.
 - 1. Legend: 1/4-inch steel letter and number stamping or embossing with legend corresponding to indicated circuit designations.
 - 2. Tag Fasteners: Nylon cable ties.
 - 3. Band Fasteners: Integral ears.
- L. Apply identification to conductors as follows:
 - 1. Conductors to Be Extended in the Future: Indicate source and circuit numbers.
 - 2. Multiple Power or Lighting Circuits in the Same Enclosure: Identify each conductor with source, voltage, circuit number, and phase. Use color-coding to identify circuits' voltage and phase.
 - 3. Multiple Control and Communication Circuits in the Same Enclosure: Identify each conductor by its system and circuit designation. Use a consistent system of tags, color-coding, or cable marking tape.
- M. Apply warning, caution, and instruction signs as follows:
 - 1. Warnings, Cautions, and Instructions: Install to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
 - 2. Emergency Operation: Install engraved laminated signs with white legend on red background with minimum 3/8-inch high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.
- N. Equipment Identification Labels: Engraved plastic laminate. Install on each unit of equipment, including central or master unit of each system. This includes power, lighting, communication, signal, and alarm systems, unless units are specified with their own self-explanatory identification. Unless otherwise indicated, provide a single line of text with 1/2-inch high lettering on 1-1/2 inch high label; where two lines of text are required, use labels 2 inches high. Use white lettering on black field. Apply labels for each unit of the following categories of equipment using mechanical fasteners:
 - 1. Panelboards, electrical cabinets, and enclosures.

2. Access doors and panels for concealed electrical items.
 3. Electrical switchgear and switchboards.
 4. Emergency system boxes and enclosures.
 5. Disconnect switches.
 6. Enclosed circuit breakers.
 7. Motor starters.
 8. Push-button stations.
 9. Power transfer equipment.
 10. Contactors.
 11. Remote-controlled switches.
 12. Control devices.
 13. Transformers.
 14. Battery racks.
 15. Power-generating units.
- O. For panelboards, provide framed type circuit schedules with identification of items controlled by each breaker. Indicate room numbers of items controlled or room name where appropriate for Owners convenience. Final schedules shall be typed or printed for clarity. Hand written schedules are not acceptable. Schedules shall be posted inside each panel door mounted in transparent card holder upon project completion.

END OF SECTION 26 05 00

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 1. Comply with UL 467.
- B. Comply with NFPA 70; for overhead-line construction and medium-voltage underground construction, comply with IEEE C2.
- C. Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system.

1.2 SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2.2 GROUNDING CONDUCTORS

- A. For insulated conductors, comply with Section 26 05 19 – Low-Voltage Conductors and Cables.
- B. Material: Copper.
- C. Equipment Grounding Conductors: Insulated with green-colored insulation.
- D. Isolated Ground Conductors: Insulated with green-colored insulation with yellow stripe. On feeders with isolated ground, use colored tape, alternating bands of green and yellow tape to provide a minimum of three bands of green and two bands of yellow.
- E. Grounding Electrode Conductors: Stranded cable.
- F. Underground Conductors: Bare, tinned, stranded, unless otherwise indicated.
- G. Bare Copper Conductors: Comply with the following:
 - 1. Solid Conductors: ASTM B 3.

2. Assembly of Stranded Conductors: ASTM B 8.
- H. Copper Bonding Conductors: As follows:
1. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG copper conductor, 1/4-inch in diameter.
 2. Bonding Conductor: No. 4 or No. 6 AWG, stranded copper conductor.
 3. Bonding Jumper: Bare copper tape, braided bare copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16-inch thick.
 4. Tinned Bonding Jumper: Tinned-copper tape, braided copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- I. Grounding Bus: Bare, annealed copper bars of rectangular cross section, with insulators.

2.3 CONNECTOR PRODUCTS

- A. Comply with IEEE 837 and UL 467; listed for use for specific types, sizes, and combinations of conductors and connected items.
- B. Bolted Connectors: Bolted-pressure-type connectors, or compression type.
- C. Welded Connectors: Exothermic-welded type, in kit form, and selected per manufacturer's written instructions.

2.4 GROUNDING ELECTRODES

- A. Ground Rods: Sectional type; copper-clad steel.
 1. Size: 3/4 inch in diameter by 120 inches in length.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Use only copper conductors for both insulated and bare grounding conductors in direct contact with earth, concrete, masonry, crushed stone, and similar materials.
- B. In raceways, use insulated equipment grounding conductors.
- C. Exothermic-Welded Connections: Use for connections to structural steel and for underground connections, except those at test wells.
- D. Equipment Grounding Conductor Terminations: Use bolted pressure clamps.
- E. Ground Rod Clamps at Test Wells: Use bolted pressure clamps with at least two bolts.

- F. Underground Grounding Conductors: Use copper conductor, No. 2/0 AWG minimum. Bury at least 24 inches below grade or bury 12 inches above duct bank when installed as part of the duct bank.

3.2 EQUIPMENT GROUNDING CONDUCTORS

- A. Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.
- B. Install equipment grounding conductors in all feeders and circuits.
- C. Install insulated equipment grounding conductor with circuit conductors for the following items, in addition to those required by NEC:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Flexible raceway runs.
 - 7. Armored and metal-clad cable runs.
- D. Nonmetallic Raceways: Install an equipment grounding conductor in nonmetallic raceways unless they are designated for telephone or data cables.
- E. Air-Duct Equipment Circuits: Install an equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners and heaters. Bond conductor to each unit and to air duct.
- F. Water Heater: Bond conductor to heater units, piping, connected equipment, and components.
- G. Signal and Communication Systems: Provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.
- H. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a 1/4-by-2-by-12-inch grounding bus.
 - 1. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.

3.3 INSTALLATION

- A. Ufer Ground (Concrete-Encased Grounding Electrode): Fabricate according to NEC. If concrete foundation is less than 20 feet long, coil excess conductor within the base of the foundation. Bond grounding conductor by cadweld process to reinforce steel in at least four locations and to anchor bolts. Extend grounding conductor below grade and connect to building grounding grid or to a grounding electrode external to concrete.
- B. Ground Rods: Install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes.
 - 1. Drive ground rods until tops are 6 inches below finished floor or final grade, unless otherwise indicated.
 - 2. Interconnect ground rods with grounding electrode conductors. Use exothermic welds, except at test wells and as otherwise indicated. Make connections without exposing steel or damaging copper coating.
- C. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- D. Bonding Straps and Jumpers: Install so vibration by equipment mounted on vibration isolation hangers and supports is not transmitted to rigidly mounted equipment. Use exothermic-welded connectors for outdoor locations, unless a disconnect-type connection is required; then, use a bolted clamp. Bond straps directly to the basic structure taking care not to penetrate any adjacent parts. Install straps only in locations accessible for maintenance.
- E. Metal Water Service Pipe: Provide insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes by grounding clamp connectors. Where a dielectric main water fitting is installed, connect grounding conductor to street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
- F. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with grounding clamp connectors.
- G. Bond interior metal piping systems and metal air ducts to equipment grounding conductors of associated pumps, fans, blowers, electric heaters, and air cleaners. Use braided-type bonding straps.
- H. Bond each aboveground portion of gas piping system upstream from equipment shutoff valve.

3.4 CONNECTIONS

- A. General: Make connections so galvanic action or electrolysis possibility is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer to order of galvanic series.
 2. Make connections with clean, bare metal at points of contact.
- B. Exothermic-Welded Connections: Comply with manufacturer's written instructions. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.
- C. Equipment Grounding Conductor Terminations: For No. 8 AWG and larger, use pressure-type grounding lugs. No. 10 AWG and smaller grounding conductors may be terminated with winged pressure-type connectors.
- D. Noncontact Metal Raceway Terminations: If metallic raceways terminate at metal housings without mechanical and electrical connection to housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to grounding bus or terminal in housing. Bond electrically noncontinuous conduits at entrances and exits with grounding bushings and bare grounding conductors, unless otherwise indicated.
- E. Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- F. Compression-Type Connections: Use hydraulic compression tools to provide correct circumferential pressure for compression connectors. Use tools and dies recommended by connector manufacturer. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on grounding conductor.

3.5 FIELD QUALITY CONTROL

- A. Test ground resistance of entire system and at each building/structure where electrical equipment is installed.
- B. Where maximum allowable ground resistance of 5 ohms is exceeded, install additional grounding mats or ground rods until ground resistance is equal to or below maximum allowable ground resistance.
- C. Terminate ground and shield for VFD cables per VFD manufacturer requirements. VFD cable shielding must be connected at both the drive and the motor ends unless the drive manufacturer provided different guidelines. The shielding must be connected at a 360° contact. Provide and install cable claps or metal fittings as required for proper connection.

END OF SECTION 26 05 26

SECTION 26 21 00 - SERVICE ENTRANCE

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Coordinate existing incoming power service with Portland General Electric. Portland General Electric contact is Tanya Boyd (503) 405-5509.
- B. Coordinate demolition of existing power feed to existing filter building as indicated on the plans.
- C. Verify exact location of service feeds, electrical vaults, metering switchboard, and transformers with Portland General Electric. Existing service to be maintained until new service has been commissioned and new feeder to existing filter building is ready for energization. Any and all power shut downs shall be scheduled and coordinated with the owner and related trades.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION

3.1 GENERAL

- A. Install, modify or demolish service-entrance equipment as indicated on the plans. New equipment to be installed, in accordance with equipment manufacturer's written instructions, and with recognized industry practices, to ensure that service-entrance equipment fulfills requirements. Comply with applicable installation requirements of NEC, UL, ANSI, IEEE, and NEMA standards.
- B. Tighten electrical connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque-tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Standards 486A and B, and the NEC.

END OF SECTION 26 21 00

SECTION 26 24 13.21 - SWITCHBOARDS

PART 1 - GENERAL

1.1 SCOPE

1. Furnish and install, where indicated, a free-standing, dead-front type low-voltage distribution switchboard, utilizing group mounted circuit protective devices, integrated panelboards, and other equipment as specified herein, and as shown on the contract drawings.

1.2 RELATED SECTIONS

- A. Section 26 28 00 – Overcurrent Protective Devices
- B. Section 26 43 13 A – Surge Protective Devices

1.3 REFERENCES

- A. The low-voltage distribution switchboards and all components shall be designed, manufactured, and tested in accordance with the latest applicable following standards:
 1. NEMA PB-2
 2. UL Standard 891

1.4 SUBMITTALS – FOR REVIEW/APPROVAL

- A. The following information shall be submitted to the Engineer:
 1. Master drawing index
 2. Front view elevation
 3. Floor plan
 4. Top view
 5. Single line
 6. Schematic diagram
 7. Nameplate schedule
 8. Component list
 9. Conduit entry/exit locations

10. Assembly ratings including:
 11. Short-circuit rating.
 12. Voltage
 13. Continuous current
 14. Major component ratings including:
 15. Voltage
 16. Continuous current
 17. Interrupting ratings
 18. Cable terminal sizes
 19. Product data sheets
- B. Where applicable, the following additional information shall be submitted to the Engineer:
1. Busway connection
 2. Connection details between close-coupled assemblies
 3. Composite floor plan of close-coupled assemblies

1.5 SUBMITTALS – FOR CONSTRUCTION

- A. The following information shall be submitted for record purposes:
1. Final as-built drawings and information for items listed in Paragraph 1.04 and shall incorporate all changes made during the manufacturing process.
 2. Wiring diagrams
 3. Certified production test reports
 4. Installation information
 5. Seismic certification and equipment anchorage details as specified.

1.6 QUALIFICATIONS

- A. The manufacturer of the assembly shall be the manufacturer of the major components within the assembly.
- B. For the equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.

- C. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of five (5) years. When requested by the Engineer, an acceptable list of installations with similar equipment shall be provided demonstrating compliance with this requirement.
- D. Provide Seismic tested equipment as follows:
 - 1. The equipment and major components shall be suitable for and certified by actual seismic testing to meet all applicable seismic requirements of the latest Oregon Structural Specialty Code (OSSC).
 - 2. The Project Structural Engineer will provide site specific ground motion criteria for use by the manufacturer to establish SDS values required.
 - 3. The IP rating of the equipment shall be 1.5.
 - 4. The Structural Engineer for the Site will evaluate the SDS values published on the Manufacturer's website to ascertain that they are "equal to" or "greater than" those required for the Project Site.
 - 5. The following minimum mounting and installation guidelines shall be met, unless specifically modified by the above referenced standards.
 - 6. The Contractor shall provide equipment anchorage details, coordinated with the equipment mounting provision, prepared, and stamped by a licensed civil engineer in the state. Mounting recommendations shall be provided by the manufacturer based upon the above criteria to verify the seismic design of the equipment.
 - 7. The equipment manufacturer shall certify that the equipment can withstand, that is, function following the seismic event, including both vertical and lateral required response spectra as specified in above codes.
 - 8. The equipment manufacturer shall document the requirements necessary for proper seismic mounting of the equipment. Seismic qualification shall be considered achieved when the capability of the equipment, meets or exceeds the specified response spectra.
 - a. The manufacturer shall maintain a minimum of twelve (12) domestic, regional, switchboard manufacturing plants within the United States of America to provide parts and service. These facilities shall have the ability to replace and/or modify equipment as deemed necessary. A list of these plants, phone numbers and contacts shall be provided at the request of the owner.

1.7 REGULATORY REQUIREMENTS

- A. The low-voltage switchboard shall be UL labeled.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Equipment shall be handled and stored in accordance with manufacturer's instructions. One (1) copy of these instructions shall be included with the equipment at time of shipment.

1.9 OPERATION AND MAINTENANCE MANUALS

- A. Equipment operation and maintenance manuals shall be provided with each assembly shipped and shall include instruction leaflets, instruction bulletins and renewal parts lists where applicable, for the complete assembly and each major component.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Eaton
- B. Schneider Electric
- C. ABB
- D. Or Equal
- E. The listing of specific manufacturers above does not imply acceptance of their products that do not meet the specified ratings, features and functions. Manufacturers listed above are not relieved from meeting these specifications in their entirety. Products in compliance with the specification and manufactured by others not named will be considered only if pre-approved by the Engineer ten (10) days prior to bid date.

2.2 RATINGS

- A. The assembly shall be rated to withstand mechanical forces exerted during short-circuit conditions when connected directly to a power source having available fault current as shown on the drawings. Main Switchboard Section shall be fully rated for 65,000 amperes symmetrical at rated voltage. Sub-panels shall be fully rated to meet requirements shown on drawings. Copies of series combinations shall be submitted with approval drawings. These series combinations are required to be tested by UL and values predicted by the use of let-through curves are not acceptable.
- B. Voltage and current rating to be as indicated on the drawings.

2.3 CONSTRUCTION

- A. Switchboard shall consist of the required number of vertical sections bolted together to form a rigid assembly. The sides and rear shall be covered with removable bolt-on covers. All edges of front covers or hinged front panels shall be formed. Provide adequate ventilation within the enclosure.
- B. The switchboard shall be of one-piece, bolted together construction, up to 35 feet in length and include a top mounted lifting bracket.

- C. All sections of the switchboard shall be front and rear aligned with depth as shown on drawings. All protective devices shall be group mounted. Devices shall be front removable and load connections front accessible.
- D. The assembly shall be provided with adequate lifting means.
- E. The switchboard shall be equal to Eaton type Pow-R-Line C utilizing the components herein specified and as shown on the drawings.
- F. The switchboard shall be suitable for use as service entrance equipment and be labeled in accordance with UL requirements. Unless otherwise noted on drawings.
- G. Utility Metering section of the switchboard shall meet Portland General Electric termination/pull section requirements for metering gear as indicated in the PGE commercial service guide.
- H. Contractor or Owner shall supply PGE with metering switchboard submittal as part of electric service upgrade request

2.4 BUS

- A. All bus bars shall be silver-plated copper Main horizontal bus bars, if applicable, shall be mounted with all three phases arranged in the same vertical plane. Bus sizing shall be based on NEMA standard temperature rise criteria of 65 degrees C over a 40 degrees C ambient (outside the enclosure).
- B. Provide a full capacity neutral bus where a neutral bus is indicated on the drawings.
- C. A copper ground bus (minimum 1/4 x 2 inch) shall be furnished firmly secured to each vertical section structure and shall extend the entire length of the switchboard.
- D. All hardware used on conductors shall be high-tensile strength and zinc-plated. All bus joints shall be provided with conical spring-type washers.

2.5 WIRING/TERMINATIONS

- A. Small wiring, necessary fuse blocks and terminal blocks within the switchboard shall be furnished as required. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked for identification corresponding to appropriate designations on manufacturer's wiring diagrams.
- B. Mechanical-type terminals shall be provided for all line and load terminations suitable for copper or aluminum cable rated for 75 degrees C of the size as indicated on the drawings.
- C. Lugs shall be provided in the incoming line section for connection of the main grounding conductor. Additional lugs for connection of other grounding conductors shall be provided as indicated on the drawings.

- D. All control wire shall be type SIS, bundled and secured with nylon ties. Insulated locking spade terminals shall be provided for all control connections, except where saddle type terminals are provided integral to a device. All current transformer secondary leads shall first be connected to conveniently accessible short-circuit terminal blocks before connecting to any other device. All groups of control wires leaving the switchboard shall be provided with terminal blocks with suitable numbering strips. Provide wire markers at each end of all control wiring.
- E. Where there is a main switchboard section in the lineup, the switchboard manufacturer shall wire from the associated feeder breaker to the respective panelboard, dry type distribution transformer, automatic transfer switch, UPS, etc... as noted on drawings. Feeders shall be copper, and conductor sized as noted on the drawings. This wiring shall be installed in the factory and shall not be installed in the field. All factory installed power wiring shall be provided with phase color tape as follows:
 - 1. 480/277-Volt WYE Systems
 - a. Phase-A = Brown
 - b. Phase-B = Orange
 - c. Phase-C = Yellow
 - d. Neutral = Gray
 - e. 208/120-Volt WYE Systems
 - f. Phase-A = Black
 - g. Phase-B = Red
 - h. Phase-C = Blue
 - i. Neutral = White

2.6 MAIN SWITCHBOARD AND FEEDER SECTIONS

- A. Main protective devices
 - 1. Shall meet specification requirements of 26 28 00 – Overcurrent Protective Devices.
- B. Trip units – Main and Tie devices
 - 1. Shall meet specification requirements of 26 28 00 – Overcurrent Protective Devices.
- C. Feeder protective devices

1. Shall meet specification requirements of 26 28 00 – Overcurrent Protective Devices.
- D. Trip units – Feeder devices
 1. Shall meet specification requirements of 26 28 00 – Overcurrent Protective Devices.
- E. Accessories
 1. Provide shunt trips, bell alarms, auxiliary switches, and other accessories as shown on the contract drawings.
- 2.7 OWNER METERING
 - A. Where indicated on the drawings, provide a separate owner metering compartment with front hinged door, and include the following:
 - B. Current transformers for each meter. Current transformers shall be wired to shorting-type terminal blocks.
 - C. Microprocessor-Based Metering System.
 - D. Web-Enabled Communications
 1. Where indicated on the drawings, provide a separate compartment with a front facing hinged door as a central point of connection for all internally located communicating devices to an external Ethernet network and allow close monitoring of the power infrastructure with real-time, web-enabled data.
 2. The compartment shall have a lockable, hinged door with a functional through-the-door RJ45 network access port. Power for the components in the compartment shall be supplied by a pre-wired, bus-connected control transformer in the compartment that is fused and has a disconnecting means.
 3. The included communications components shall be a Power Xpert Ethernet Switch(es) or equal
 4. Communication system shall be Eaton PowerXpert Architecture or equal
- 2.8 ENCLOSURES
 - A. NEMA 3R Enclosure

2.9 NAMEPLATES

- A. Engraved nameplates, mounted on the face of the assembly, shall be furnished for all main and feeder circuits as indicated on the drawings. Nameplates shall be laminated plastic, black characters on white background. Characters shall be 3/16-inch high, minimum. Nameplates shall give item designation and circuit number as well as frame ampere size and appropriate trip rating. Furnish master nameplate giving switchboard designation, voltage ampere rating, short-circuit rating, manufacturer's name, general order number, and item number.
- B. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked for identification corresponding to appropriate designations on manufacturer's wiring diagrams.

2.10 FINISH

- A. All exterior and interior steel surfaces of the switchboard shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. Color and finish of the switchboard shall be ANSI 61 light gray.

2.11 SURGE PROTECTIVE DEVICES

- A. Provide surge protective devices as specified in Section 26 43 13 A..

PART 3 - - EXECUTION

3.1 FACTORY TESTING

- A. The following standard factory tests shall be performed on the equipment provided under this section. All tests shall be in accordance with the latest version of ANSI and NEMA standards.
 - 1. The switchboard shall be completely assembled, wired, adjusted, and tested at the factory. After assembly, the complete switchboard will be tested for operation under simulated service conditions to assure the accuracy of the wiring and the functioning of all equipment. The main circuits shall be given a dielectric test of 2200 volts for one (1) minute between live parts and ground, and between opposite polarities. The wiring and control circuits shall be given a dielectric test of 1500 volts for one (1) minute between live parts and ground.

- B. The manufacturer shall provide three (3) certified copies of factory test reports.

3.2 MANUFACTURER'S CERTIFICATION

- A. A certified test report of all standard production tests shall be available to the Engineer upon request.

3.3 TRAINING

- A. The Contractor shall provide a training session for up to five (5) owner's representatives for 1 normal workdays at a jobsite location determined by the owner.
- B. A manufacturer's qualified representative shall conduct the training session. The training program shall consist of instruction on operation of the assembly, circuit breakers, fused switches, and major components within the assembly.

3.4 INSTALLATION

- A. The Contractors shall install all equipment per the manufacturer's instructions, contract drawings and National Electrical Code.
- B. The assembly shall be provided with adequate lifting means and shall be capable of being moved into installation position and bolted directly to the floor without the use of floor sills provided the floor is level to 1/8 inch per 3-foot distance in any direction. All necessary hardware to secure the assembly in place shall be provided by the Contractor.

3.5 FIELD ADJUSTMENTS

- 1. The Contractor shall perform field adjustments of the protective devices as required to place the equipment in final operating condition. The settings shall be in accordance with the approved short-circuit study, protective device evaluation study and protective device coordination study.
- 2. Necessary field settings of devices and adjustments and minor modifications to equipment to accomplish conformance with an approved short circuit and protective device coordination study shall be carried out by the Contractor at no additional cost to the owner.

END OF SECTION 26 24 13.21

SECTION 26 28 00 - OVERCURRENT PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes overcurrent protective devices (OCPDs) rated 600 V and below and switching devices commonly used with them.

1.2 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 specification sections.
- B. Product data for fuses, fusible switches, circuit breakers, and OCPD accessories specified in this Section, including descriptive data.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. Cartridge Fuses:
 - a. Bussmann Div., Cooper Industries, Inc.
 - b. Gould Inc.
 - c. Littelfuse Inc.
 - 2. Fusible Switches:
 - a. General Electric Co.
 - b. Square D Co.
 - c. Siemens
 - d. Eaton
 - 3. Molded-Case Circuit Breakers:
 - a. General Electric Co.
 - b. Square D Co.
 - c. Siemens

- d. Eaton
- 4. Combination Circuit Breaker and Ground Fault Circuit Interrupters:
 - a. General Electric Co.
 - b. Square D Co.
 - c. Siemens
 - d. Eaton
- 5. Molded-Case Circuit Breakers With Solid-State Trip Devices:
 - a. General Electric Co.
 - b. Square D Co.
 - c. Siemens
 - d. Eaton

2.2 OVERCURRENT PROTECTIVE DEVICES (OCPD'S), GENERAL

- A. General: Provide OCPD's in indicated types, as integral components of panelboards, switchboards, and also as individually enclosed and mounted single units.
- B. Enclosures: NEMA 250 "Enclosures for Electrical Equipment (1,000 Volts Maximum)."

2.3 CARTRIDGE FUSES

- A. General: NEMA Standard FU1, "Low-Voltage Cartridge Fuses." Unless indicated otherwise, provide nonrenewable cartridge fuses of indicated types, classes, and current ratings that have voltage ratings consistent with the circuits on which used.
- B. Class RK1 and RK5 Dual Element Time-Delay Fuses: UL 198E, "Class R Fuses."

2.4 FUSIBLE SWITCHES

- A. General: UL 98 "Enclosed and Dead Front Switches" and NEMA KS 1 "Enclosed Switches," quick-make, quick-break heavy-duty units.
- B. Rating: Load-breaking capacity in excess of the normal horsepower rating for the switch.
- C. Withstand Capability: In excess of the let-through current permitted by its fuse when subject to faults up to 100,000 RMS symmetrical amperes.
- D. Operation: By means of external handle.
- E. Interlock: Prevents access to switch interior except when in "off" position.
- F. Fuse Clips: Rejection type.

- G. Padlocking Provisions: For 2 padlocks, whether open or closed.
- H. Enclosure for Independent Mounting: NEMA Type 1 enclosure except as otherwise indicated or required to suit environment where located.

2.5 MOLDED-CASE CIRCUIT BREAKERS

- A. General: UL 489, "Molded Case Circuit Breakers and Circuit Breaker Enclosures," and NEMA AB 1, "Molded Case Circuit Breakers."
- B. Construction: Bolt-in type, except breakers 225-ampere frame size and larger may be plug-in type if held in place by positive locking device requiring mechanical release for removal.
- C. Characteristics: Indicated frame size, trip rating, number of poles, and a short-circuit interrupting capacity rating of 10,000 amperes symmetrical, unless a greater rating as indicated.
- D. Tripping Device: Quick-make, quick-break toggle mechanism with inverse-time delay and instantaneous overcurrent trip protection for each pole, and any additional trip features as indicated on drawings.
- E. Adjustable Instantaneous Trip Devices: Factory adjusted to low-trip-setting current values.
- F. Enclosure for Independent Mounting: NEMA Type 1 enclosure, except as otherwise indicated or required to suit environment where located.
- G. Combination Circuit Breakers and Ground Fault Circuit Interrupters: UL 943 "Ground Fault Circuit Interrupters," arranged for sensing and tripping for ground fault current in addition to overcurrent and short-circuit current. Provide features as follows:
 - 1. Match features and module size of panelboard breakers and provide clear identification of ground fault trip function.
 - 2. Trip Setting for Ground Fault: 30 milliamperes.

2.6 OCPD ACCESSORIES

- A. Shunt-Trip Devices for Circuit Breakers: Where indicated, arrange to trip breaker from an external source of power through a control switch or relay contacts.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Independently Mounted OCPD's: Locate as indicated and install in accordance with manufacturer's written installation instructions.
- B. OCPD's in distribution equipment shall be factory installed.

3.2 CONNECTIONS

- A. Check connectors, terminals, bus joints, and mountings for tightness. Tighten field-connected connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A and UL 486B.

3.3 GROUNDING

- A. Provide equipment grounding connections for individually mounted OCPD units as indicated and as required by NEC. Tighten connectors to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounding.

3.4 FIELD QUALITY CONTROL

- A. Visual and mechanical inspection: Include the following inspections and related work.
 - 1. Overcurrent-Protective-Device Ratings and Settings: Verify indicated ratings and settings to be appropriate for final system arrangement and parameters. Where discrepancies are found, test organization shall recommend final protective device ratings and settings. Use accepted revised ratings or settings to make the final system adjustments.
 - 2. Inspect for defects and physical damage, NRTL labeling, and nameplate compliance with current single line diagram.
 - 3. Exercise and perform operational tests of all mechanical components and other operable devices in accordance with manufacturer's instruction manual.
 - 4. Check tightness of electrical connections of OCPD's with calibrated torque wrench. Refer to manufacturer's instructions for proper torque values.
 - 5. Clean OCPD's using manufacturer's approved methods and materials.
- B. Retest: Correct deficiencies identified by tests and observations and provide retesting of OCPD's. Verify by the system tests that specified requirements are met.

3.5 CLEANING

- A. Upon completion of installation, inspect OCPD's. Remove paint splatters and other spots, dirt, and debris. Touch up scratches and mars of finish to match original finish.

END OF SECTION 26 28 00

SECTION 26 32 13 – ENGINE GENERATORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Extent of engine generator set Work is indicated by drawings and is hereby defined to include, but not by way of limitation, engines, electrical generators, engine starting systems including batteries, instrument control panel, transfer switches, annunciator panel, exhaust silencer, and accessories required for a complete generator installation.
- B. Generator set required for the project is a diesel engine-driven unit.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's data on engine-driven generator sets and components. Submit wiring diagrams for engine-driven generator units showing connections to electrical power panels, feeders, automatic transfer switches, and ancillary equipment. Differentiate between portions of wiring that are manufacturer-installed and portions that are field-installed.
- B. Maintenance data for materials and products, for inclusion in Operating and Maintenance Manual specified in Section 26 05 00 – Electrical, General. Include complete Operations and Maintenance Manual, Illustrated Parts List and Maintenance Schedule.
- C. Certifications: Provide engine-driven generator sets certified test record of the following final production testing:
 - 1. Single-step load pickup.
 - 2. Transient and steady state governing. The generator will serve loads controlled by VFD's. Manufacturer shall take appropriate measures. Refer to drawings for loads served.
 - 3. Safety shutdown device testing.
 - 4. Voltage regulation.
 - 5. Rated power.
 - 6. Maximum power.
- D. Provide certified test record prior to engine-driven generator set being shipped from factory to project location.
- E. Unit Responsibility: The complete standby emergency generator systems are to be tested under full load conditions, as a unit, before being shipped to the job site from factory. Installation and hook-up to be under direct supervision of factory trained personnel.

- F. The automatic transfer control switch and the manual transfer switch shall be supplied per specification Section 26 36 00 – Transfer Switches and integrated with the engine-generator.
- G. Generator support shall be a factory authorized service center located within a 200 mile radius of the project site.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Deliver engine-driven generator properly packaged and mounted on pallets, or skids to facilitate handling of heavy items. Utilize factory-fabricated type containers or wrappings for engine-generator and components that protect equipment from damage.
- B. Store engine-driven generator equipment in original packaging and protect from weather and construction traffic. Wherever possible, store indoors; where necessary to store outdoors, store above grade and enclose with watertight wrapping.
- C. Handle engine-driven generator equipment carefully to prevent physical damage to equipment and components. Do not install damaged equipment; remove from site and replace damaged equipment with new.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering diesel generator sets which may be incorporated in the Work include the following:
 - 1. Caterpillar Tractor Co.
 - 2. Cummins Corp.
 - 3. Rehlko Co.
- B. Generator Sets
 - 1. General: Except as otherwise indicated, provide manufacturer's standard engine-driven generator sets and auxiliary equipment as indicated by published product information, and as required for a complete installation.
 - 2. Generator Set and Automatic Transfer Switch shall be suitable for and certified by actual seismic testing to meet all applicable seismic requirements of the latest Oregon Structural Specialty Code (OSSC).

3. Engine-Driven Generator: Provide packaged electrical power engine-driven generator assembly unit rated as indicated on drawings, at a governed speed of 1800 RPM, and rated 80 percent power factor for continuous operation, 480/277 volt, 3-phase, 4-wire, 60 Hz, at installed altitude 1080ft, at 110 deg. F. Equip generator with a turbo-charged, 1800 RPM, engine, and fueled as noted; liquid cooled. Engine shall meet all EPA Tier level requirements at time engine is manufactured. Provide unit-mounted radiator, blower fan, water pump, and thermostat. Connect engine drive directly to 4-pole revolving-field type single, maintenance-free, bearing generator through semi-flexible steel disk coupling; equip set with associated control equipment to automatically start engine, transfer load to standby power upon failure of normal power source, transfer load back to normal power upon its restoration, and stop engine. Actual temperature rise measured by resistance method at full load shall not exceed 125 degrees Centigrade. Cushion-mount engine-generator on heavy steel base with spring type vibration isolators to reduce possibility of torsional vibration. Provide water-cooled type engine with unit-mounted radiator. Equip engine with low-oil pressure, high-water temperature, and automatic overspeed safety shutdown devices. Equip generator with exciter and voltage regulator to maintain voltage within 2 percent of rated value. Direct-connect generator to fly wheel by semi-flexible steel disk coupling. Provide unit capable of voltage recovery, within regulated range, of 7 seconds following sudden load increase from 0 to 100 percent of rated load, and with voltage dip not to exceed 35 percent upon application of rated load at rated power factor. Construct unit in compliance with applicable standards; and with additional construction features as indicated:
 - a. Motor Starting Accessories: The generator will be used to feed motor loads that are controlled via variable frequency drives. Provide items for improved motor starting and generator regulation such as permanent magnet generator end, electronic governor, voltage regulators, etc..
 - b. Starting System: Provide engine-generator units with 24-volt, 3-wire, negative ground, starting systems including 24-volt positive engagement solenoid shift-starting motors, batteries and 35-ampere, or greater, automatic battery charging alternators with solid-state voltage regulation.
 - c. Instrument Control Panel: Provide engine-generator units with engine oil-pressure and water-temperature indicators, battery charge-rate ammeter, START - STOP switch for manual operation of unit, reset circuit breaker, static voltage regulator, voltage-adjusting rheostat, voltmeter, ammeter with phase selector switch with an OFF position, and with running time indicator and frequency meters. Select type circuitry of plug-in design capable of quick replacement, and of accepting a plug-in device that allows maintenance to test control panel performance without operating the engine.
 - d. Controller: Provide a set mounted controller that complies with applicable NFPA standards. Controller shall provide all indicators, alarms, and monitoring functions that a Cummins Power Command Control 2100 provides per NFPA 110 level one requirement. Controller shall be accessible without the use of ladders, steps, etc.

- e. Provide hardwired dry contact connection to SCADA for the following signals:
 - 1) Generator Running
 - 2) Generator Fault
 - 3) Generator not in Auto.

2.2 ENGINE-GENERATOR SET ACCESSORIES

- A. Provide factory-fabricated automatic load-transfer switch control, mated to generator to automatically start generator unit when line voltage drops to 70 percent normal value, transfer load to generator, and transfer load back to normal source when voltage is restored to 90 percent normal, and when line voltage reaches 115% rated voltage, restoring at 100% rated voltage. Equip electrically operated, mechanically held, and electrically and mechanically interlocked, transfer switch with limiter that opens starting circuit after 45 seconds when engine fails to start. Also provide time-delay features to prevent excessive transfer and retransfer operation during momentary line voltage dips, load retransfer, and engine shutdown. Equip unit with indicator for starting, test switch for manual simulation of power outages including standby unit operation and load transfer, and time-clock exerciser circuit for automatic periodic exercise under load of engine-generator unit. Provide 120V control circuit for control of louvers.
- B. Provide battery rack, battery warmers, battery cables, 12-volt battery(ies) capable of delivering the minimum cold-cranking amps required at zero degrees Fahrenheit per SAE Standard J-537.
- C. Provide gas proof, seamless, stainless steel, flexible exhaust connector.
- D. Provide flexible fuel line(s) rated 300 degrees F and 100 PSI ending in pipe thread.
- E. Provide engine exhaust silencer, coated to be temperature and rust resistant, rated for critical applications 35dB reduction. Exhaust silencer to be housed inside of weatherproof enclosure.
- F. Provide block heater of proper wattage and voltage, thermostatically controlled to maintain engine coolant at 90 degrees Fahrenheit (32 degrees Celsius). The block heater shall be installed with shut-off valves for maintenance. Valves to be field installed.
- G. Provide 10-ampere automatic float and equalize battery charger with +/- 1% constant voltage regulation from no load to full load over +/- 10% AC input line variation, current limited during engine cranking and short circuit conditions, temperature compensated for ambients from -40 degrees C to +60 degrees C, 5% accurate voltmeter and ammeter, fused, reverse polarity and transient protected.
- H. Provide load center integral to the generator enclosure with factory wiring for all generator accessories and the block heater. Load center shall accept 120/240V single phase shore power. The mounting location of the load center and a load schedule for all accessories shall be indicated and provided on the generator submittal drawings.

- I. Remote Emergency Stop Push Button: The generator set shall be equipped with a remote emergency stop push button, clearly labeled "EMERGENCY STOP," and mounted on the exterior of the generator's weatherproof enclosure. The push button shall be of a heavy-duty, weatherproof design (NEMA 4 or equivalent) and shall be easily accessible for immediate operation. The emergency stop function shall immediately interrupt the generator's fuel supply and electrical output upon activation, causing the generator to shut down completely. The remote emergency stop circuit shall be wired to the generator's control panel by the manufacturer, and shall be fully functional upon delivery. The wiring method used shall be clearly documented within the generator submittal package. The remote emergency stop push button shall be red in color with a yellow background, per industry standards. The mounting location of the remote emergency stop button shall be indicated on the generator submittal drawings.
- J. Provide a U.L. 142 label double wall sub base fuel tank of adequate capacity to operate generator 48 hours at full load and meet the requirement for 110% fuel tank volume containment. Tank shall be of steel construction and installed under the generator. Tank shall be equipped with normal and emergency venting. Provide all necessary piping for a complete venting system, fuel vent must be installed a minimum of 12ft above grade. Venting shall comply with applicable requirements of IFC. Tank openings and overflow protection shall comply with IFC. Tank to be equipped with supply/return lines installed to engine, low fuel level switch, leak detection, and tank heater. Install tank and accessories per applicable codes, standards, and manufacturers requirements.
- K. Provide U.L listed weatherproof sound attenuated (79dB at 23 feet) housing. Housing to be finished inside and out with a rust-inhibiting primer, and then a top coat paint. Side panels to be removable for maintenance and lockable. Provide necessary louvers and exhaust silencer connections.
- L. Provide 480V circuit breakers as indicated on the drawings. Breakers shall meet Overcurrent Protective Device specification requirements 26 28 00.
- M. Load Bank: Provided as follows:
 - 1. Radiator mounted internal to weatherproof enclosure
 - 2. Manually operated: Load pick up and shed in a single step
 - 3. Load Bank Breaker, sized to match load requirements
 - 4. Total load sized for 50% of generator capacity
 - 5. The load bank shall be suitable for installation on the generator radiator core, within the radiator exhaust ductwork, or on the roof of the generator set enclosure.
 - 6. Load bank shall be constructed of heavy gauge of aluminized steel per ASTM A463.

7. The load bank shall be designed for installation and operation outdoors. The load bank shall have a screened exhaust or a louver. The load bank shall be painted ASA-61 grey and have a baked polyester powder-coated finish with a film thickness of 2.8 +/- 0.4 mils coat,
8. Load elements shall be Avtron Helidyne or equal, helically wound chromium alloy rated to operate at approximately ½ of the maximum continuous rating of wire or equal. Elements must be fully supported across the entire length within the air stream by segmented ceramic insulators on stainless steel rods. Element supports shall be designed to prevent a short circuit to adjacent elements or to ground.
9. LOAD BANK CONTROL SYSTEMS – MANUAL CONTROLS
 - a. The control panel shall be 19” control panel housed in a NEMA 4 type enclosure. Control panel shall be mounted on generator enclosure and easily accesible.
 - b. The control panel shall contain the following manual controls:
 - 1) Power ON/OFF switch
 - 2) Master load ON/OFF switch.
 - 3) Load step switches for ON/OFF application of individual load steps.
 - c. Control panel visual indicators shall be as follows:
 - 1) Power ON indication light.
 - 2) OVERTEMPERATURE light.
 - d. A standard remote load dump circuit shall be provided as part of the load bank control circuit. Provisions shall be provided to remove the load bank offline from the operation of a remote normally closed set of auxiliary contacts from a transfer switch or other device. In the event of the remote contact opening, all load is removed.
 - e. An Automatic Load Controller shall be provided for maintaining a minimum load on the generator set. The controller shall monitor the connected downstream loads and shall automatically add or subtract load steps in response to building load changes as to maintain a minimum load level on the generator set. The controller includes an initial time-delay circuit and an automatic time-delayed load step application circuit. A remote contact closure is required for activation and transfer of control. A separate current transformer shall be supplied loose for mounting and sensing of downstream loads.
 - f. An integral control power transformer shall be provided to supply 120V, 1 phase, 60 Hz to the load banks control and safety circuitry. Transformer primary and secondary control circuits shall be fuse-protected.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which diesel engine-driven generator units are to be installed and notify Contractor in writing of conditions detrimental to proper completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

3.2 INSTALLATION OF DIESEL ENGINE-DRIVEN GENERATOR SETS

- A. Install engine-driven generator unit as indicated, in accordance with the equipment manufacturer's written instructions, and with recognized industry practices, to ensure that engine-generator unit fulfills requirements. Comply with NFPA and NEMA standards pertaining to installation of engine-generator sets and accessories.
- B. Coordinate with other work, including raceways, electrical boxes and fittings, fuel tanks, piping and accessories, as necessary to interface installation of engine-generator equipment work with other work.
- C. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Std 486A, B and the National Electrical Code.
- D. Align shafts of engine and generator within tolerances recommended by engine-generator unit manufacturer.
- E. Contractor to fill tank prior to testing.

3.3 GROUNDING

- A. Provide equipment grounding connections for diesel engine-driven generator units as indicated. Tighten connections to comply with tightening torques specified in UL Std 486A to assure permanent and effective grounding.

3.4 FIELD QUALITY CONTROL

- A. Start-up Testing
 - 1. Engage local equipment manufacturer's representative to perform start-up and load tests upon completion of installation, with the Engineer in attendance; provide certified test record. Tests are to include the following:
 - a. Check fuel, lubricating oil, and antifreeze in liquid cooled models for conformity to the manufacturer's recommendations under environmental conditions present.
 - b. Test, prior to cranking engine for proper operation, accessories that normally function while the set is in a standby mode.

- c. Check, during start-up test mode, for normal and emergency line-to-line voltage and phase rotation.
 - d. Test, by means of simulated power outage, automatic start-up by remote-automatic starting, transfer of load, and automatic shutdown. Prior to this test adjust, for proper system coordination, transfer switch timers. Monitor throughout the test, engine temperature, oil pressure, battery charge level, generator voltage, amperes, and frequency. All tests shall be conducted with generator under full (100%) load. Full load test shall be minimum 4 hours under full load.
- 2. Upon completion of installation demonstrate capability and compliance of system with requirements. Where possible, correct malfunctioning unit at site, then retest to demonstrate compliance; otherwise, remove and replace with new unit, and proceed with retesting. Initial testing and retesting to be at no cost to Owner.
- 3. Upon completion of all tests and Owner acceptance, Contractor to top off fuel tank.

3.5 PERSONNEL TRAINING

- A. Building Operating Personnel Training: Train Owner's building personnel in procedures for starting-up, testing and operating diesel engine-driven generator sets. In addition, train Owner's personnel in periodic maintenance of batteries.

END OF SECTION 26 32 13

SECTION 26 36 00 - TRANSFER SWITCHES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes transfer switches rated 600 V and less, including the following:
 - 1. Automatic transfer switches.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, weights, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: Dimensioned plans, elevations, sections, and details showing minimum clearances, conductor entry provisions, gutter space, installed features and devices, and material lists for each switch specified.
- C. Manufacturer Seismic Qualification Certification: Submit certification that transfer switches accessories, and components will withstand seismic forces for the area/location installed.
- D. Field quality-control test reports.
- E. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1, Section 01 78 23 - Operation and Maintenance Data, include the following:
 - 1. Features and operating sequences, both automatic and manual.
 - 2. List of all factory settings of relays; provide relay-setting and calibration instructions, including software, where applicable.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Maintain a service center capable of providing training, parts, and emergency maintenance repairs within a 100 mile radius of project location.
- B. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

- C. Source Limitations: Obtain automatic transfer switches through one source from a single manufacturer.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- E. Comply with NEMA ICS 1 – Industrial Control and Systems: General Requirements.
- F. Comply with NFPA 70 – National Electric Code.
- G. Comply with NFPA 110 – Standard for Emergency and Standby Power Systems.
- H. Comply with UL 1008 unless requirements of these Specifications are stricter.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Contactor Transfer Switches:
 - a. Caterpillar; Engine Div.
 - b. Schneider; ASCO Power Technologies, LP.
 - c. Onan/Cummins Power Generation; Industrial Business Group.
 - d. Eaton
 - e. Kohler

2.2 GENERAL TRANSFER-SWITCH PRODUCT REQUIREMENTS

- A. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch ampere rating, unless otherwise indicated.
- B. Tested Fault-Current Closing and Withstand Ratings: Adequate for duty imposed by protective devices at installation locations in Project under the fault conditions indicated, based on testing according to UL 1008.
 - 1. Where transfer switch includes internal fault-current protection, rating of switch and trip unit combination shall exceed indicated fault-current value at installation location.
- C. Solid-State Controls: Repetitive accuracy of all settings shall be plus or minus 2 percent or better over an operating temperature range of minus 20 to plus 70 deg C.

- D. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements when tested according to IEEE C62.41. Components shall meet or exceed voltage-impulse withstand test of NEMA ICS 1.
- E. Electrical Operation: Accomplish by a nonfused, momentarily energized solenoid or electric-motor-operated mechanism, mechanically and electrically interlocked in both directions.
- F. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.
 - 1. Limitation: Switches using molded-case switches or circuit breakers or insulated-case circuit-breaker components are not acceptable.
 - 2. Switch Action: Double throw; mechanically held in both directions.
 - 3. Contacts: Silver composition or silver alloy for load-current switching. Conventional automatic transfer-switch units, rated 225 A and higher, shall have separate arcing contacts.
- G. Neutral Terminal: Solid and fully rated, unless otherwise indicated.
- H. Heater: Equip switches exposed to outdoor temperatures and humidity, and other units indicated, with an internal heater. Provide thermostat within enclosure to control heater.
- I. Annunciation, Control, and Programming Interface Components: Devices at transfer switches for communicating with remote programming devices, annunciators, or annunciator and control panels shall have communication capability matched with remote device.
- J. Factory Wiring: Train and bundle factory wiring and label, consistent with Shop Drawings, either by color-code or by numbered or lettered wire and cable tape markers at terminations. Color-coding and wire and cable tape markers are specified in Division 26 05 00 – Electrical, General
- K. Enclosures: General-purpose NEMA 250, Type 1, complying with NEMA ICS 6 and UL 508, unless otherwise indicated/required.

2.3 AUTOMATIC TRANSFER SWITCHES

- A. Switching Arrangement: Double-throw type, incapable of pauses or intermediate position stops during normal functioning, unless otherwise indicated.
- B. Manual Switch Operation: Under load, with door closed and with either or both sources energized. Transfer time is same as for electrical operation. Control circuit automatically disconnects from electrical operator during manual operation.
- C. Manual Switch Operation: Unloaded. Control circuit automatically disconnects from electrical operator during manual operation.

- D. Signal-Before-Transfer Contacts: A set of normally open/normally closed dry contacts operates in advance of retransfer to normal source. Interval is adjustable from 1 to 30 seconds.
- E. Digital Communication Interface: Matched to capability of remote annunciator or annunciator and control panel.
- F. Transfer Switches Based on Molded-Case-Switch Components: Comply with NEMA AB 1, UL 489, and UL 869A.
- G. In-Phase Monitor: Factory-wired, internal relay controls transfer so it occurs only when the two sources are synchronized in phase. Relay compares phase relationship and frequency difference between normal and emergency sources and initiates transfer when both sources are within 15 electrical degrees, and only if transfer can be completed within 60 electrical degrees. Transfer is initiated only if both sources are within 2 Hz of nominal frequency and 70 percent or more of nominal voltage.
- H. Motor Disconnect and Timing Relay: Controls designate starters so they disconnect motors before transfer and reconnect them selectively at an adjustable time interval after transfer. Control connection to motor starters is through wiring external to automatic transfer switch. Time delay for reconnecting individual motor loads is adjustable between 1 and 60 seconds, and settings are as indicated. Relay contacts handling motor-control circuit inrush and seal currents are rated for actual currents to be encountered.
- I. Automatic Transfer-Switch Features:
 - 1. Undervoltage Sensing for Each Phase of Normal Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100 percent of nominal, and dropout voltage is adjustable from 75 to 98 percent of pickup value. Factory set for pickup at 90 percent and dropout at 85 percent.
 - 2. Adjustable Time Delay: For override of normal-source voltage sensing to delay transfer and engine start signals. Adjustable from zero to six seconds, and factory set for one second.
 - 3. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100 percent of nominal. Factory set for pickup at 90 percent. Pickup frequency shall be adjustable from 90 to 100 percent of nominal. Factory set for pickup at 95 percent.
 - 4. Time Delay for Retransfer to Normal Source: Adjustable from 0 to 30 minutes, and factory set for 10 minutes to automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
 - 5. Test Switch: Simulate normal-source failure.
 - 6. Switch-Position Pilot Lights: Indicate source to which load is connected.
 - 7. Source-Available Indicating Lights: Supervise sources via transfer-switch normal- and emergency-source sensing circuits.

- a. Normal Power Supervision: Green light with nameplate engraved "Normal Source Available."
- b. Emergency Power Supervision: Red light with nameplate engraved "Emergency Source Available."
- 8. Unassigned Auxiliary Contacts: Two normally open, single-pole, double-throw contacts for each switch position, rated 10 A at 240-V ac.
- 9. Transfer Override Switch: Overrides automatic retransfer control so automatic transfer switch will remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.
- 10. Engine Starting Contacts: One isolated and normally closed, and one isolated and normally open; rated 10 A at 32-V dc minimum.
- 11. Engine-Generator Exerciser: Solid-state, programmable-time switch starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods are adjustable from 10 to 30 minutes. Factory settings are for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period. Exerciser features include the following:
 - a. Exerciser Transfer Selector Switch: Permits selection of exercise with and without load transfer.
 - b. Push-button programming control with digital display of settings.
 - c. Integral battery operation of time switch when normal control power is not available.

2.4 SOURCE QUALITY CONTROL

- A. Factory test and inspect components, assembled switches, and associated equipment. Ensure proper operation. Check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements. Perform dielectric strength test complying with NEMA ICS 1.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Design each fastener and support to carry load indicated by seismic requirements and according to seismic-restraint details.
- B. Identify components according to Section 26 05 00 – Electrical, General.
- C. Set field-adjustable intervals and delays, relays, and engine exerciser clock.

3.2 CONNECTIONS

- A. Wiring to Remote Components: Match type and number of cables and conductors to control and communication requirements of transfer switches as recommended by manufacturer. Increase raceway sizes at no additional cost to Owner if necessary to accommodate required wiring.
- B. Ground equipment according to Section 26 05 26 – Grounding and Bonding for Electrical Systems.
- C. Connect wiring according to Section 26 05 19 – Low-Voltage Power Conductors and Cables.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.
- B. Perform tests and inspections and prepare test reports.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installation, including connections, and to assist in testing.
 - 2. After installing equipment and after electrical circuitry has been energized, test for compliance with requirements.
 - 3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 4. Measure insulation resistance phase-to-phase and phase-to-ground with insulation-resistance tester. Include external annunciation and control circuits. Use test voltages and procedure recommended by manufacturer. Comply with manufacturer's specified minimum resistance.
 - a. Check for electrical continuity of circuits and for short circuits.
 - b. Inspect for physical damage, proper installation and connection, and integrity of barriers, covers, and safety features.
 - c. Verify that manual transfer warnings are properly placed.
 - d. Perform manual transfer operation.
 - 5. After energizing circuits, demonstrate interlocking sequence and operational function for each switch at least three times.
 - a. Simulate power failures of normal source to automatic transfer switches and of emergency source with normal source available.

- b. Simulate loss of phase-to-ground voltage for each phase of normal source.
 - c. Verify time-delay settings.
 - d. Verify pickup and dropout voltages by data readout or inspection of control settings.
 - e. Test bypass/isolation unit functional modes and related automatic transfer-switch operations.
 - f. Perform contact-resistance test across main contacts and correct values exceeding 500 microhms and values for 1 pole deviating by more than 50 percent from other poles.
 - g. Verify proper sequence and correct timing of automatic engine starting, transfer time delay, retransfer time delay on restoration of normal power, and engine cool-down and shutdown.
- C. Coordinate tests with tests of generator and run them concurrently.
- D. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation and contact resistances and time delays. Attach a label or tag to each tested component indicating satisfactory completion of tests.
- E. Remove and replace malfunctioning units and retest as specified above.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transfer switches and related equipment as specified below.
- B. Coordinate this training with that for generator equipment.

END OF SECTION 26 36 00

SECTION 26 43 13.A - SURGE PROTECTIVE DEVICES (SPD) FOR LOW-VOLTAGE ELECTRICAL
POWER CIRCUITS

PART 1 - GENERAL

1.1 SCOPE

- A. The Contractor shall furnish and install the Surge Protective Device (SPD) equipment having the electrical characteristics, ratings, and modifications as specified herein and as shown on the contract drawings. To maximize performance and reliability and to obtain the lowest possible let-through voltages, the ac surge protection shall be integrated into electrical distribution equipment such as switchgear, switchboards, panelboards, busway (integrated within bus plug), or motor control centers (MCC). Refer to related sections for surge requirements in:

1.2 RELATED SECTIONS

- A. Section 26 24 13 21 – Switchboards
- B. Section 26 24 16 – Panelboards
- C. Section 26 29 00 – Low Voltage Motor Control Centers

1.3 REFERENCES

- A. SPD units and all components shall be designed, manufactured, and tested in accordance with the latest applicable standards.
 - 1. ANSI/UL 1449 4th Edition or later
 - 2. ANSI/UL 1283 5th Edition or later (Type 2 applications)
 - 3. IEEE C62.41.1
 - 4. IEEE C62.41.2
 - 5. IEEE C62.43-2005
 - 6. IEEE C62.45-2002
 - 7. IEEE C62.48-2005
 - 8. IEEE C62.62-2010
 - 9. UL 96A
 - 10. NFPA 780
 - 11. FCC Part 15, Subpart B and ICES-003 – Radiated Emissions (for surge protection devices with communication capabilities)

12. FCC Part 15, Subpart B and ICES-003 – Conducted Emissions (for surge protection devices with communication capabilities)

1.4 SUBMITTALS – FOR REVIEW/APPROVAL

- A. The following information shall be submitted to the Engineer:
 1. Provide verification that the SPD complies with the required ANSI/UL 1449 4th Edition or later listing by Underwriters Laboratories (UL). Compliance may be in the form of a file number that can be verified on UL's website www.ul.org, the website should contain the following information at a minimum: model number, SPD Type, system voltage, phases, modes of protection, Voltage Protection Rating (VPR), and Nominal Discharge Current In.
- B. Where applicable the following additional information shall be submitted to the engineer:
 1. Descriptive bulletins
 2. Product sheets

1.5 SUBMITTALS – FOR CONSTRUCTION

- A. The following information shall be submitted for record purposes:
 1. Final as-built drawings and information for items listed in Section 1.04 and shall incorporate all changes made during the manufacturing process.

1.6 QUALIFICATIONS

- A. The manufacturer of the electrical distribution equipment shall be the manufacturer of the SPD within the listed electrical distribution equipment.
- B. For the equipment specified herein, the manufacturer shall be ISO 14001 and ISO 9001 or 9002 certified.
- C. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of twenty-five (25) years. When requested by the Engineer, an acceptable list of installations with similar equipment shall be provided demonstrating compliance with this requirement.
- D. The SPD shall be compliant with the Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU and have a visible label showing compliance.
- E. The SPD shall be UL 1449 current edition listed, 20 kA I_n Type 1 or Type 2 for use in UL 96A systems.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Equipment shall be handled and stored in accordance with manufacturer's instructions. One (1) copy of manufacturer's instructions shall be included with the equipment at time of shipment.

1.8 OPERATION AND MAINTENANCE MANUALS

- A. Operation and maintenance manuals shall be provided with each SPD shipped.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Eaton or equal.

1. The listing of specific manufacturers above does not imply acceptance of their products that do not meet the specified ratings, features, and functions. Manufacturers listed above are not relieved from meeting these specifications in their entirety. Products in compliance with the specification and manufactured by others not named will be considered only if pre-approved by the Engineer ten (10) days prior to bid date.

2.2 VOLTAGE SURGE SUPPRESSION – GENERAL

A. Electrical Requirements

1. Unit Operating Voltage – Refer to drawings for operating voltage and unit configuration.
2. Maximum Continuous Operating Voltage (MCOV) – The MCOV shall not be less than 115% of the nominal system operating voltage.
3. The suppression system shall incorporate thermally protected metal-oxide varistors (MOVs) as the core surge suppression component for the service entrance and all other distribution levels. The system shall not utilize silicon avalanche diodes, selenium cells, air gaps, or other components that may crowbar the system voltage leading to system upset or create any environmental hazards. End of life mode to be open circuit. Unit with end of life short-circuit mode are not acceptable.
4. Unit shall operate without the need for an external overcurrent protection device (OCPD) and be listed by UL as such. Unit must not require external OCPD or replaceable internal OCPD for the UL Listing.
5. Protection Modes – The SPD must protect all modes of the electrical system being utilized. The required protection modes are indicated by bullets in the following table:

Protection Modes				
Configuration	L-N	L-G	L-L	N-G
Wye	●	●	●	●
Delta	N/A	●	●	N/A
Single Split Phase	●	●	●	●
High Leg Delta	●	●	●	●

6. Nominal Discharge Current (In) – All SPDs applied to the distribution system shall have a 20kA In rating regardless of their SPD Type (includes Types 1 and 2) or operating voltage. SPDs having an In less than 20kA shall be rejected.

7. ANSI/UL 1449 4th Edition Voltage Protection Rating (VPR) – The maximum ANSI/UL 1449 4th Edition VPR for the device shall not exceed the following:

Modes	208Y/120	480Y/277	600Y/347
L-N; L-G; N-G	700	1200	1500
L-L	1200	2000	3000

B. SPD Design

1. Maintenance Free Design – The SPD shall be maintenance free and shall not require any user intervention throughout its life. SPDs containing items such as replaceable single-mode modules, replaceable fuses, or replaceable batteries shall not be accepted. SPDs requiring any maintenance of any sort such as periodic tightening of connections shall not be accepted. SPDs requiring user intervention to test the unit via a diagnostic test kit or similar device shall not be accepted.
2. Balanced Suppression Platform – The surge current shall be equally distributed to all MOV components to ensure equal stressing and maximum performance. The surge suppression platform must provide equal impedance paths to each matched MOV. Designs incorporating replaceable SPD modules shall not be accepted.
3. Electrical Noise Filter – Each Type 2 unit shall include a high-performance EMI/RFI noise rejection filter. Noise attenuation for electric line noise shall be up to 50 dB from 10 kHz to 100 MHz using the MIL-STD-220A insertion loss test method. Products unable able to meet this specification shall not be accepted.
4. Type 2 units with filtering shall conform to UL 1283 5th Edition.
5. Type 1 units shall not contain filtering or have a UL 1283 5th Edition Listing.
6. Internal Connections – No plug-in component modules or printed circuit boards shall be used as surge current conductors. All internal components shall be soldered, hardwired with connections utilizing low impedance conductors.
7. Monitoring Diagnostics – Each SPD shall provide the following integral monitoring options:
 - a. Protection Status Indicators - Each unit shall have a green / red solid-state indicator light that reports the status of the protection on each phase.
 - 1) For wye configured units, the indicator lights must report the status of all protection elements and circuitry in the L-N and L-G modes. Wye configured units shall also contain an additional green / red solid-state indicator light that reports the status of the protection elements and circuitry in the N-G mode. SPDs that indicate only the status of the L-N and L-G modes shall not be accepted.
 - 2) For delta configured units, the indicator lights must report the status of all protection elements and circuitry in the L-G and L-L modes

- 3) The absence of a green light and the presence of a red light shall indicate that damage has occurred on the respective phase or mode. All protection status indicators must indicate the actual status of the protection on each phase or mode. If power is removed from any one phase, the indicator lights must continue to indicate the status of the protection on all other phases and protection modes. Diagnostics packages that simply indicate whether power is present on a particular phase shall not be accepted.
- b. Remote Status Monitor (optional) – The SPD must include Form C dry contacts (one NO and one NC) for remote annunciation of its status. Both the NO and NC contacts shall change state under any fault condition.
- c. Audible Alarm and Silence Button (optional) – The SPD shall contain an audible alarm that will be activated under any fault condition. There shall also be an audible alarm silence button used to silence the audible alarm after it has been activated.
- d. Surge Counter (optional) – The SPD shall be equipped with an LCD display that indicates to the user how many surges have occurred at the location. The surge counter shall trigger each time a surge event with a peak current magnitude of a minimum of $50 \pm 20A$ occurs. A reset pushbutton shall also be standard, allowing the surge counter to be zeroed. The reset button shall contain a mechanism to prevent accidental resetting of the counter via a single, short-duration button press. In order to prevent accidental resetting, the surge counter reset button shall be depressed for a minimum of 2 seconds in order to clear the surge count total.
 - 1) The ongoing surge count shall be stored in non-volatile memory. If power to the SPD is completely interrupted, the ongoing count indicated on the surge counter's display prior to the interruption shall be stored in non-volatile memory and displayed after power is restored. The surge counter's memory shall not require a backup battery in order to achieve this functionality.
- e. Advanced Monitoring Display (AMD) (optional) - The SPD shall be equipped with an LCD display that indicates to the user the quantity and magnitude of surges that have occurred on each phase.
 - 1) AMD shall display remaining surge protection levels as a percentage with 0% = unprotected, 1-99% = partially protected, 100% = fully protected.
 - 2) In addition to the green/red monitoring solid-state indicator LED (reference 2.E.a) the LED shall include a yellow status to indicate the unit as partially protected
 - 3) AMD shall provide a surge counter for each phase with three categories as defined by IEEE standards (C62.41) as follows:

- 4) Low Level surge (IEEE Category A)
 - 5) Medium Level surge (IEEE Category B)
 - 6) High Level surge (IEEE Category C)
 - 7) AMD shall provide local access to the following information and data: Surge counts for each phase and per category, total surge counts, event logs with time & date stamps (last 20 events of each category per phase), SPD Protection Level percentage, alarm status, device catalog number, style number, serial number, date code, firmware version, PCB serial number, device name, IP address, ethernet MAC address, and customer support contact information.
 - 8) User shall be capable of inputting the following info into the AMD: set date and time, set device name, change password, clear surge counts & event logs, edit MODBUS status, Edit IP Address, Edit Subnet Mask, and Edit Gateway.
 - 9) User shall be capable of testing the display.
 - 10) The AMD option shall provide a RJ45 ethernet connection port on the surge device, which shall provide a means for secure firmware updates to the SPD.
 - 11) Time and date stamped events to be capable of being downloaded through a RJ45 ethernet connection port.
- f. Remote Monitoring (optional with AMD) – The SPD shall be capable of Ethernet communications via Modbus/TCP and BACnet protocols and contain an onboard webpage which complies with UL 2900 standards.
 - g. BACnet and Modbus/TCP shall be user configurable with access to the following registers:
 - h. Remaining surge protection levels as a percentage with 0% = unprotected, 1-99% = partially protected, 100% = fully protected
 - i. LED status for each indicator color (red/yellow/green)
 - j. Surge counter for each phase with three categories defined using the resultant current from IEEE waveforms (C62.41.2) as follows: Low Level surge (IEEE Category A), Medium Level surge (IEEE Category B), High Level surge (IEEE Category C)

- k. Access to the following information and data: Surge counts for each phase and per category, total surge counts, event logs with time & date stamps (last 2000 low, 1500 medium, and 1000 high events on each phase), SPD Protection Level percentage, alarm status, device catalog number, style number, serial number, date code, firmware version, PCB serial number, device name, IP address, ethernet MAC address, and customer support contact information.
- l. User shall be capable of remotely inputting the following information: set date and time, set device name, change password, clear surge counts & event logs, change sensitivity settings, edit MODBUS status, edit IP Address, edit Subnet Mask, and edit Gateway.
- m. The onboard webpage shall provide a pre-configured user interface with access to the following information:
- n. Remaining surge protection levels as a percentage with 0% = unprotected, 1-99% = partially protected, 100% = fully protected
- o. LED status for each indicator color (red/yellow/green)
- p. Surge counter for each phase with three categories defined using the resultant current from IEEE waveforms (C62.41.2) as follows: Low Level surge (IEEE Category A), Medium Level surge (IEEE Category B), High Level surge (IEEE Category C)
- q. Access to the following information and data: Surge counts for each phase and per category, total surge counts, event logs with time & date stamps (last 2000 low, 1500 medium, and 1000 high events on each phase), SPD Protection Level percentage, alarm status, device catalog number, style number, serial number, date code, firmware version, PCB serial number, device name, IP address, ethernet MAC address, and customer support contact information.
- r. User shall be capable of remotely inputting the following information: set date and time, set device name, change password, clear surge counts & event logs, edit MODBUS status, edit IP Address, edit Subnet Mask, and edit Gateway.

C. Thermal MOV Protection

- 1. The unit shall contain thermally protected MOVs. These self-protected MOVs shall have a thermal protection element integrated with the MOV and a mechanical disconnect with arc quenching capabilities in order to achieve overcurrent protection of the MOV. The thermal protection assembly shall disconnect the MOV(s) from the system in a fail-safe manner should a condition occur, that would cause them to enter a thermal runaway condition.

2. Fully Integrated Component Design – All of the SPD's components and diagnostics shall be contained within one discrete assembly. The use of plug in single-mode modules that must be ganged together in order to achieve higher surge current ratings or other functionality shall not be accepted.

D. Safety Requirements

1. The SPD shall minimize potential arc flash hazards by containing no single-mode plug in user serviceable / replaceable parts and shall not require periodic maintenance. SPDs containing items such as replaceable single-mode plug in modules, replaceable fuses, or replaceable batteries shall not be accepted. SPDs requiring any maintenance of any sort such as periodic tightening of connections shall not be accepted. SPDs requiring user intervention to test the unit via a diagnostic test kit or similar device shall not be accepted.
2. SPDs designed to interface with the electrical assembly via conductors shall require no user contact with the inside of the unit. Such units shall have any required conductors be factory installed.

2.3 SYSTEM APPLICATION

- A. The SPD applications covered under this section include distribution and branch panel locations, busway, motor control centers (MCC), switchgear, and switchboard assemblies. All SPDs shall be tested and demonstrate suitability for application within ANSI/IEEE C62.41 Category C, B, and A environments.
- B. Surge Current Capacity – The minimum surge current capacity the device is capable of withstanding shall be as shown in the following table:

Minimum surge current capacity based on ANSI / IEEE C62.41 location category			
Category	Application	Per Phase	Per Mode
C	Service Entrance Locations (Switchboards, Switchgear, MCC, Main Entrance)	250 kA	125 kA
B	High Exposure Roof Top Locations (Distribution Panelboards)	160 kA	80 kA
A	Branch Locations (Panelboards, MCCs, Busway)	120 kA	60 kA

2.4 LIGHTING AND DISTRIBUTION PANELBOARD REQUIREMENTS

- A. The SPD application covered under this section includes lighting and distribution panelboards. The SPD units shall be tested and demonstrate suitability for application within ANSI/IEEE C62.41 Category B environments.
 1. The SPD shall not limit the use of through-feed lugs, sub-feed lugs, and sub-feed breaker options.
 2. SPDs shall be installed immediately following the load side of the main breaker. SPDs installed in main lug only panelboards shall be installed immediately following the incoming main lugs.

3. The panelboard shall be capable of re-energizing upon removal of the SPD.
4. The SPD shall be integral to the panelboard and connected directly to the bus. Alternately, an integral SPD can be connected to a circuit breaker for disconnecting purposes, in the case a disconnect is required.
5. The SPD shall be included and mounted within the panelboard by the manufacturer of the panelboard.
6. The SPD shall be of the same manufacturer as the panelboard.
7. The complete panelboard including the SPD shall be UL67 listed.

2.5 SWITCHGEAR, SWITCHBOARD, MCC AND BUSWAY REQUIREMENTS

- A. The SPD application covered under this section is for switchgear, switchboard, MCC, and busway locations. Service entrance located SPDs shall be tested and demonstrate suitability for application within ANSI/IEEE C62.41 Category C environments.
- B. The SPD shall be of the same manufacturer as the switchgear, switchboard, MCC, or busway.
- C. The SPD shall be factory installed integral to the switchgear, switchboard, MCC, and/or bus plug at the assembly plant by the original equipment manufacturer.
- D. Locate the SPD on the load side of the main disconnect device, as close as possible to the phase conductors and the ground/neutral bar.
- E. The SPD shall be connected through a disconnect (30A circuit breaker). The disconnect shall be located in immediate proximity to the SPD. Connection shall be made via bus, conductors, or other connections originating in the SPD and shall be kept as short as possible.
- F. The SPD shall be integral to switchgear, switchboard, MCC, and/or bus plug as a factory standardized design.
- G. All monitoring and diagnostic features shall be visible from the front of the equipment.

2.6 SERVICE ENTRANCE REQUIREMENTS

- A. Service entrance located SPDs shall be tested and designed for applications within ANSI/IEEE C62.41 Category C environments.

PART 3 - EXECUTION

3.1 FACTORY TESTING

- A. Standard factory tests shall be performed on the equipment under this section. All tests shall be in accordance with the latest version of NEMA, IEEE, and UL standards.

3.2 INSTALLATION

- A. The installation of the SPD shall be factory installed integral to the distribution equipment. The Contractor shall install all distribution equipment per the manufacturer's recommendations, applicable electrical codes, and the contract drawings.

3.3 WARRANTY

- A. The manufacturer shall provide a ten (10) year warranty (15 year warranty with registration) that covers replacement of the complete unit, including lightning, from the date of shipment against any SPD part failure when installed in compliance with manufacturer's written instructions and any applicable national or local electrical code.

END OF SECTION 26 43 13.A

Exhibit A

Statutorily Required Public Contracting Provisions

Contractor shall observe all applicable state and local laws pertaining to public contracts. Pursuant to ORS Chapters 279A, 279B and 279C, which require every public contract to contain certain provisions, and other state law, the following provisions shall be a part of this contract, as applicable. All defined terms in this Attachment shall be interpreted in accordance with the solicitation or contract document and the relevant statutory provision. Subcontractor shall be read to mean subcontractor or subconsultant.

1. ORS 279A.110 (Non-discrimination Certification): Contractor shall certify that Contractor has not discriminated and will not discriminate against a Subcontractor in the awarding of a subcontract because the Subcontractor is a disadvantaged, minority owned, woman owned, veteran owned, or emerging small business enterprise (certified under ORS 200.055.), or a business that is owned or controlled by, or employs a disabled veteran (as defined in ORS 408.225).
2. Pursuant to ORS 279B.220 or 279C.505, as applicable, Contractor shall make payment promptly, as due, to all persons supplying to the contractor labor or material for the performance of the work provided for in the contract; shall pay all contributions or amounts due the Industrial Accident Fund from the contractor or subcontractor incurred in the performance of the contract; not permit any lien or claim to be filed or prosecuted against the state or a county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished, and; pay to the Department of Revenue all sums withheld from employees under ORS 316.167.
3. Pursuant to ORS 279B.225, every public contract for lawn and landscape maintenance shall contain a condition requiring the contractor to salvage, recycle, compost or mulch yard waste material at an approved site, if feasible and cost-effective.
4. Pursuant to ORS 279B.230(1) or 279C.530(1), as applicable, Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such contractor, of all sums which the contractor agrees to pay for such services and all monies and sums which the contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.
5. Pursuant to ORS 279B.230(2) or 279C.530.(2), as applicable, in every public contract, all subject employers working under the contract are either employers that will comply with ORS 656.017 or employers that are exempt under ORS 656.126.

6. Pursuant to ORS 279B.235(1) and 279B.020 and ORS 279C.520 and 279C.540 (Hours of Labor, Holidays, and Overtime): Except as otherwise provided in an applicable collective bargaining agreement with a labor organization, Contractor shall not employ and shall require that its Subcontractors not employ any person to perform construction work for more than ten hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases, except in cases of Contracts for personal services as defined in ORS 279A.055, the laborer shall be paid at least time and a half pay:
- i. For all overtime in excess of eight hours a day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; and
 - ii. For all overtime in excess of ten hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and
 - iii. For work performed on Saturday and on any legal holiday specified in any applicable collective bargaining agreement or ORS 279C.540(1)(b).
 - iv. The requirement to pay at least time and a half for all overtime worked in excess of 40 hours in any one week shall not apply to individuals who are excluded under ORS 653.010 to 653.261 or under 29 U.S.C. Section 201 to 209 from receiving overtime.
 - v. Contractor shall and shall require its Subcontractors to give notice in writing to their employees who work under this contract, either at the time of hire or before commencement of Work or Services under the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.
7. Environmental 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).
8. Oregon Tax Law Compliance: Contractor must, throughout the duration of this contract and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. Contractor (to the best of Contractor's knowledge, after due inquiry), for a period of no fewer than six calendar years preceding the date of this contract, represents and warrants that it has faithfully complied with, and will continue to comply with during the term of this contract: (A) all tax laws of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318; (B) any tax provisions imposed by a political subdivision of this state that applied to Contractor, to Contractor's property, operations, receipts, or income, or to Contractor's performance of or compensation for any work performed by Contractor; (C) any tax provisions imposed by a political subdivision of this state that applied to Contractor, or to goods, services, or property, whether tangible or intangible, provided by Contractor; and (D) any rules, regulations, charter provisions, or ordinances that

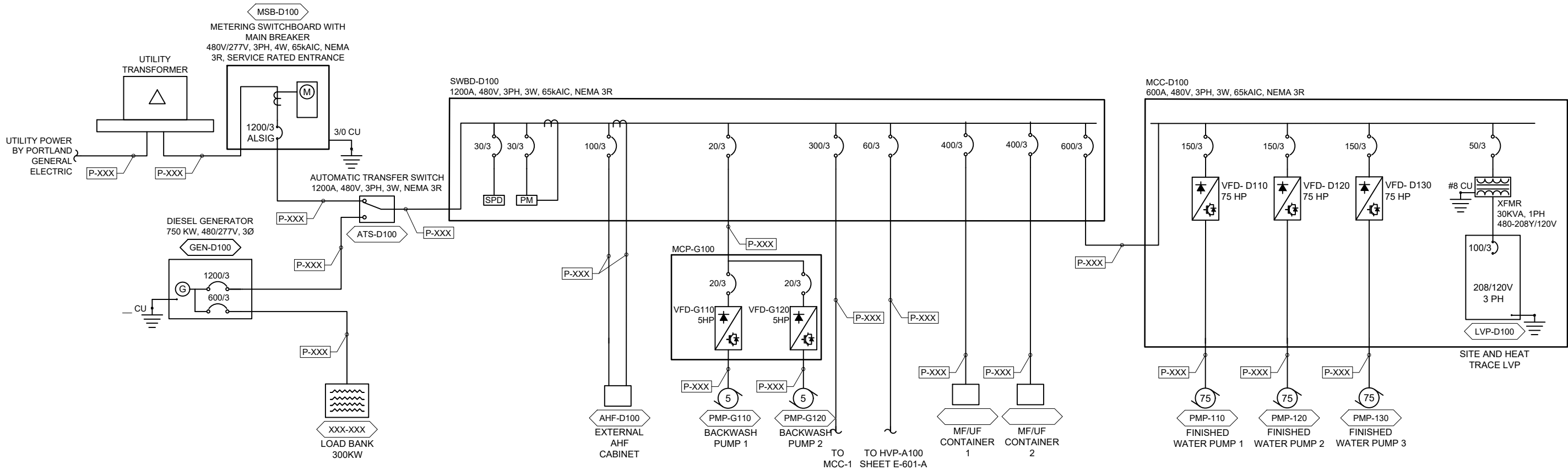
implemented or enforced any of the foregoing tax laws or provisions. Failure to comply with this section is a default for which the City may terminate the contract and seek damages and other relief available under the terms of the contract or under applicable law.

9. Foreign Contractor. If Contractor is not domiciled in or registered to do business in the state of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue and the Secretary of State Corporation Division all information required by those agencies relative to this contract. Contractor shall demonstrate its legal capacity to perform these services in the state of Oregon prior to entering into this contract.
10. Assignment or Transfer Restricted. Unless otherwise provided in the contract, the Contractor shall not assign, sell, dispose of, or transfer rights, or delegate duties under the contract, either in whole or in part, without the Contracting Agency's prior Written consent. Unless otherwise agreed by the Contracting Agency in writing, such consent shall not relieve the Contractor of any obligations under the contract. Any assignee or transferee shall be considered the agent of the Contractor and be bound to abide by all provisions of the contract. If the Contracting Agency consents in writing to an assignment, sale, disposal or transfer of the Contractor's rights or delegation of Contractor's duties, the Contractor and its surety, if any, shall remain liable to the Contracting Agency for complete performance of the contract as if no such assignment, sale, disposal, transfer or delegation had occurred unless the Contracting Agency otherwise agrees in writing.

A1

SERVICE, SWBD-D100, AND MCC-D100 ONE-LINE DIAGRAM

N.T.S.



GENERAL SHEET NOTES

1. CONTRACTOR TO PROVIDE ALL EQUIPMENT AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
2. COORDINATE WORK AND ROUGH-IN LOCATIONS WITH RELATED TRADES.
3. CONCEAL ALL RACEWAYS WITHIN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED
4. ROUTE CONDUIT IN COMMON TRENCH WHENEVER POSSIBLE.
5. COORDINATE WITH SCADA INTEGRATOR.
6. CONTRACTOR SHALL PROVIDE & LABEL CIRCUIT BREAKER POSITIONS.
7. CONTRACTOR SHALL PROVIDE NEW UPDATED DIRECTORIES FOR ALL PANELS IN WHICH CIRCUITS ARE ADDED OR REMOVED. DELETED CIRCUITS SHALL BE MARKED SPARE.
8. ALL ELECTRICAL EQUIPMENT SHALL BE FIELD MARKED PER THE NEC 110.16 "POTENTIAL ELECTRIC ARC FLASH HAZARD".
9. CONTRACTOR SHALL FURNISH POWER SYSTEMS STUDIES PER SPEC 26 05 73
10. CONTRACTOR SHALL SET ALL CIRCUIT BREAKER TRIP DEVICES BASED ON COORDINATION STUDIES.
11. VFD ELEVATION DERATION AMPERAGE SHALL BE BASED ON A SITE ELEVATION OF 1100 FT A.S.L.
12. PROVIDE BREAKERS WITH LOCK OUT TAG OUT PROVISIONS.

LEGEND

- EXISTING EQUIPMENT
- NEW EQUIPMENT
- FUTURE EQUIPMENT
- DEMOLITION