



INVITATION TO BID PROPOSALS #FP-2019-04N

EOU EMERGENCY BACKUP SYSTEM – INLOW HALL CONSTRUCTION PROJECT

ISSUE DATE: FEBRUARY 20, 2024

OPTIONAL MEETING & SITE VISIT:

Wednesday, March 6, 2024 at 1:00 PM
Physical Plant Administration Office, EOU Campus
One University Blvd, La Grande, OR 97850

BID DUE DATE & TIME

Friday, March 15, 2024 at 2:00 PM via sealed bid
submission to bids@eou.edu

REQUEST FOR CLARIFICATIONS OR CHANGE OR PROTEST BID DOCUMENTS:

Must be received in writing by March 8, 2024 5:00 PM

PROJECT NUMBER FP-2019-04N

Eastern Oregon University is seeking Bid Proposals for the Project described below pursuant to this INVITATION TO BID. By submitting a Bid, the Bidder represents that they have carefully read the terms and conditions of this Bid Proposal, including all attachments and addenda, and agrees to be bound by them.

Contract Administrator

Sarah Hollenbeck, Capital Projects Manager
EOU Facilities & Planning Department
Phone: (541) 962-3181
Email: shollenbeck@eou.edu

Bid Proposal Administrator

Lowann Vanleuven, F&P Business Manager
EOU Facilities & Planning Department
Phone: (541) 962-3020
Email: bids@eou.edu

It is the Bidders' responsibility to continue to monitor the ORPU.org website for Addenda. Failure to acknowledge any Addenda in the Transmittal Letter may cause your Bid to be considered non-responsive.

EOU Policy 3.15.01 – Procurement and Contracting of Goods and Services govern this solicitation unless otherwise referenced in this or stated.

TABLE OF CONTENTS

BIDDING REQUIREMENTS

| | |
|---|--------------------|
| Invitation to Bid..... | – Section 00 11 16 |
| Instructions to Bidders..... | – Section 00 21 13 |
| Available Information..... | – Section 00 31 00 |
| Bidders Checklist | – Section 00 40 00 |
| Bid | – Section 00 40 00 |
| Bid Schedule | – Section 00 40 00 |
| Bidder's Warranty..... | – Section 00 40 00 |
| Contractor's Registration..... | – Section 00 40 00 |
| Responsibility Inquiry Form..... | - Section 00 40 00 |
| First Tier Subcontractors Disclosure..... | – Section 00 40 00 |
| SB5505 Bidder Declaration Form | - Section 00 40 10 |

CONTRACTING REQUIREMENTS

| | |
|---|--------------------|
| Public Improvement Contract..... | - Section 00 52 00 |
| Exhibit A – Insurance Requirements..... | - Section 00 52 00 |
| Performance and Payment Bond..... | - Section 00 61 13 |
| EOU General Conditions for PIC | - Section 00 72 00 |

CONSTRUCTION CONTRACT DOCUMENTS

| | |
|--|--------------------|
| Project Manual and Stamped Technical Specifications..... | Fluent Engineering |
| Stamped Drawing Set | Fluent Engineering |

INVITATION FOR BIDS

Owner: Eastern Oregon University, La Grande, OR

Project: EOU Emergency Backup Power – Inlow Hall Construction Project

Bidders must submit Bids electronically. Hard copies will not be accepted. Bids must be delivered through email in a searchable PDF format to, bids@eou.edu and must be received by **2:00 PM, Friday March 15, 2024**, at which time bids shall be immediately opened; however, the amounts of the Bids will not be publicly provided at that time. The email subject line must include the title: **“Bid Proposal: Emergency Backup Power – Inlow Hall”**. Within two working hours after the date and time designated for Bid opening, the Bidder shall submit to EOU the First Tier Subcontractors Disclosure Form through email in a searchable PDF format to bids@eou.edu. The email subject line must include the title **“1st Tier Subcontractor Form: Emergency Backup Power – Inlow Hall”**. If a First Tier Subcontractors Disclosure Form is not received by **4:00 PM** the Bid will be considered Non-Responsive. After the deadline for submitting the First Tier Subcontractors Disclosure Form, the responsive Bid amounts will be reviewed and publicly posted in a timely manner.

A **Optional Pre-Bid Conference** will be convened Wednesday, March 6, 2024 at 1:00 PM at Physical Plant Administrative Office on EOU’s Main Entrance, One University Blvd, La Grande, OR 97850.

Written requests for clarification or change or protests of the Bid Documents (defined below), including but not limited to the form of contract, must be received by March 8, 2024 at 5:00 PM.

- Should a Bidder find discrepancies in, or omissions from the Bid Documents, or should the Bidder be in doubt as to their meaning or believe that any aspect of the Bid Documents is improvident or unlawful or which may unnecessarily restrict competition, the Bidder should at once notify EOU in the form of a request for clarification, change, or protest. Only responses issued by formal written Addenda will be binding.
- The purpose of this request for clarification, change or protest procedure is to permit EOU time to correct, prior to the submission of Bids, aspects of the Bid Documents that may be improvident or unlawful, or which may unnecessarily restrict competition. This requirement is intended to eliminate, by permitting corrections prior to the submission of Bids, the waste of resources and delay that may result from the untimely detection of errors in the Bid Documents, possible protests, and possible rejection of Bids.
- EOU will consider each request for clarification, change, or protest and amend the Bid Documents accordingly if warranted and notify by written Addenda each prospective Bidder of any change. No other explanation or interpretation will be considered official or binding. Oral and other interpretations or clarification will be without legal effect.
- Any prospective Bidder who contends that the terms and conditions of the Bid Documents, including but not limited to the Contract, or any aspect of the selection process: (i) will encourage favoritism in the award of the Contract; (ii) will substantially diminish competition; (iii) will violate any other statute, regulation, policy, or law of any kind, including but not limited to EOU Policy 3.15.01 – Procurement and Contracting of Goods and Services; and/or (iv) are ambiguous, insufficient, or unfair for any reason must file a written protest.
- Protests must set forth the basis of the protest or request for clarification along with any proposed changes to the Bid Documents, including but not limited to the specifications or Contract terms. Failure to file a protest by the time and date indicated above will be deemed a waiver of any claim by a Bidder that the

selection process violates any of the items (i)-(iv) in Paragraph 6.5. Any protest that does not meet these requirements will not be considered.

- EOU will issue a written disposition of each such request for change or clarification and/or protest no less than three business days before Bids are due. If EOU agrees with the request or upholds the protest, in whole or in part, EOU may, in its sole discretion, issue an Addendum reflecting its disposition or take other appropriate action.
- Addenda may also be issued to modify the Bid Documents or Contract Documents as deemed advisable by EOU. EOU will post addenda, if any, on its website. It is each Bidder's responsibility to check the website frequently for updates and addenda.

Work will generally include:

The installation of new 600 amp capacity, 15KV class, 4160V 3-phase connection Generator, Generator pad, 3,600 lf of trenching, conduits & wiring, splice to an existing feeder, and re-programming of the ATS. Two Alternates will be bid as part of the project. Alternate No. 1 will be selected based on the total bid costs and available Owner's budget. Alternate No. 2 is Additive and will be selected based on the total bid cost, SB5505 Bidder Declaration Forms, and available Owners Budget. Cultural monitoring is required during excavation activities and will be paid for directly by the Owner.

Bid Procedures and Conditions, Bid Forms, Drawings, Specifications, and other Documents collectively referred to as the Bid Documents may be examined at the www.ORPU.org website. These are uncontrolled documents, and it is the sole responsibility of bidder to continue to monitor the www.ORPU.org website for Addenda. Failure to acknowledge any Addenda will be cause for being considered non-responsive.

[EOU Policy 3.15.01 – Procurement and Contracting for Goods and Services](#) govern this bid solicitation unless otherwise referenced or stated.

Each Bid must contain a statement as to whether the bidder is a resident bidder, as defined in ORS 279A.120. In determining the lowest qualified bidder, the Eastern Oregon University will, for the purpose of awarding the Contract, include a contractor proposed Bid Price, and add a percentage increase on the Bid of a nonresident bidder equal to the percentage, if any, of the preference given to that bidder in the state in which the bidder resides.

The successful Bidder will be required to furnish separate Performance and Payment Bonds submitted on the prescribed forms for faithful performance of the Contract in the full amount of the Contract price. The Surety issuing the bond must hold a certificate of authority to transact surety business in Oregon.

The Eastern Oregon University reserves the right to reject any or all Bids for good cause, or any or all Bids upon a finding of the Owner that it is in the public interest to do so, to postpone the award of the Contract for a period not to exceed thirty (30) days, and to accept that Bid which is to the best interests of the Eastern Oregon University

For information regarding this project, contact the Sarah Hollenbeck, Capital Projects Manager, Eastern Oregon University Facilities & Planning Department, phone (541) 962-3181, email shollenbeck@eou.edu

END OF SECTION

INSTRUCTIONS FOR BIDDERS

1. Project Data & Information

- 1.1. Project: EOU Emergency Backup Power – Inlow Hall
- 1.2. Project Location: La Grande, OR
- 1.3. Project Owner: Eastern Oregon University
- 1.4. Project Funding: EOU CIR XI-Q Bond Funds; potentially Article XI-G Bond Series No.: 2023 Series G
- 1.5. Project Starting and Completion Times:

Work is to commence within 7 days of the date of Notice to Proceed which is anticipated being on or before **March 31, 2024** and completion time **June 30, 2025**.
- 1.6. Liquidated Damages:

Liquidated damages shall apply against the Contractor and accrue to the Owner at the rate of **\$1,000** per day for each and every calendar day afterwards that the project remains uncompleted beyond the time limit set. Refer to Article II.B of the Section 004110 – Public Improvement Contract.
- 1.7. Bid Schedule:

The work is offered in one Bid schedule on a unit price basis, and proposed Contract Time basis. Each item is to be Bid and filled out. If a Bid item is not filled in, the Bid may be considered non-responsive. No substitutions, alternate bids or partial bids are allowed, except as provided by written addenda from the Owner.
- 1.8. Owner's A/E Consultant:

Fluent Engineering 2110 State Street, Salem, OR 97301
- 1.9. Retainage:

To ensure proper performance of this Contract, the Owner shall retain five percent (5%) of the amount of each progress payment until completion and acceptance of all work covered by this Contract.
- 1.10. Prevailing Wages:

This Contract is subject to prevailing wages under both the State of Oregon statutes. Refer to Article X.B of the Section 004110 – Public Improvement Contract.
- 1.11. Performance and Payment Bonds:

Prior to execution of the Contract, the Bidder shall furnish separate bonds covering the faithful performance of the Contract, and the payment of all obligations arising thereunder, each in an amount equal to one hundred percent (100%) of the Contract sum. The cost of furnishing such bonds shall be included in the Bid. The surety issuing such bonds shall be licensed to issue bonds in the State of Oregon
- 1.12. Mechanical and Electrical Permits:

The mechanical permit is an over-the-counter permit with a permit price based on the bid price and obtained by the contractor after contract award. EOU will pay the permit fees directly to the City and outside the contract. The mechanical permit is considered incidental to other bid items.

The electrical permit is currently under plan review. The selected contractor will be added to the permit prior to the permit being issued. EOU will pay the permit fees directly to the City and outside the contract. The electrical permit is considered incidental to other bid items.

1.13. Archaeological Permit:

EOU has secured an Archeological permit for all construction excavation activities for the project and requires cultural monitoring by others. All coordination and efforts to comply with the Archeological permit is considered incidental to excavation bid items.

2. Responsibility of Bidders

2.1. Bidder shall include all information in the Responsibility Inquiry Form in Section 00 40 00 – Bid Forms as part of the sealed bids.

2.2. Before submitting a bid, it is the responsibility of each bidder to:

2.2.1. Examine and carefully study the Solicitation Documents including but not limited to the drawings and specifications before submitting a bid.

2.2.2. Quantities appearing in the Bid Schedule are approximate and are provided for only the comparison of Bids. The Owner does not warrant that the actual individual items, amount of Work, or quantities will correspond to those shown in the Bid Schedule. Payment to Contractor will be made for actual quantities of Work performed and accepted or Materials furnished and accepted, as required by the Contract. Quantities of the Work to be performed and Materials to be furnished may be increased, decreased, or omitted by the Owner. The Owner reserves the right to require changes it deems necessary or desirable within the Specifications means the general scope of the project.

2.2.3. Visit the site to (i) become familiar with and satisfy the Bidder as to the general, local site conditions that may affect cost, progress, performance or furnishing of the Work including by not limited to access, topography, weather and the kind and quality of materials to be encountered in excavation and (ii) perform such examination, investigation, explorations, tests, and studies necessary for the determination of its Bid for performance of the Work required at the prices bid and within the times committed to, and in accordance with the other terms and conditions of the Solicitation Documents. Each Bidder shall be conclusively presumed to have knowledge of the general, local and site conditions in the preparation of the Bid and in the execution of the Contract. Bidders should be aware that participation in the pre-Bid visit is mandatory.

2.2.4. Consider all federal, state, and local laws and regulations that may affect costs, progress, performance or furnishings of the Work, including but not limited to those laws and regulations in the numbered Sections and Exhibits referenced or contained in Solicitation Documents.

2.2.5. Consider the information known to the Bidder; information commonly known to contractors performing similar work, information and observations obtained from visits to the work sites; the Solicitation Documents, with respect to the effect of such information, observations and documents on (i) the cost, progress and performance of the Work; (ii) the means, methods, techniques, sequences and procedures for completing the Work; (iii) Bidder's safety precautions and programs

2.2.6. Become aware of the general nature of the operations of the general public, EOU and/or other contractors at various location that maybe related to the Work required for the completion of the Project.

2.2.7. Promptly notify EOU of all conflicts, errors, ambiguities, or discrepancies in or between the Bid Documents, Invitation to Bid (ITB), or all related documents contained in the Solicitation Documents.

2.2.8. When conflicts, errors, ambiguities, or discrepancies are discovered in or between the Bid Documents, ITB, and any other related documents, and when such conflicts have not been resolved through the interpretations of EOU in Section 3, Bidder shall include in the Bid the greater quantity or better quality of Work, or compliance with the more stringent requirement resulting in the greater cost. Such greater cost shall be included in the Bid.

2.2.9. The submission of a bid will constitute an incontrovertible representation by Bidder (i) that Bidder has complied with every requirement of this Section 2, (ii) that without exception the Bid is premised upon performing and furnishing the design and Work required by the Solicitation Documents for this Project, and applying the specific means, methods, techniques, sequences, or procedures for the completion of the Work that may be shown, indicated, or expressly required in the Solicitation Documents, (iii) that Bidder has given EOU written notice of all conflicts, errors, ambiguities and discrepancies in the Solicitation Documents and the written resolution thereof by EOU are acceptable to Bidder, and when said conflicts, etc., have not been resolved through the interpretations as described in Section 3, Bidder has included in the Bid the greater quantity or better quality of Work, or compliance with a most stringent requirement resulting in a greater cost, and (iv) that the Solicitation Documents are generally sufficient to indicate and convey understand of all terms and conditions for performing and furnishing the Work.

3. Request for Clarifications or Change, Solicitation Protests

- 3.1. Bidders desiring to submit a request for clarification, change or protest must make a request for such information in writing to EOU no later than **5:00 PM, March 8, 2024**.
- 3.2. Should a Bidder find discrepancies in, or omissions from the Solicitation Documents, or should the Bidder be in doubt as to their meaning or believes that any aspect of the Solicitation Documents is improvident or unlawful, or which may unnecessarily restrict competition, the Bidder should at once notify the EOU in the form of a request for clarification, change or protest. Only responses issued by formal written Addenda will be binding.
- 3.3. The purpose of this request for clarification, change or protest procedure is to permit EOU the time to correct, prior to submission of Bids, aspects of the Solicitation Documents that may be improvident or unlawful, or which may unnecessarily restrict competition. This requirement is intended to eliminate, by permitting corrections prior to the submissions of Bids, the waste of resources and delays that may result from the untimely detection of errors in the Solicitation Documents, possible protests, and possible rejection of Bids.
- 3.4. EOU will consider each request for clarification, change, or protest and amend the Solicitation Documents accordingly if warranted and notify by written Addenda each prospective Bidder of any change. No other explanation or interpretation will be considered official or binding. Oral and other interpretations or clarifications will be without legal effect.
- 3.5. Any prospective Bidder who contends that the terms and conditions of the Solicitation Documents, including but not limited to the Contract, or any aspect of the solicitation process: (i) will encourage favoritism in the award of the Contract; (ii) will substantially diminish competition; (iii) will violate any

other statute, regulation, policy, or law of any kind; and/or (iv) are ambiguous, insufficient, or unfair for any reason must file a written protest consistent with the procedures provided in EOU Policy 3.15.01.

- 3.6. Protests must set forth the basis of the protest or request for clarification along with any proposed changes to the Solicitation Documents, including but not limited to the specifications or Contract terms. Failure to file a protest by the date and time indicated will be deemed a waiver of any claim by a Bidder that the selection process violates any of these items in Section 3. Any protest that does not meet these requirements will not be considered.
- 3.7. EOU will issue a written disposition of each such request for change, clarification, and/or protest no less than three (3) business days before the Bids are due. If EOU agrees with the request or upholds the protest, in whole or in part, EOU may, in its sole discretion, issue an Addendum reflecting its disposition or take other appropriate action.
- 3.8. Addenda may also be issued to modify the Solicitation Documents or Contract Documents as deemed advisable by EOU. EOU will post addenda, if any, on the ORPU.org website. It is each Bidder's responsibility to check that website frequently for updates and addenda.

4. Bid Security

- 4.1. Each Bid must be accompanied by a Bid security made payable to EOU in an amount of ten percent (10%) of Bidder's maximum Bid price and in the form of a cashier's check or certified check; irrevocable letter of credit issued by an insured institution as defined in ORS 706.008; or a Bid Bond as provided in the Procurement Forms.
- 4.2. The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Intent to Award, whereon Bid security shall be returned. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security, certificates of insurance and bonds within 15 calendar days after the Notice of Intent to Award, EOU may consider Bidder to be in default and annul the Notice of Intent to Award, and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders who EOU believes to have a reasonable chance of receiving the award may be retained by EOU until the earlier of the seventh (7th) day after the Effective Date of the Contract after all Bids have been rejected, whereupon the Bid security furnished by such Bidder will be returned.

5. Basis Award.

After opening and reading of the Bids, EOU will check them for correct extension of unit prices and total. The total of extensions, corrected where necessary, will be used by EOU for Award purposes in determining the Successful Bidder. For the purposes of this Project "Successful Bidder" means the responsible bidder who submits the lowest responsive Bid, who is not on the list created by the Construction Contractors Board according to ORS Chapter 701.227. A responsible bidder is one who has, among other things:

- 5.1. Have available, the appropriate financial, materials, equipment, facility and personnel resources and expertise, or ability to obtain the resources and expertise, necessary to indicate the capability of the prospective Bidder to meet all contractual responsibilities.
- 5.2. A satisfactory record of performance. In evaluating a Bidder's record of performance, EOU may consider, among other things, whether the Bidder completed previous contracts of a similar nature with a satisfactory record of performance. For purposes of evaluating a Bidder's performance on previous contracts of a similar nature, a satisfactory record of performance means that to the extent that the costs

associated with and time available to perform a previous contract remained within the Bidder's control, the Bidder stayed within the time and budget allotted for the procurement and otherwise performed the contract in a satisfactory manner. Satisfactory performance of the Contract also includes compliance with the requirements for records in the EOU General Conditions.

- 5.3. A satisfactory record of integrity. In evaluating a Bidder's record of integrity, EOU may consider, among other things, whether the Bidder has previous criminal convictions for offenses related to obtaining or attempting to obtain a contract or subcontract or in connection with the Bidder's performance of a contract or subcontract.
- 5.4. Qualified legally to contract with the EOU.
- 5.5. Supplied all necessary information in connection with the inquiry concerning responsibility. If a prospective Bidder fails to promptly supply information requested by the Agency concerning responsibility, the Agency will base the determination of responsibility upon any available information or may find the prospective Bidder not to be responsible.
- 5.6. Not been disqualified by the public contracting agency under ORS 279C.440.
- 5.7. An unexpired certificate issued by the Oregon Department of Administrative Services (under ORS 279A.167) upon completion of the curriculum and assessment that the Bidder understands the prohibitions set forth in ORS 652.220 and in other laws or rules that prohibit discrimination in compensation or wage payment. If the Bidder is found not to have a satisfactory record of performance or integrity, EOU will document the record and the reasons for the unsatisfactory finding.
- 5.8. In determining whether the Bidder is responsible, EOU may also consider whether the Bidder has liquidated and delinquent debt owed to the State of Oregon or any department or agency of the State, or any Public University in the State of Oregon. EOU may also investigate any entity submitting a bid, which may include investigation of the entity's officers, directors, owners, affiliates, or any other person acquiring ownership of the entity to determine the Bidder's qualifications.
- 5.9. EOU will provide Notice of Intent to Award on the www.ORPU.org website. The Award will not be final until the later of the following:
 - 5.9.1. Seven (7) calendar days after the Notice of Intent to Award has been posted as specified in the advertised solicitation or Addendum thereto; or
 - 5.9.2. EOU has provided a written response to each timely protest, denying the protest and affirming the Award.
- 5.10. If EOU accepts a Bid and awards a Contract, EOU will send the successful Bidder written notice of acceptance and Award.
- 5.11. EOU reserves the right, in its sole discretion:
 - 5.11.1. to reject Bids which it determines to be non-responsive;
 - 5.11.2. to reject Bids upon EOU's finding that the Bidder: (a) has been declared ineligible under ORS 279C.860; (b) has been identified by the Oregon Construction Contractor's Board as ineligible to hold public contracts in accordance with ORS 701.227; or (c) is not responsible;
 - 5.11.3. to reject all Bids;

- 5.11.4. to amend the solicitation documents, including but not limited to making such changes or corrections in drawings, specifications, or quantities as it may deem necessary or desirable prior to the Bid due date;
- 5.11.5. to extend the deadline for submitting Bids;
- 5.11.6. to determine whether a Bid does or does not substantially comply with the requirements of the solicitation documents;
- 5.11.7. to waive any minor irregularity, informality, or non-conformance with the solicitation documents;
- 5.11.8. to obtain information from or provide information to other public agencies, upon request, regarding the Bidder's performance;
- 5.11.9. to permit a Bidder to submit supplemental information;
- 5.11.10. to negotiate with any Bidder or multiple Bidders as may be in the best interests of EOU;
- 5.11.11. at any time prior to contract execution (including after the Notice of Intent to Award is issued): (a) reject any Bid that fails to substantially comply with all prescribed solicitation requirements and procedures and/or the prescribed public contracting procedures and requirements, including but not limited to the requirement to demonstrate Bidder's responsibility; and/or (b) to reject all Bids received and cancel this solicitation upon a finding by EOU that there is good cause therefor and that such cancelation would be in the public interest;
- 5.11.12. to hold meetings, exchange correspondence, and obtain data from any source or party, including a Bidder; and
- 5.11.13. in the event any Bidder to whom the Contract is awarded shall fail to execute the Contractor or furnish satisfactory bonds or evidence of insurance coverage within the time and in the manner hereinafter specified, to re-award the Contract to another Bidder.

ALL BIDDERS WHO SUBMIT A RESPONSE TO THIS SOLICITATION UNDERSTAND AND AGREE THAT EOU IS NOT OBLIGATED TO AWARD A CONTRACT TO ANY BIDDER. EOU HAS NO FINANCIAL OBLIGATION TO ANY BIDDER. IN ADDITION, EACH BIDDER UNDERSTANDS AND AGREES THAT EOU SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES, EXPENSES, AND COSTS INCURRED IN PREPARING A BID, SUBMITTING A BID IN RESPONSE TO THIS ITB, ATTENDING ANY MEETING, AND EXECUTING A CONTRACT. EACH BIDDER WHO PREPARES AND SUBMITS A BID IN RESPONSE TO THIS SOLICITATION DOES SO SOLELY AT THE BIDDER'S OWN COST AND EXPENSE.

END OF SECTION

AVAILABLE INFORMATION

Certain available information relating to the surface, subsurface, and structures is available to bidders, but is not directly part of the Contract Documents, are as follows:

1. Archeological Permit from AINW : Entitled *Archaeological Excavation Permit Work Plan for the EOU Inlow Hall Phase II Project*, dated May 17, 2023.
 - a. A copy of this full eleven (11) page report is provided as Attachment 1 in the Procurement posting.
2. Generator Pad Structural Calculations: Entitled *Structural Calculations for EOU Inlow Hall Generator Report*
 - a. A copy of this full thirteen (13) page report is provided as Attachment 2 in the Procurement posting.

This available information is provided as separate attachments based on their corresponding number above in PDF format at ORPU.org.

Any recommendations described in these documents shall not be construed as requirements of this Contract. These reports are provided for the Contractor's context and reference only. Should the Contractor require additional information beyond the Contract Documents, the Contractor shall arrange and pay for such testing to the extent necessary to complete their Work and is considered incidental to other bids items.

END OF SECTION

BIDDERS CHECKLIST

The Bidder's Attention is especially called to the following forms or information, which must be submitted in full as part of the bid.

- ☐ **BID** signed and completely filled out.
- ☐ **BID SCHEDULE** filled out showing bid amounts and properly signed.
- ☐ **SB5505 BIDDER DECLARATION** signed and completely filled out. (refer to Section 00 40 10)
- ☐ **BID BOND** completed, signed, and dated.
- ☐ **RESPONSIBILITY INQUIRY FORM** completed, signed, and dated.
- ☐ **CONTRACTOR'S REGISTRATION** completed, signed, and dated.

Above forms **MUST BE** inserted in a sealed envelope properly identified and delivered to the OWNER

- ☐ **Complete and submit, in a separate envelope, the FIRST-TIER SUBCONTRACTORS DISCLOSURE form. This form shall be submitted, timing as outline in the instructions to bidders.**

(This Bidder's Checklist is provided as a convenience to the Bidder. It is recommended, but not required, that this page be attached to the front of the bid.)

BID

EOU Emergency Backup Power System Construction Project – Inlow Hall

TO: BID EOU Emergency Backup Power - Inlow Hall
Eastern Oregon University
One University Blvd
La Grande, OR 97850

Bidder's Declaration and Understanding

The undersigned Bidder declares that: (a) the Construction Drawings, Invitation to Bid, Information to Bidders, Bid, Bid Schedule and all other Bidding Requirements, including not limited to Addenda and other items uploaded to the ORPU.org website, collectively referred to hereinafter as the Contract Documents for the construction of the proposed improvement have been carefully examined; (b) that the site has been personally inspected and that he has determined the extent, character, and location of the proposed work, the nature and type of excavation to be done, the location and condition of the existing streets and roadways giving access to the site of the work, and the topography of the site of the work; (c) that the Bidder is satisfied as to the quantities of materials, items of equipment and conditions or work involved including the fact that the description of the quantities of work and materials as included herein is brief and is intended only to indicate the general nature of such items and to identify the said quantities with the detailed requirements of the Contract Documents; and (d) that the Bidder's Bid is made according to the provisions and under the terms therein, which documents are hereby made a part of this Bid.

The Bidder further declares that the only persons or parties interested in this Bid are those named herein; that this Bid is in all respects fair and without fraud; that it is made without collusion with any official of EOU (Owner), and that the Bid is made without any connection or collusion with any person making another Bid on this Contract.

The Bidder further declares by the signing of this Bid that all the provisions required by ORS 279 & 701 relating to the payment of prevailing wage rates for work performed under the Contract with the Owner shall be complied with. Including, but not limited to:

- a) Bidder is registered with the Oregon Construction Contractors Registration Board in Oregon in accordance with ORS 701.035 through 701.055. The Bidder certifies that Registration Number _____ (*fill in registration number*) allows their company to perform work on Public Works Projects and that this registration is current and valid. The Bidder further certifies that, if awarded the contract, all subcontractors performing the work will be registered with the Construction Contractors Board in accordance with ORS 701.055 before the subcontractors commence work under the contract (reference ORS 279C.365).
- b) Bidder agrees to be bound by and will comply with the provisions of prevailing wages in accordance with Article X.B and X.D and Section C of the EOU General Conditions.
- c) Bidder is in compliance with the State of Oregon tax laws in accordance with ORS 305.385.
- d) Bidder, in accordance with ORS 279A.110, does not discriminate against minorities, women, or emerging small business enterprises in obtaining any subcontracts (reference ORS 279A.110).
- e) Bidder is a [*Non-resident Bidder*] or [*Resident Bidder*] (circle correct designation) as defined in ORS 279A.120. Resident Bidder means a bidder that has paid unemployment taxes or income taxes in the State of Oregon during the 12 calendar months immediately preceding submission of the bid and has a business address in the State of Oregon per ORS 279C.365.

- f) Bidder and Bidder's subcontractors are not on the Oregon Construction Contractors Board list of corporations, partnerships, or other business entities of which the Contractor or subcontractor is an owner, shareholder, or officer of the business or was an owner or officer of the business and who have been determined not be qualified to hold or participate in a public contract for a public improvement.
- g) Bidder has an employee drug testing program that meets State and Federal standards per ORS 279C.505.

The Bidder further agrees that its own judgment has been exercised regarding the interpretation of subsurface information and all data which it believes pertinent from the Engineer, Owner, and other sources in arriving at these conclusions have been utilized.

Contract Execution and Bonds

The Bidder agrees that if this Bid is accepted, a Contract with the Owner, will be executed, within fourteen (14) calendar days after the date of the written Notice of Award, and will at that time, deliver to Owner the required Performance and Payment Bonds, and will, to the extent of this Bid, furnish all machinery, tools, apparatus and other means of construction and do the work and furnish all the materials necessary to complete all work as specified or shown in the Contract Documents.

Certificates of Insurance

The Bidder agrees to furnish the Owner, before commencing the work under this Contract, the certificates of insurance as specified in these Contract Documents.

Start of Construction and Contract Completion Date

The Bidder agrees to begin work within 7 calendar days after the date of the Notice to Proceed, which is anticipated being on or before **March 31 2024**. The Contract Complete Date is June 30, 2025.

Liquidated Damages

In the event the Bidder is awarded the Contract and shall fail to complete the work within the time stated above or extended time agreed upon, as more particularly set forth in the Contract Documents, Bidder shall pay the Owner liquidated damages in an amount of **\$1,000** per day and every calendar day afterwards that the work remains uncompleted beyond the time limit set for all work awarded under the contract until the work shall have been finished as provided by the Article II.B of the Public Improvement Contract

Bid Bond

Accompanying this Bid is a certified check, cashier's check, or Bidder's bond in the sum of (10%) of the Bid Total which is forfeit as liquidated damages, if, in the event that this Bid is accepted, and the Bidder shall fail to execute the Contract and furnish satisfactory Performance Bond, Payment Bond, and insurance documents under the conditions and within the time specified in the Contract Documents. Otherwise, said check or bond is to be returned to the Bidder

Surety

If the Bidder is awarded a construction Contract on this Bid, the Surety who provides the Performance and Payment bond will be _____ whose address is _____.

Lump Sum or Unit Price Work

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following lump sum or unit price amounts stated in the Bid Schedule, it being expressly understood that the unit prices are independent of the exact quantities involved. The

Bidder agrees that the lump sum prices and the unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents.

Bidder

| | | |
|--|----------------------|--------------------------|
| Bidder's Business Name: | | |
| Type of Business: <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation (State of Incorporation: __) <input type="checkbox"/> Other | | |
| Physical Business Address (Must not be a P.O. Box): | | |
| City: | State: | Zip Code: |
| Business Telephone Number: | Business Fax Number: | Business E-mail Address: |
| State of Oregon numbers for the following: | | |
| Oregon CCB # & Expiration Date : | Oregon Registry # : | Federal Tax ID # : |
| In submitting this bid, it is understood that the Owner reserves the right to reject any and all bids, to adjust the scope of the work within reasonable limits, including to meet approved budget limitations, and to postpone award for a reasonable time. | | |

OFFICIAL AUTHORIZED TO SIGN FOR BIDDER:

| | |
|---|---|
| "I certify (or declare) under penalty of perjury under the laws of the State of Oregon that the foregoing is true and correct": | |
| Signature: | Date: |
| Print Name and Title | Location or Place Executed: (City, State) |

BID SCHEDULE

| BASE BID | | | | | |
|----------|---|------|------|------------|------------|
| Item No. | Description | Qty | Unit | Unit Price | Total Cost |
| 1 | Mobilization | 1 | LS | | |
| 2 | Sectionalization Switch with Installation, Training, Programming, Testing, Startup, All Complete | 1 | LS | | |
| 3 | Generator with Installation, Training, Testing, Startup, All Complete | 1 | LS | | |
| 4 | Generator Pad, Installed Complete | 1 | LS | | |
| 5 | Pre-Cast Pads, Vaults, Hand-Holes, Pull-Boxes, and all appurtenances, Installed Complete. | 1 | LS | | |
| 6 | Transformer, Panel, Unistrut, Mounting, Devices, Conductors, Raceway, Controls, Connections, and all appurtenances, Installed Complete. | 1 | LS | | |
| 7 | Natural Gas Connections, modifications, service extensions, and Coordination, Installed Complete. | 1 | LS | | |
| 8 | General Conditions (Coordination)- Meetings, Owner Coordination, 3 rd Party Coordination (Utilities, etc.) | 1 | LS | | |
| 9 | General Conditions- Bonding, and other requirements indicated. | 1 | LS | | |
| 10 | Removal of existing Generator, Relocation, Salvage, and reprogramming/Configuring Existing ATS. | 1 | LS | | |
| 11 | Removal of existing Generator enclosure and returning site to match existing conditions (patching). | 1 | LS | | |
| 12 | Medium Voltage Cable & High Pot Testing | 1200 | LF | | |
| 13 | PVC Coated GRC Raceway (See Alternates) | 3600 | LF | | |
| 14 | PVC Raceway (See Alternates) | 100 | LF | | |
| 15 | Medium Voltage Terminations, Labeling, and Connectors (Does not include Splices) | 8 | EA | | |
| 16 | Medium Voltage Splice | 6 | EA | | |
| 17 | Trenching, Backfill, Warning Tape, Site Work, Installed Complete | 600 | LF | | |

BASE BID TOTAL = \$ _____

Alternate Bid No. 1:

Refer to Trench Details shown on Drawings. Replace PGRC with PVC where PGRC indicated. Include PGRC in base bid, provide PVC for Alternate Bid. PGRC required for medium voltage conductors, and spare raceway in base bid. Schedule 80 PVC required for medium voltage conductors, and spare raceway in alternate bid.

| ALTERNATE NO. 1 | | | | | |
|-----------------|------------------------------|-------|------|------------|------------|
| Item No. | Description | Qty | Unit | Unit Price | Total Cost |
| 1 | PVC Raceway (See Alternates) | 3,700 | LF | | |

ALTERNATE NO. 1 TOTAL = \$ _____

Additive Alternate Bid No. 2:

Refer to 00 40 10 (SB5505 Bidders Declaration Form). Bidders are required to submit a Lump Sum cost for complying with SB5505 Section 10 requirements. If compliance costs are included in your Base Bid, indicate this by entering 'Zero Dollars (\$0)' in the line item. If unable to meet SB5505 Section 10 requirements, write 'No' in the line item and briefly explain on the required SB5505 Bidders Declaration Form. Note that the Owner, as per ORS350.389(5), reserves the right to utilize SB5505 funds without implementing Additive Alternate No. 2 if the bid pool is inadequate or if compliance results in excessive costs or delays. Conversely, if the bid pool is sufficient and costs are reasonable without causing delays, and the Owner opts to use SB5505 funds for the project, payment for this additive alternate will be based on the percentage of completion. The decision to include SB5505 funds in the project budget and whether to activate Additive Alternate Bid No. 2 will be made after bidding and before contract negotiations with the apparent low base bid bidder."

| ALTERNATE NO. 2 (ADDITIVE) | | | | | |
|----------------------------|--------------------------------|-----|------|------------|------------|
| Item No. | Description | Qty | Unit | Unit Price | Total Cost |
| 1 | SB5505 Section 10 Requirements | 1 | LS | | |

ALTERNATE NO. 2 (ADDITIVE) TOTAL = \$ _____

Bidder shall acknowledge by signing below, all information provided in the above bid schedule:

Bidder's Signature

Bidder's Name (Printed)

Title

Bidder further specifically acknowledges that Bidder examined and carefully studied the Bid Documents, including but not limited to the Invitation to Bid, Bidding Requirements, Contracting Requirements, Technical Specifications, Construction Drawings, and the following Addenda, receipt of all of which is hereby acknowledged: (List Addenda by number)

ADDENDA NUMBER

BIDDER'S BID BOND

(Here insert full name and address or legal title of Contractor)

As Principal, hereinafter called the Principal, and

(Here insert full name and address or legal title of Contractor)

A Corporation duly organized under the laws of the State of _____ as Surety, hereinafter called the Surety, are held and firmly bound unto Eastern Oregon University, as Obligee, hereinafter called Obligee, in the sum of ten percent (10%) of the total amount of the Bid for Work herein described, for the payment of which sum well and truly be made, as agreed and liquidated damages, the said Principal and the said Surety, bind ourselves, our heir, executors, administrators, successors and assigns, jointly and severally, firmly by these presents

WHEREAS, the Principal has submitted a Bid for the Eastern Oregon University Emergency Backup Power – Inlow Hall

NOW, THEREFORE, if the Obligee shall accept the Bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such Bid, and given such good and sufficient payment and performance bonds as may be specified in the Contract Documents for the faithful performance of such Contract and for the prompt payment of labor and materials furnished in the prosecution thereof, then this obligation shall be null and void, otherwise remain in full force and effect.

The Surety, for value received, hereby stipulates, and agreed that the obligation of the Surety and this bond shall be in no way impaired or affected by any extension of time within which the Obligee may accept such Bid, and the Surety does hereby waive notice of any such extension.

(Seal)

PRINCIPAL

Title

Address

(Seal)

SURETY

Title

Address

CONTRACTOR'S REGISTRATION

NAME OF FIRM:

ADDRESS:

Oregon State Department of Labor and Industries Contractor Registration Number:

SIGNATURE:

By: _____ Date: _____

Title: _____

RESPONSIBILITY INQUIRY FORM

EOU will determine the responsibility of a Firm prior to award and execution of a contract. In addition to this form, EOU may obtain any information EOU deems necessary to make the determination. EOU will notify the firm of any other documentation required, which may include, but is not limited to, Oregon Department of Revenue Letter of Debt Compliance, recent financial information, bonding capacity, credit information, record of performance under previous contracts, etc. EOU may postpone the award of the Contract to complete its investigation and evaluation. Failure to promptly provide requested information and clearly demonstrate Responsibility may result in a rejection and ineligibility of contract award.

1. Does your firm have the appropriate financial, material, equipment, facility, and personnel resources and expertise, or ability to obtain the resources and expertise, necessary to demonstrate the capability of the firm to meet all contractual obligations? YES ☐ / NO ☐
2. The number of years in business providing services/goods/equipment required under the prospective contract: _____
3. a) is your firm experiencing financial distress or having difficulty securing financing? YES ☐ / NO ☐
b) Does your firm have sufficient cash flow to fund day to day operations throughout the contract period? YES ☐ / NO ☐

If "YES" on question 3.a) or "NO" on question 3.b) please provide additional details:

Response

4. Within the last 3- year period has your firm had one or more contracts terminated for default by any federal, state, or local government agency, or any lawsuits filed against it by creditors or involving credit disputes? YES ☐ / NO ☐

If "YES" please explain (without regard to judgements, including jurisdiction and date of final judgement or dismissal)

Response

5. Within the last 3- year period has your firm filed for bankruptcy action, filed for reorganization, made a general assignment of assets for benefits of creditors, or had an action for insolvency institute against it? YES ☐ / NO ☐

If "YES" indicate the filing dates, jurisdictions, type of actions, ultimate resolution, and dates of judgement or dismissal, if applicable.

Response

6. Does your firm have all required licenses, insurance and/or registrations to complete the Work and is the firm legally authorized to do business in the State of Oregon? YES ☐ / NO ☐

If "No", please explain.

Response

Within the last 5- year period has your firm completed projects of a similar nature with a satisfactory record of performance? [For purposes of this question, a satisfactory record of performance means that the cost associated with and time available to perform a previous contract remained within your firms control, your firm stayed within the time and budget allotted for the procurement and otherwise performed the contract in a satisfactory manner.]

YES ☐ / NO ☐

If "No" please explain.

| |
|----------|
| Response |
|----------|

AUTHORIZED SIGNATURE:

By signature below, the undersigned Authorized Representative on behalf of the Bidder certifies that the responses provided on this form are complete, accurate, and not misleading:

| | |
|-----------------------|---|
| Name of firm: | RFP# FP-2019-04N EOU Emergency Backup Power – Inlow Hall |
| Authorized Signature: | Date: |
| Print Name: | Title: |

FIRST TIER SUBCONTRACTOR DISCLOSURE

Instructions for Submitting Form

Submit the First-Tier Subcontractor Disclosure form in any of the following manners:

- With the bid.
- No later than **two working hours** after the time set for opening bids. (For example, by 4:00 p.m. after a 2:00 p.m. bid closing) in the same manner as the bids were submitted.

Instruction for First-Tier Subcontractor Disclosure

When the contract value for a public improvement is greater than \$100,000 bidders are required to disclose information about first-tier subcontractors that will furnish labor or labor and materials (See ORS 279C.370). Specifically, when the contract amount of the first-tier subcontractor is greater than or equal to: (1) 5% of the total project bid, but at least \$15,000, or (2) \$350,000 regardless of the percentage of the total project bid, you must disclose the following information about the subcontractor not later than two working hours after the time set for opening bids:

- The name of the subcontractor.
- The Category of work that the subcontractor will be performing.
- The dollar value of the subcontract

If your bid is greater than \$100,000 and you will not be using any first-tier subcontractors, you are still required to submit the form, with the appropriate box checked or enter "NONE" on the first line.

If your bid is greater than \$100,000 and you are not subject to the above disclosure requirements, you are still required to submit the form, with the appropriate box checked or enter "NONE" on the first line.

THE OWNER MUST REJECT BIDS if the bidder fails to submit the disclosure form with this information by the stated deadline.

To determine disclosure requirements, the Owner recommends that you disclose subcontractor information for any subcontractor as follows:

7. Determine the lowest possible prime contract price. That will be the base bid amount less all alternate deductive bid amounts (exclusive of any options that can only be exercised after bid award).
8. Provide the required disclosure information for any first-tier subcontractor whose potential contract services are greater than or equal to: (1) 5% of the lowest contract price, but at least \$15,000, or (2) \$350,000 regardless of the percentage. Total all possible work for each subcontract in making this determination, (for example, if a subcontract will provide \$15,000 worth of services on the base bid and \$40,000 on an additive alternate, then the potential amount of the subcontractor's services is \$55,000. Assuming that \$55,000 exceeds 5% of the lowest contract price, provide the disclosure for both the \$15,000 and the \$40,000 services).

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

Project Name: _____

Owner: _____

Bid Opening Date: _____

Name of Bidding Contractor: _____

Contact Name: _____ **Phone No:** _____

☐ *CHECK THIS BOX IF YOU WILL NOT BE USING ANY FIRST-TIER SUBCONTRACTORS OR IF YOU ARE NOT SUBJECT TO THE DISCLOSURE REQUIREMENTS (SEE INSTRUCTIONS).*

FIRST-TIER SUBCONTRACTORS

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

| | |
|------------------|----|
| Firm Name | |
| Category of Work | \$ |

(Attach additional sheets as necessary)

It is the responsibility of Bidders to submit this Disclosure Form and any additional sheets, with the Project Name clearly marked, at the location indicated by the specified disclosure deadline. See Instructions to Bidders.

Part 1 – Bidder Declaration Form

SB5505 funding carries requirements for apprenticeship, outreach, and health and retirement benefits (see read Part 2 below) for all contracts and subcontracts that exceed \$200,000. Each bidder shall fill out this form and provide the form as part of your Bid Proposal to be considered a responsive bidder. This declaration form will be used bid opening to assess conformance to Section 10 requirements and allow any adjustments necessary to ensure there is an adequate bidding pool.

| Item | Description | Can Complete | If No, Please provide a brief description of why this is not achievable |
|------|--|---|---|
| 1(a) | Employ apprentices to perform 15 percent of the work hours that workers in apprenticeable occupations perform under the contract, in a manner consistent with the apprentices' respective apprenticeship training programs | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| 1(b) | Establish and execute a plan for outreach, recruitment and retention of women, minority individuals and veterans to perform work under the contract, with the aspirational target of having at least 15 percent of total work hours performed by individuals in one or more of those groups; | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| 1(c) | Provide health insurance and retirement benefits to workers; | Yes <input type="checkbox"/> No <input type="checkbox"/> | |

This Declaration is submitted in the name of:

Firm Name: _____

Business Address: _____

Contractors CCB # _____

EIN No. _____

Oregon Registry # _____

By: _____

Signed: _____

Title: _____

Signed this _____ **Day of** _____, 20 _____

Part 2 - SB 5505 Section 10, Engrossed

SECTION 10.

- (1) A public university that is carrying out a qualified project shall require each contractor in a contract with an estimated cost of \$200,000 or greater to:
- (a) Employ apprentices to perform 15 percent of the work hours that workers in apprenticeable occupations perform under the contract, in a manner consistent with the apprentices' respective apprenticeship training programs;
 - (b) Establish and execute a plan for outreach, recruitment and retention of women, minority individuals and veterans to perform work under the contract, with the aspirational target of having at least 15 percent of total work hours performed by individuals in one or more of those groups;
 - (c) Provide health insurance and retirement benefits to workers; and
 - (d) Require any subcontractor engaged by the contractor to abide by the requirements set forth in paragraphs (a), (b) and (c) of this subsection, if the work to be performed under the subcontract has an estimated cost of \$200,000 or greater.
- (2) On or before February 1 of each year, each public university that is carrying out a qualified project shall report to the Joint Committee on Ways and Means or Joint Interim Committee on Ways and Means, as part of the report required under ORS 350.379, on:
- (a) The amount of work performed on qualified projects by apprentices;
 - (b) The amount of work performed on qualified projects by women, minority individuals and veterans; and
 - (c) The types and costs of health insurance and retirement benefits provided to workers by contractors and subcontractors.
- (3) The requirements of this section are in addition to, and not in lieu of, the requirements imposed under ORS 350.379.
- (4) As used in this section:
- (a) "Apprentice" has the meaning given that term in ORS 660.010.
 - (b) "Apprenticeable occupation" has the meaning given that term in ORS 660.010.
 - (c) "Apprenticeship training program" means the total system of apprenticeship that a particular local joint committee, as defined in ORS 660.010, operates, including the local joint committee's registered standards and all other terms and conditions for qualifying, recruiting, selecting, employing and training apprentices in an apprenticeable occupation.
 - (d) "Minority individual" has the meaning given that term in ORS 200.005.
 - (e) "Qualified project" means the following capital construction projects:
 - (A) The **Eastern Oregon University Inlow Hall Renovation, Phase II** [emphasis added] referenced in section 1 (1)(a) of this 2021 Act;
 - (B) The Oregon State University Cascades Student Success Center referenced in section 1 (1)(b)(A) of this 2021 Act;
 - (C) The Oregon State University Cordley Hall Renovation, Phase II referenced in section 1 (1)(b)(B) of this 2021 Act;
 - (D) The Portland State University Gateway Center Reuse and Extension referenced in section 1 (1)(c) of this 2021 Act;
 - (E) The University of Oregon Heritage Building Renovation referenced in section 1 (1)(d) of this 2021 Act; and
 - (F) The Western Oregon University Student Success Center referenced in section 1 (1)(e) of this 2021 Act. [9] A-Eng. SB 5505 1 2 3 4 5 6
 - (f) "Veteran" has the meaning given that term in ORS 408.225.
 - (g) "Woman" has the meaning given that term in ORS 200.005.

EASTERN OREGON UNIVERSITY
PUBLIC IMPROVEMENT CONTRACT #FP-2019-04N

This Public Improvement Contract for **Emergency Backup Power – Inlow Hall**, made by and between EOU, hereinafter called “Owner”, and « » hereinafter called the “Contractor” (collectively the “Parties”), shall become effective on « » or the date this Public Improvement Contract has been signed by all the Parties and all required EOU Administrative approvals have been obtained, whichever is later.

Project Name and Description:

Eastern Oregon University Emergency Backup Power – Inlow Hall located from the east side of the Gilbert Center, south of Inlow Hall to the cul-de-sac at University Boulevard on the Owner’s campus.

Project Engineer:

Fluent Engineering
2110 State Street
Salem, OR 97301

The Owner and the Contractor agree as follows:

I. Contract Documents, Contract Price, and Work.

A. The Contract Documents. The Contract Documents include the documents identified as such in the Eastern Oregon General Conditions for Public Improvement Contracts (the “General Conditions”) and as enumerated below and any amendments or modifications executed by the parties pursuant to the terms of the Contract. Unless otherwise stated, terms used in this Public Improvement Contract have the definition assigned to them in the General Conditions.

B. Contract Price. The Contractor, in consideration of the Contract Price of \$« » be paid to the Contractor by Owner in the manner and at the time provided in the Contract Documents, and subject to the terms and conditions provided for in the Contract Documents, hereby agrees to perform all Work described in and reasonably inferred from the Contract Documents. The Contractor acknowledges and agrees that the Contract Price is a lump sum, which shall be subject to additions or deductions only as provided in the Contract Documents. Contractor further agrees that Contractor is solely responsible for all costs of completing the Work that exceed the Contract Price and that Contractor is deemed to have allowed correct and sufficient amounts in the Contract Price to cover its related obligations under or arising from the Contract. The Contractor shall fully execute the Work described in the Contract Documents and all Work reasonably inferable therefrom, with the exception of any Work specifically indicated in the Contract Documents to be the responsibility of others.

II. Date of Commencement and Completion

A. Commencement. The date of the commencement of the Work shall be as follows:

- [« »] The date of this Agreement.
- [« »] A date set forth in a notice to proceed issued by the Owner.
- [« »] Established as follows:

B. Substantial Completion, Final Completion, and Liquidated Damages for Delay

1. Substantial Completion. Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

[« »] Not later than it is understood that the Owner reserves the right to reject any and all bids, to adjust the scope of the work within reasonable limits, including to meet approved budgets, and to postpone award for a reasonable (« ») Days from the date of commencement of the Work.

[« »] By the following date: « »

2. Final Completion. Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Final Completion of the entire Work within [] Days of achieving Substantial Completion.

3. Liquidated Damages for Delay. Performance of the Work within the Contract Time, including but not limited to achieving Substantial Completion by the date required by the Contract Documents, is the essence of the Contract. The Contractor acknowledges that the Owner will sustain damages as a result of the Contractor's failure to achieve Substantial Completion of the Project in accordance with the Contract Documents. These damages may include, but are not limited to, delays in completion and use of the Project, and costs associated with Contract administration, additional costs paid to the Architect and the Owner's other contractors and consultants, and use of temporary facilities. The Contractor and the Owner acknowledge that the actual amount of damages would be difficult to determine accurately and agree that the following liquidated damages figure represents a reasonable estimate of such damages and is not a penalty.

a. Liquidated damages will be **\$1,000** for each day or partial day of delay that Substantial Completion extends beyond the required date of Substantial Completion.

b. The Contractor agrees to pay to the Owner the liquidated damage sums set forth above for each day of delay or any fraction thereof, and further agrees that the Owner may deduct such sums from payments the Owner otherwise owes to the Contractor under the Contract. If such deduction does not result in payment to the Owner of the assessed liquidated damages in full, the Contractor will promptly pay any and all remaining sums due to the Owner upon demand.

III. Representatives.

A. Contractor's Representative. Contractor has named « » its' authorized Representative to act on its behalf in all matters related to the Contract. Contractor shall not remove or replace its representative without the written consent of the Owner. Contractor must submit a request to remove or replace its representative to the Owner at least 30 days prior to the proposed removal and replacement.

B. Owner's Representative. Unless otherwise specified in the Contract Documents, the Owner designates _____ as its authorized representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment authorization, and to carry out the responsibilities of the Owner.

IV. Payment

A. Progress Payments. Provided that the Contractor submits a complete application for payment meeting all requirements of Section E of the General Conditions by the [« »] day of the month and otherwise complies

with the conditions for payment in the Contract Documents, the Owner shall pay to the Contractor the amount due under the Contract Documents by the [« »] day of the month.

B. Final Payment. Provided that the Contractor submits a complete application for payment meeting all requirements of Section E of the General Conditions and otherwise complies with the conditions for final payment in the Contract Documents and all other requirements for Final Completion are satisfied, the Owner shall pay to the Contractor the final amount due under the Contract Documents within [« »] days of the Owner's final acceptance of the Work. The Contractor's acceptance of final payment shall constitute a waiver of any and all claims by the Contractor and its Subcontractors.

C. Interest. Payments due and unpaid under the Contract shall bear interest from the date payment is due at the following rate: [« »].

V. Tax Compliance.

The individual signing on behalf of Contractor hereby affirms, under penalty of perjury as provided in ORS 305.385(6), that, to the best of Contractor's knowledge, the Contractor is not in violation of any of the tax laws described in ORS 305.380(4). For purposes of this certification, "tax laws" means a state tax imposed by ORS 320.005 to 320.150 and 403.200 to 403.250, ORS Chapters 118, 314, 316, 317, 318, 321 and 323; the elderly rental assistance program under ORS 310.630 to 310.706; and local taxes administered by the Oregon Department of Revenue under ORS 305.620.

VI. Insurance and Payment and Performance Bonds.

A. Insurance. During the term of this Contract, Contractor shall comply and shall require all of its Subcontractors to comply with the insurance requirements set forth in Exhibit A and shall provide proof of such compliance, including copies of insurance policies, upon Owner's request.

B. Bonds. The Contractor shall obtain performance and payment bonds meeting the requirements of Section G.2 of the General Conditions.

VII. Dispute Resolution.

Claims and disputes arising out of the Contract or the Project that are not resolved pursuant to the Claims Review Process set forth in Section D.3 of the General Conditions shall be resolved by litigation as set forth in Section B.16 of the General Conditions.

VIII. Suspension and/or Termination

A. By the Owner. The Contract may be suspended or terminated by the Owner as set forth in Section J of the General Conditions.

B. By the Contractor. In addition, the Contractor may terminate the Contract for cause in the event that the Owner fails to pay undisputed amounts owed to the Contractor pursuant to the Contract Documents; provided that the Contractor provides seven (7) Days written notice of its intent to terminate and Owner fails to cure within such seven (7) Day period. In the event that the Contractor terminates for cause, the Contractor shall be entitled to compensation for Work properly executed. Contractor shall not be entitled to lost profit or other compensation for Work not performed.

IX. Integration

The Contract Documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the

signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

X. Compliance with Law.

Contractor will comply with all federal, state, and local laws applicable to the Work under this Contract, and all regulations and administrative rules established pursuant to those laws, including without limitation, the following requirements of the Oregon Public Contracting Code set forth below, even if such requirements ordinarily would not apply to the Work under ORS 352.138 as set forth in Section A.4.5 of the General Conditions. In the event of a conflict between the provisions set forth below and similar provisions in the General Conditions, the provisions set forth below will govern.

A. ORS 279C.605 (Notice of Claim on Bond). Any person claiming a right of action under ORS 279C.600 must file a notice of claim as provided in ORS 279C.605.

B. ORS 279C.800 to 279C.870 (Payment of Prevailing Wage Required).

1. This Contract is subject to payment of prevailing wages under ORS 279C.800 to 279C.870. Each worker the Contractor, subcontractor or other person who is party to the contract uses in performing all or part of the Contract must be paid not less than the applicable prevailing rate of wage for each trade or occupation as defined by the Director of the State of Oregon Bureau of Labor and Industries ("BOLI") in the applicable publication entitled Definitions of Covered Occupations for Public Works Contracts in Oregon. The latest prevailing wage rates for public works contracts in Oregon are contained in the following publications: The Prevailing Wage Rates for Public Works Projects in Oregon, the PWR Apprenticeship Rates, and any amendments to the PWR rates or Apprenticeship rates. Such publications can be reviewed electronically at http://www.boli.state.or.us/BOLI/WHI/PWR/pwr_state.shtml.

2. This Contract is not subject to payment of prevailing wages under the federal Davis-Bacon Act (40 U.S.C. 3141 et seq.). Notwithstanding Section 17.1.xii.a of this Section, if this Contract is also subject to payment of prevailing wages under the Davis-Bacon Act, Contractor and any subcontractors must pay the higher of the federal prevailing wage rate or the state prevailing wage. The latest federal prevailing wage rates can be reviewed electronically at <http://www.wdol.gov/Index.aspx>. Contractors shall follow all prevailing wage rules including posting the Davis Bacon Poster at the worksite and submitting certified payroll records. The poster is available at <http://www.dol.gov/whd/regs/compliance/posters/fedprojc.pdf>. The payroll form is at <http://www.dol.gov/whd/forms/wh347instr.htm>.

3. The applicable prevailing wages under subsections will be those in effect on the start of the Construction Phase as described in Section 3.b of this Contract, and shall be incorporated in the GMP Amendment or, if applicable, the Early Work Amendment.

4. The Contractor and all Subcontractors will keep the prevailing wage rates for this Project posted in a conspicuous and accessible place in or about the Project.

5. The Owner will pay a fee to the Commissioner of the Oregon Bureau of Labor and Industries as provided in ORS 279C.825. The fee will be paid to the Commissioner under the administrative rule of the Commissioner.

6. If the Contractor or any Subcontractor also provides for or contributes to a health and welfare plan or a pension plan, or both, for its employees on the Project, it will post notice describing such plans in a

conspicuous and accessible place in or about the Project. The notice will contain information on how and where to make claims and where to obtain future information.

C. ORS 279C.836 (Public Works Bond Required).

1. The Contractor will file a public works bond with the Construction Contractors Board pursuant to ORS 279C.836 before starting work on the Project, unless exempt under ORS 279C.836(2) (7) or (8).
2. The Contractor will include in every subcontract a provision requiring the Subcontractor to file a public works bond with the Construction Contractors Board pursuant to ORS 279C.836 before starting work on the Project, unless exempt under ORS 279C.836(2), (7) or (8).

D. ORS 279C.845 (Prevailing Wage Certification; Additional Retainage).

1. The Contractor and every Subcontractor will file certified statements with the Owner in writing in the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker whom the Contractor or Subcontractor has employed upon such public work, and further certifying that no worker employed upon such public work has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement will be verified by the oath of the Contractor or the Contractor's surety or Subcontractor or Subcontractor's surety that the Contractor and any Subcontractor has read such statement and certificate and knows the contents thereof, and that the same is true to the Contractor or Subcontractor's knowledge. The certified statements will set out accurately and completely the payroll records for the prior week including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Audit will need access to these documents to help verify and validate the labor portion of the Cost of the Work. See also Section C.2 of the General Conditions.
2. The certified statement will be delivered or mailed by Contractor or Subcontractor to the Owner. Certified statements for each week during which the Contractor or Subcontractor employs a worker upon the public work will be submitted once a month, by the fifth business day of the following month. Information submitted on certified statements may be used only to ensure compliance with the provisions of ORS 279C.800 to 279C.870. Notwithstanding any other provision of this Contract and in addition to any other retainage required under this Contract, the Owner will retain 25 percent of any amount earned by the Contractor until the Contractor filed the certified statements with the Owner as required by this Section. The Owner will pay the retainage required under this Section within 14 days after the Contractor files the certified statements required by this Section.
3. Contractor and each Subcontractor will preserve the certified statements for a period of three years from the date of completion of the Contract.

XI. Miscellaneous Provisions.

- A. Headings.** The headings used in the Contract are solely for convenience of reference, are not part of the Contract and are not to be considered in construing or interpreting the Contract.
- B. Savings Clause.** Should any provision of the Contract, at any time, be held to be invalid or unenforceable for any reason, and if the provisions of the Contract that are essential to each party's interests otherwise remain

valid and enforceable, then the remaining provisions of the Contract shall remain in full force and effect and the court shall give the offending provision the fullest meaning and effect permitted by law.

C. Coordination of Work. The Contractor agrees to coordinate all Work with the activities of the Owner and the Owner's separate contractors and consultants at or adjacent to the Project site, including but not limited to the Owner's planned renovation of Inlow Hall, to minimize interference and disruption to such other activities. The Contractor specifically acknowledges that it has made consideration for the Inlow Hall renovation project in its schedule for the Project and in agreeing to the dates for Substantial Completion and Final Completion.

XII. Enumeration of Contract Documents

The Contract is comprised of the following Contract Documents:

A. This Public Improvement Contract

B. The General Conditions

C. Drawings:

[insert]

D. Specifications:

[insert]

E. Addenda, if any:

[insert]

F. The following exhibits:

Exhibit A: Contractor's Required Insurance

G. The Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors

H. The accepted Offer

I. Contract Amendments, Change Orders, and Change Directives issued after execution of this Public Improvement Contract.

To the extent that the accepted Offer includes disclaimers or limitations of liability, they are expressly rejected and not made part of the Contract unless otherwise expressly incorporated herein. Any conflict or discrepancy between the accepted Offer and any other Contract Documents shall be resolved in favor of the other Contract Documents or the interpretation requiring the greater quantity or quality of work. Conflicts and discrepancies between Contract Documents not involving the accepted Offer shall be resolved in the manner set forth in Section A.3.1 of the Contract Documents.

In witness whereof, Eastern Oregon University executes this Contract and the Contractor does execute the same as of the day and year indicated below.

CONTRACTOR DATA:

Contractor Name and Address:

CONTRACTOR FEDERAL TAX ID #: _____

CONTRACTOR CCB:

Expiration Date: _____

[Payment information will be reported to the IRS under the name and taxpayer ID # provided above. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 31 percent backup withholding.]

SIGNATURES:

CONTRACTOR SIGNATURE:

By _____
Signature Date

Print Name Title

By _____
John Garlitz, Director Date
Director of Facilities & Planning

By _____
LeeAnn Case, Interim Vice President Date
Vice President of Finance & Administration

1. In connection with Senate Bill 5505, authorizing bond funding for this Project, the CM/GC shall:
 - a. Use best efforts to ensure that for the Project as a whole, apprentices are employed to perform 15 percent of the work hours that workers in apprenticeable occupations perform under the Contract, in a manner consistent with the apprentices respective training programs;
 - b. Establish and execute a plan for outreach, recruitment and retention of women, minority individuals and veterans to perform work under the subcontract or similar agreement, with the aspirational target of having at 15 percent of the total work hours for the Project as a whole are performed by individuals in one or more of those groups;
 - c. Ensure that workers employed on the Project are provided insurance and retirement benefits; and
 - d. As a condition precedent to the CM/GC's right to payment, provide a report with each monthly application for payment that includes the following information:
 - i. The amount of Work performed by apprentices on the Project for which payment is sought;
 - ii. The amount of Work performed by women, minority individuals and veterans on the Project for which payment is sought; and
 - iii. The types and costs of health insurance and retirement benefits provided to workers by the CM/GC and Subcontractors.
 - e. As used in this subsection and in subsection 3.1.7, definitions for "Women" and "Minority Individual" have the meanings in ORS 200.005, "Veteran" has the meaning in ORS 408.225, and "Apprentice" and "Apprenticeable Occupation" have the meaning in ORS 660.010.
 - f. In the event that the Contractor using best efforts cannot achieve the requirements 3.1.6 (a) or 3.1.7(a), the Contractor shall submit all documentation required by Owner related to Contractor's best efforts to meet such requirements.
2. In connection with Senate Bill 5505, authorizing bond funding for this Project, the CM/GC shall make best efforts to ensure that all subcontracts and similar agreements with an estimated cost of \$200,000 or greater require the Subcontractor to:
 - a. Use best efforts to employ apprentices to perform 15 percent of the work hours that workers in apprenticeable occupations perform under the contract, in a manner consistent with the apprentices' respective training programs.
 - b. Establish and execute a plan for outreach, recruitment and retention of women, minority individuals and veterans to perform work under the contract, with the aspirational target of having at 15 percent of the total work hours performed by individuals in one or more of those groups.
 - c. Provide health insurance and retirement benefits to workers.

PUBLIC IMPROVEMENT CONTRACT – EXHIBIT A

INSURANCE REQUIREMENTS

Project No. 2021-01A-FP

I. CONTRACTOR'S INSURANCE

As a condition precedent to payment Contractor shall at all times provide and maintain for itself and require its Subcontractors to provide and maintain the following types and the following minimum limits of insurance written on an occurrence basis by a company or companies rated A/IX or better in the most recent edition of "Best's Insurance Guide" (or such lesser rating as may be approved by Owner in writing) and authorized to do business in the state in which the Project is located.

A. Workers' Compensation and Employer's Liability:

- (i) State: Statutory
- (ii) Employers Liability:
 - \$1,000,000 Each Accident
 - \$1,000,000 Each Disease
 - \$1,000,000 Disease, Each Employee

B. Commercial General Liability (Occurrence Form):

- (i) Combined Bodily Injury and Property Damage:
 - \$2,000,000 Each Occurrence
 - \$2,000,000 Personal and Advertising Injury
 - \$4,000,000 General Aggregate
 - \$4,000,000 Products/Completed Operations Aggregate
 - \$ 50,000 Fire Damage Legal Liability
 - \$ 10,000 Medical Expenses Per Person

The scope of coverage must meet the following:

- (1) Premises Operations must be included.
- (2) Elevators and Escalators must be included.
- (3) Coverage for Independent Contractors and work performed on your behalf by subcontractors must be included.
- (4) Pollution Liability and Hazardous Materials Liability must be included.
- (5) Contractual Liabilities must be included (including the contract obligations specified in the Indemnification Paragraph(s) of the Owner-Contractor Agreement)
- (6) The Products and Completed Operations Insurance must be carried for the duration of the applicable statute of repose or for six (6) years after final payment, whichever is longer.

- (7) There can be no exclusions for subsidence, collapse, explosion or underground property damage.
- (8) There can be no Additional Insured vs. Named Insured cross-suit exclusion. The policies shall provide for cross-liability coverage as would be achieved under the standard Insurance Services Office “separation of insureds” clause.
- (9) There shall be no Montrose language, anti-pyramiding exclusion, or exclusion limiting coverage to damages which first begin to occur within the policy period.
- (10) The limits shall not be eroded or wasted by defense costs.
- (11) The policy and the additional insured coverage shall be primary and non-contributory with any insurance maintained by Owner, its affiliates, subsidiaries, directors, officers, employees and agents. (Copies of all policy endorsements that might affect coverage for the Project must be provided with the Insurance Certificate.)
- (12) The policy may not contain a cyber terrorism exclusion.
- (13) The policy may not contain an exclusion for breach of contract.
- (14) The policy may not contain an exclusion for intangible property.
- (15) The policy may not contain an exclusion for property of others in your care, custody or control.

C. Business Auto:

Combined Bodily Injury and Property Damage

\$1,000,000 Each Accident

The following coverages must be included:

- (1) Owned Automobiles
- (2) Non-Owned and Hired Automobiles

D. Excess/Umbrella Liability Coverage:

\$5,000,000 Each Occurrence with a per project endorsement

\$5,000,000 Aggregate

Coverage will follow form on the general liability and auto liability policies be at least as broad those policies.

Coverage shall be carried for the duration of the applicable statute of repose or for six (6) years after final payment, whichever is longer.

The policy must provide that coverage will be triggered by exhaustion of the applicable primary policies above and shall not require payment or exhaustion of any other policies.

- E. Professional Liability Insurance.** Limits shall not be less than \$1,000,000 per claim and \$2,000,000 aggregate. Such insurance must have no exclusion for bodily injury or property damage and no exclusion for pollution-related liability. This insurance shall include a retroactive date which predates the commencement of Work under the Agreement, including but not limited to construction manager services, and such coverage must continue for or include an extended reporting period of at least six (6) years after substantial completion and acceptance of the Project, or until the expiration of all applicable statute of repose, whichever is longer.

- F. Certificates and Certified Copies of Policies.** Copies of all policy endorsements that might reduce coverage from that provided by the standard ISO form must be provided to Owner and approved in writing and Owner's

approval must be submitted to Owner with each Insurance Certificate warranting that there is no other reduction in coverage. Evidence of Contractor's compliance with this Exhibit, including the insurance required of Subcontractors, shall be filed with Owner and be acceptable to Owner prior to commencement of the Work. For those insurance coverages that are required to remain in force after final payment, additional certificates (or certified copies of the policies) evidencing continuation of such coverage shall be submitted at the time of the application for final payment and upon each annual renewal for the duration of coverage required. Without limiting its remedies, Contractor agrees that it will reimburse Owner for the costs of Owner's insurance provided for the Project if Contractor fails to provide evidence of coverage as required herein. Upon Owner's request at any time, Contractor will immediately provide an actual certified copy of its insurance policies. Provision of the certificates and copies of policies as required herein shall be a condition precedent to payment.

- G. Notice of Cancellation, Reduction or Expiration.** Insurance policies required by this Agreement shall contain a provision that coverages or limits afforded under the policies will not be canceled, reduced or allowed to expire until at least 30 days' prior written notice has been given to Owner or, in the alternative, Contractor shall, in writing, inform Owner that Contractor shall provide 30 days written notice to Owner before any policy expires or is cancelled. Information concerning reduction of limits on account of claims paid or to be paid shall be furnished by the Contractor to Owner within three (3) business days of when Contractor learns that revised or reduced limits are likely. When Contractor becomes aware of imminent cancellation, expiration or reduction in coverage or available limits, Contractor within three (3) business days shall procure other policies of insurance that meet all requirements of this Agreement without any lapse in coverage and notify Owner in writing of the potential reduction in coverage or cancellation and describe the manner in which it has provided or will provide replacement coverage of this insurance along with a written explanation of any differences in coverage. No work will be performed without this insurance being in full force and effect.
- H. Owner's Right to Terminate or Cure.** Failure of Contractor or a Subcontractor to secure and maintain insurance with the coverages and limits required by this Agreement shall be a material breach of the Contract entitling Owner, in its discretion and without waiving any other remedies, to (i) withhold payments or recoup payments already made to Contractor for work on the Project, (ii) terminate the Contractor for cause, and (iii) purchase replacement insurance at the expense of the Contractor. Contractor consents to Owner procuring replacement insurance in Contractor's name and Contractor will cooperate in all respects with Owner's efforts in this regard. Alternatively, at Owner's discretion, Owner may purchase an Owner's protective policy or other similar policy that affords to Owner coverages and limits providing reasonably equivalent protections as Owner would have received if Contractor and Subcontractors maintained the insurance required by this Agreement. Owner's costs incurred in finding replacement insurance or an Owner's protective policy shall either be reimbursed directly by Contractor or may be offset against amounts owed by Owner to Contractor on this Project or other projects.
- I. Insurance In Excess of Requirements.** In the event Contractor or any Subcontractor(s) purchase insurance in excess of the coverages or limits required under this Agreement, such excess coverages or limits shall apply and be deemed to have been required herein and be compliant with all requirements of this Exhibit.
- J. No Waiver by Owner.** The insurance requirements under this Agreement can only be waived or modified by Owner by an express written instrument signed by Owner acknowledging the reduced coverages or limits. No other act or omission by Owner or its agents, including but not limited to (i) implicit or verbal acceptance or approval of reduced coverages or limits or (ii) failure to require proof of compliant insurance, shall amount to Owner's waiver of the insurance requirements of this Agreement.
- K. Subcontractor Insurance.** All Subcontractors' insurance shall meet all insurance requirements of Contractor as provided in this Agreement, including, but not limited to, the types of insurance, extent and durations of coverages, and notice requirements, except that the limits of insurance for Subcontractors shall be no less than the following:

Workers' Compensation and Employer's Liability: same as above.

Commercial General Liability (Occurrence Form): Combined Bodily Injury and Property Damage:

\$2,000,000 Each Occurrence

\$2,000,000 Personal and Advertising Injury

\$2,000,000 General Aggregate

\$2,000,000 Products/Completed Operations Aggregate

\$ 100,000 Fire Damage Legal Liability

\$ 10,000 Medical Expenses Per Person

Business Auto: same as above.

Excess/Umbrella Liability Coverage: none required.

L. Waiver of Subrogation. All of General Contractor's and all of its subcontractors' liability insurance policies, including worker's compensation, shall contain a waiver of subrogation against Owner.

M. Additional Insureds. All of General Contractor's and Subcontractors' liability insurance policies shall contain an endorsement expressly naming Owner, its affiliates, subsidiaries, directors, officers, employees and agents (including but not limited to those listed below) as Additional Insureds (as opposed to blanket endorsements) for both on-going operations and completed operations. The coverage under the additional insured endorsement shall (i) be primary and noncontributory with respect to any insurance maintained by the Additional Insureds, (ii) provide the same coverages and limits to the Additional Insured as are afforded to the Named Insured as required by this Agreement, (iii) shall provide coverage to the Additional Insureds for the products-completed operations hazard, (iv) these requirements are to be complied with for the same durations as the coverages afforded to the Named Insured as required by this Agreement, and (v) waive all rights of subrogation against the Additional Insureds. In the event that Contractor cannot comply with all of these requirements, Contractor shall obtain a Project Specific Endorsement naming Owner and its affiliates as Named Insureds on all primary and excess/umbrella policies required herein. The following additional persons or entities affiliated with Owner shall be named as Additional Insureds:

N. Cyber. Contractor and its subcontractors shall maintain throughout the term of this Agreement Professional / Technology Liability insurance and Network Security & Privacy Liability insurance covering liabilities for first- and third-party losses resulting or arising from acts, errors, or omissions in connection with the services provided under this Agreement. Such insurance shall have limits of not less than \$5,000,000.00. Such coverage shall include an extended reporting period of not less than 90 days beyond the termination date of such coverage. The coverage must be sufficient to cover all damages Contractor or its subcontractors and vendors may be obligated to pay as damages as a result of a Security Breach. For the purposes of this Section, "Security Breach" means:

(i) the failure by the Contractor, or any of its subcontractors, to properly handle, manage, store, destroy or otherwise control, or the unauthorized disclosure by the Contractor or its

subcontractors of:

- (a) Personal information in any format, including but not limited to Protected Health Information or other personal / individual data or information regarding health, financial or other information that is generally considered private in nature; or
 - (b) third party corporate information in any format specifically identified as confidential and protected under a confidentiality agreement or similar contract; or
 - (c) any other information the release or disclosure of which may cause liabilities for first- and third-party losses resulting or arising from acts, errors, or omissions in connection with the services provided under this Agreement.
- (ii) an unintentional violation of the Contractor's privacy policy or
 - (iii) any misappropriation that results in the violation of any applicable data privacy laws or regulations; or
 - (iv) any other act, error, or omission by Contractor in its capacity as such which is reasonably likely to result in the unauthorized disclosure of Personal Data or loss of Confidential or Personal Information, regardless of cause (including, without limitation, Contractor's or its subcontractor's negligence and unlawful third-party acts).

The Cyber coverage must provide coverage of the following:

- (i) Wrongful acts, claims, and lawsuits anywhere in the world.
- (ii) Contractual liability coverage for the indemnity in this Agreement.
- (iii) Coverage for all damages incurred by Company or its affiliates including, defense costs, forensics investigation, public relations/crisis management costs, data breach notification costs, credit protection services, credit restoration services, regulatory investigations, civil fines and penalties, data breach mitigation services, litigation costs and settlement costs.
- (iv) Violation or infringement of any right of privacy, including breach of security and breach of security/privacy laws, rules or regulations globally, now or hereinafter constituted or amended.
- (v) Data theft, damage, or any loss of data.
- (vi) Unauthorized disclosure, destruction, or corruption, including without limitation, unauthorized access, unauthorized use, identity theft, theft of personally identifiable information or confidential corporate information in whatever form.
- (vii) Transmission of a computer virus or other type of malicious code.
- (viii) Participation in a denial-of-service attack on third party computer systems.
- (ix) Loss or denial of service.
- (x) Privacy regulatory defense and payment of civil fines.
- (xi) Payment of credit card provider penalties, and breach response costs (including without limitation, notification costs, forensics, credit protection services, call center services, identity theft protection services, and crisis management/public relations services).

O. Builders Risk - Contractor shall procure and pay for an All Risk Builder's Risk Policy, providing full replacement value, covering Owner, Contractor and all Subcontractors of every tier as their interests may appear. The policy shall include coverage for theft, vandalism, malicious mischief, collapse, windstorm, falsework, testing and startup, temporary buildings and debris removal, including demolition and replacement occasioned by

enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. The policy shall provide Flood and Earthquake coverage, cover damage from water from any source, cover materials in temporary storage or transit and provide coverage for resultant damage even if caused by faulty workmanship or defective products. The policy shall not have any co-insurance provisions. Deductibles shall be approved by Owner in writing or shall be the sole obligation of the Contractor.

END OF EXHIBIT A

EOU RFP #FP-2019-04N

PERFORMANCE AND PAYMENT BOND

Know all persons by these presents, that _____, hereinafter called the PRINCIPAL, and _____ a CORPORATION or partnership duly authorized to do a general surety business in Oregon, as SURETY, are jointly and severally held and bound unto the Eastern Oregon University in La Grande, Oregon, hereinafter called the OBLIGEE in the sum of

DOLLARS _____ (\$ _____)

for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns, firmly by these presents.

The condition of this bond is such that, whereas, _____

(Contractor)

the PRINCIPAL herein, on the _____ Day of _____, entered into a Contract with the OBLIGEE, for the _____ Project, which Contract is made a part hereof as if fully incorporated herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if Principal shall faithfully, punctually and completely perform and abide with the covenants, terms, conditions and provisions of said Contract and any extensions thereof in all respects and within the time prescribed therein, including, but not limited to, the terms of any warranty and guarantee required under the said Contract; shall pay all laborers, mechanics, subcontractors, material and equipment suppliers and all persons supplying to Principal or its subcontractors and suppliers at any tier labor, materials, supplies or equipment for the prosecution of the work or any part thereof; shall fully defend, indemnify and hold Obligee harmless from all cost and damage that Obligee may suffer by reason of Principal's failure to do so; and shall in all respects perform said Contract according to applicable law, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In any event, this obligation shall remain in full force and effect for the applicable period of limitations or repose, whichever is longer.

Surety acknowledges that Obligee does not owe any duty to Surety to advise, notify or consult with Surety on any matters relating to the Principal or the Project, including, but not limited to, Principal's payments to Subcontractors or Principal's use of Project funds.

No prepayment or delay in payment and no change, extension, addition or alteration of any provision of said Contract and no forbearance on the part of Obligee shall operate to relieve Surety from liability on this bond, and Surety hereby consents to any such changes, extensions, additions and alterations without further notice to or consent by Surety.

In the event arbitration, litigation or any other proceeding is brought upon this bond by Obligee and judgment or award is entered in Obligee's favor, Surety shall pay all of Obligee's costs incurred in such arbitration, litigation or other proceeding, including any attorney and expert witness fees.

In the event there is an arbitration clause in said Contract, Surety agrees to participate in and to be bound by any such arbitration to the same extent Principal is bound.

No right of action shall accrue on this bond to or for the use of any person or corporation other than Obligee or its heirs, executors, administrators, successors or assigns.

Executed this ____ day of _____, 2023.

(Seal)
PRINCIPAL

Title

Address

(Seal)
SURETY

Title

Address

COUNTERSIGNED:

Resident Agent

Address

PAYMENT BOND

(Bond No.)

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, _____
_____ as Principal and _____ as Surety, a
corporation organized and existing under the laws of the state of _____, are held and bound
unto Eastern Oregon University in La Grande, Oregon, for the use and benefit of all persons or entities
that provide labor, materials, equipment or supplies for use under the Contract described below, in the
penal sum of _____ Dollars (\$ _____), lawful money of the United States of
America, for the payment of which Principal and Surety bind themselves and their heirs, executors,
administrators, successors and assigns, jointly and severally.

WHEREAS the Principal has entered into a Contract dated _____, 201_ with Obligee for
the _____ project ("Project"), which Contract is made a part hereof as if fully
incorporated herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if Principal
shall promptly make payment to all persons or entities that provide labor, material, equipment or supplies
for use under said Contract, then this obligation shall be null and void; otherwise, it shall remain in full
force and effect.

In any event, this obligation shall remain in full force and effect for the applicable period of
limitations or repose, whichever is longer.

Surety acknowledges that Obligee does not owe any duty to Surety to advise, notify or consult
with Surety on any matters relating to the Principal or the Project, including, but not limited to,
Principal's payments to Subcontractors or Principal's use of Project funds.

Principal and Surety hereby jointly and severally agree that any person or entity that provides
labor, material, equipment or supplies for use under said Contract and has not been paid in full may sue
on this bond for the use of such person or entity, prosecute the suit to final judgment for such sums as
may be justly due and owing claimant and have execution thereon. Obligee shall not be liable for the
payment of any damages, costs or expenses (including attorney fees) awarded in any such suit.

No prepayment or delay in payment and no change, extension, addition or alteration of any
provision of said Contract and no forbearance on the part of Obligee shall operate to relieve Surety from
liability on this bond, and Surety hereby consents to any such changes, extensions, additions and
alterations without further notice to or consent by Surety.

In the event arbitration, litigation or any other proceeding is brought upon this bond by Obligee
and judgment or award is entered in Obligee's favor, Surety shall pay all of Obligee's costs incurred in
such arbitration, litigation or other proceeding, including any attorney and expert witness fees.

Except as expressly provided above, no right of action shall accrue on this bond to or for the use of any person or corporation other than Obligee or its heirs, executors, administrators, successors or assigns.

Executed this ____ day of _____, 201_.

(Seal)
PRINCIPAL

Title

Address

(Seal)
SURETY

Title

Address

COUNTERSIGNED:

Resident Agent

Address

END OF SECTION

EASTERN OREGON UNIVERSITY GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS

September 21, 2021

INSTRUCTIONS: The attached **Eastern Oregon University General Conditions for Public Improvement Contracts** (“**Eastern Oregon University General Conditions**”) apply to all designated Public Improvement contracts. Changes to the Eastern Oregon University General Conditions (including any additions, deletions or substitutions) should only be made by attaching Public Improvement Supplemental General Conditions. The text of these Eastern Oregon University General Conditions should not otherwise be altered.

TABLE OF SECTIONS

SECTION A - GENERAL PROVISIONS

- A.1 DEFINITION OF TERMS
- A.2 SCOPE OF WORK
- A.3 INTERPRETATION OF CONTRACT DOCUMENTS
- A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE
- A.5 INDEPENDENT CONTRACTOR STATUS
- A.6 RETIREMENT SYSTEM STATUS AND TAXES
- A.7 GOVERNMENT EMPLOYMENT STATUS

SECTION B - ADMINISTRATION OF THE CONTRACT

- B.1 OWNER'S ADMINISTRATION OF THE CONTRACT
- B.2 CONTRACTOR'S MEANS AND METHODS
- B.3 MATERIALS AND WORKMANSHIP
- B.4 PERMITS
- B.5 COMPLIANCE WITH GOVERNMENT LAWS AND REGULATIONS
- B.6 SUPERINTENDENCE
- B.7 INSPECTION
- B.8 SEVERABILITY
- B.9 ACCESS TO RECORDS
- B.10 WAIVER
- B.11 SUBCONTRACTS AND ASSIGNMENT
- B.12 SUCCESSORS IN INTEREST
- B.13 OWNER'S RIGHT TO DO WORK
- B.14 OTHER CONTRACTS
- B.15 GOVERNING LAW
- B.16 LITIGATION
- B.17 ALLOWANCES
- B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES
- B.19 SUBSTITUTIONS
- B.20 USE OF PLANS AND SPECIFICATIONS
- B.21 FUNDS AVAILABLE AND AUTHORIZED
- B.22 NO THIRD PARTY BENEFICIARIES

SECTION C - WAGES AND LABOR

- C.1 MINIMUM WAGES RATES ON PUBLIC WORKS
- C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS, ADDITIONAL RETAINAGE
- C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS
- C.4 PAYMENT FOR MEDICAL CARE
- C.5 HOURS OF LABOR

SECTION D - CHANGES IN THE WORK

- D.1 CHANGES IN THE WORK
- D.2 DELAYS
- D.3 CLAIMS REVIEW PROCESS

SECTION E - PAYMENTS

- E.1 SCHEDULE OF VALUES

- E.2 APPLICATIONS FOR PAYMENT
- E.3 PAYROLL CERTIFICATION REQUIREMENT
- E.4 DUAL PAYMENT SOURCES
- E.5 RETAINAGE
- E.6 FINAL PAYMENT

SECTION F - JOB SITE CONDITIONS

- F.1 USE OF PREMISES
- F.2 PROTECTION OF WORKERS, PROPERTY, AND THE PUBLIC
- F.3 CUTTING AND PATCHING
- F.4 CLEANING UP
- F.5 ENVIRONMENTAL CONTAMINATION
- F.6 ENVIRONMENTAL CLEAN-UP
- F.7 FORCE MAJEURE

SECTION G - INDEMNITY, BONDING AND INSURANCE

- G.1 RESPONSIBILITY FOR DAMAGES/INDEMNITY
- G.2 PERFORMANCE AND PAYMENT SECURITY, PUBLIC WORKS BOND
- G.3 INSURANCE

SECTION H - SCHEDULE OF WORK

- H.1 CONTRACT PERIOD
- H.2 SCHEDULE
- H.3 PARTIAL OCCUPANCY OR USE

SECTION I - CORRECTION OF WORK

- I.1 CORRECTIONS OF WORK BEFORE FINAL PAYMENT
- I.2 WARRANTY WORK

SECTION J - SUSPENSION AND/OR TERMINATION OF THE WORK

- J.1 OWNER'S RIGHT TO SUSPEND THE WORK
- J.2 CONTRACTOR'S RESPONSIBILITIES
- J.3 COMPENSATION FOR SUSPENSION
- J.4 OWNER'S RIGHT TO TERMINATE CONTRACT
- J.5 TERMINATION FOR CONVENIENCE
- J.6 ACTION UPON TERMINATION

SECTION K - CONTRACT CLOSE-OUT

- K.1 RECORD DOCUMENTS
- K.2 OPERATION AND MAINTENANCE MANUALS
- K.3 COMPLETION NOTICES
- K.4 TRAINING
- K.5 EXTRA MATERIALS
- K.6 ENVIRONMENTAL CLEAN-UP
- K.7 CERTIFICATE OF OCCUPANCY
- K.8 OTHER CONTRACTOR RESPONSIBILITIES
- K.9 SURVIVAL

SECTION L – LEGAL RELATIONS & RESPONSIBILITIES

- L.1 LAWS TO BE OBSERVED
- L.2 FEDERAL AGENCIES
- L.3 STATE AGENCIES
- L.4 LOCAL AGENCIES

**EASTERN OREGON UNIVERSITY
GENERAL CONDITIONS FOR PUBLIC
IMPROVEMENT CONTRACTS**

(“Eastern Oregon University General Conditions”)

**SECTION A
GENERAL PROVISIONS**

A.1 DEFINITION OF TERMS

In the Contract Documents the following terms shall be as defined below:

APPLICABLE LAWS, means federal, state and local laws, codes, rules, regulations and ordinances applicable to the Work and to the Contract.

ARCHITECT/ENGINEER, means the Person appointed by the Owner to prepare Plans and Specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

CHANGE ORDER, means a written order which, when fully executed by the Parties to this Contract, constitutes a change to the Contract Documents. Change Orders shall be issued in accordance with the changes provisions in Section D and, if applicable, establish a Contract Price or Contract Time adjustment. A Change Order shall not be effective until executed as a Change Order.

CLAIM, means a claim, dispute, controversy, request, notice, demand or other problem asserted by Contractor pursuant to Section D.3 for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these Eastern Oregon University General Conditions.

CONSTRUCTION CHANGE DIRECTIVE, means a written order by the Owner to the Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D.

CONTRACT, means the written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

CONTRACT DOCUMENTS, means the Public Improvement Contract, Eastern Oregon University General Conditions, Supplemental General Conditions if any, Plans, Specifications, Construction Change Directives, the accepted Offer, Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors.

CONTRACT PERIOD, as set forth in the Contract Documents, means the total period of time beginning with the full execution of a Contract and, if applicable, the issuance of a Notice to Proceed and concluding upon Final Completion. However, this definition of Contract Period will not establish a period of limitation or repose with respect to the enforcement any obligations either Owner or Contractor have under the Contract Documents.

CONTRACT PRICE, means the total amount payable to Contractor as adjusted in accordance with the Contract Documents.

CONTRACT TIME, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the project schedule.

CONTRACTOR, means the Person awarded the Contract for the Work contemplated.

DAYS, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents: the cost of materials, including sales tax and the cost of delivery; cost of labor which shall only include the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee) rate plus a maximum of a 10% markup on the prevailing wage (but not the fringe benefit) to cover Contractor's labor burden including but not limited to social security, Medicare, unemployment insurance, workers' compensation insurance; substantiated project cost increases for specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater) or bond premiums; rental cost of equipment, and machinery required for execution of the Work; and the additional costs of field personnel directly attributable to the Work; travel expense reimbursement only if specifically authorized and only to the extent allowable under the Eastern Oregon University Contractor Travel Reimbursement Policy, hereby incorporated by reference.

FINAL COMPLETION, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described in Section I.2, and the final payment and release of all retainage, if any, released.

FORCE MAJEURE, means an act, event or occurrence caused by fire, riot, war, acts of God, nature, sovereign, or public enemy, strikes, pandemic (except for the COVID-19 pandemic), freight embargoes or any other act, event or occurrence that is beyond the control of the party to this Contract who is asserting Force Majeure.

D/M/W/ESB/SDVBE REPORT, means an accurate report by the Contractor to the Owner identifying all disadvantaged business enterprises, minority-owned businesses, women-owned businesses, emerging small businesses, and service disabled business enterprises (D/M/W/ESB/SDVBE), as those terms are defined in ORS 200.005, or as self-reporting as otherwise meeting the same requirements of ORS 200.005, receiving contracts throughout the course of the Work. An initial D/M/W/ESB/SDVBE Report is required (see Section E.2.9) and D/M/W/ESB/SDVBE Reports are required annually (see Section E.2.9) and as a condition of final payment (see Section K.1). The initial report shall include the total number of contracts and subcontracts awarded to D/M/W/ESB/SDVBE and the dollar value of their respective contracts and subcontracts. The annual reports shall include the total number of contracts and subcontracts awarded to D/M/W/ESB/SDVBE, the dollar value of each, and the expenditure toward each contract and subcontract during the previous twelve (12) months. The final report shall include the total number of contracts and subcontracts awarded to D/M/W/ESB/SDVBE and the dollar value of their respective contracts and subcontracts including all Contracts and Change Orders incorporated during the course of the project.

NOTICE TO PROCEED, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted to Owner in a suitable form.

OFFER, means a bid in connection with Instructions to Bidders or a proposal in connection with a Request for Proposals, or Solicitation Document. May also be referenced as "Bid", "Quote", or "Proposal" based on the type of Solicitation Document

OFFEROR, means a bidder in connection with Instructions to Bidders or a proposer in connection with a Request for Proposals, or Solicitation Document. May also be referenced as "Bidder", "Quoter" or "Proposer" based on the type of Solicitation Document.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), labor rates and fringe benefits above the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee), Contractor's labor burden for fringe benefit if paid to the employee, expenses of Contractor's offices and supplies at the job site (e.g. job trailer) and at Contractor's principal place of business and including expenses of personnel staffing the job site office and Contractor's principal place of business, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means, the Eastern Oregon University an Oregon public university. Owner may elect, by written notice to Contractor, to delegate certain duties to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these Eastern Oregon University General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672 or any of their respective duties and obligation under any contracts with the Owner.

PERSON, means a natural person or entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, or any other entity possessing the legal capacity to contract.

PLANS, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

PUNCH LIST, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

RECORD DOCUMENT, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer of ownership to Owner, operational and maintenance manuals, shop drawings, Change Orders, Construction Change Directives, D/M/W/ESB/SDVBE Reports, correspondence, certificate(s) of occupancy, and other documents listed in Subsection B.9.1 of these Eastern Oregon University General Conditions, recording all Services performed.

SOLICITATION DOCUMENT, means Instructions to Bidders or Offerors or a Request for Proposal or a Request for Quotes or any other written document issued by Owner that outlines the required Specifications necessary to submit a Bid, Proposal, or other response.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the

method and manner of doing the Work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

SUBCONTRACTOR, means a Person having a direct or indirect contract with the Contractor, or another Subcontractor of any tier, to perform one or more items of the Work or supply equipment and/or materials. For the avoidance of doubt the term Subcontractor includes sub-subcontractors and sub-suppliers of materials and equipment at all tiers.

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property constituting the Work or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose without unreasonable interruption. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.3.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Substitutions also means the performance of the Work by a labor force other than what is submitted in the Offer. Approval of any substitute item shall be solely determined by the Owner. The decision of the Owner is final.

PUBLIC IMPROVEMENT SUPPLEMENTAL GENERAL CONDITIONS, means those conditions that remove from, add to, or modify these Eastern Oregon University General Conditions. Public Improvement Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

WORK, means the construction and furnishing of all materials, equipment, labor, transportation, services and incidentals necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by, and reasonably inferable from, the Contract Documents.

A.2 SCOPE OF WORK

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in, and reasonably inferable from, the Contract Documents. The Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

A.3.1 Unless otherwise specifically defined in the Contract Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following descending order of precedence:

- (a) Contract amendments, Change Orders and Construction Change Directives, with those of later date having precedence over those of an earlier date;
- (b) The Supplemental General Conditions;
- (c) Eastern Oregon University General Conditions;

- (d) The Public Improvement Contract;
- (e) Division One (General Requirements) of the Specifications;
- (f) Detailed Schedules of finishes, equipment and other items included in the Specifications;
- (g) Plans and Specifications (other than Division One and the Detailed Schedules to the Specifications);
- (h) Large-scale drawings on Plans;
- (i) Small-scale drawings on Plans;
- (j) Dimension numbers written on Plans which shall prevail and take precedence over dimensions scaled from Plans;
- (k) The Solicitation Document, and any addenda thereto.

A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Owner's interpretation in writing.

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner. Matters concerning and interpretation of requirements of the Contract Documents will be decided by the Owner, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Interpretations and decisions of the Owner (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner (or Architect/Engineer).

A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the project is occurring on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained. Contractor shall at all times be responsible for all utility locates regardless of the ownership of such utility infrastructure or service.

A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce

first quality finished Work shall be considered a part of the Contract requirements.

A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner, including without limitation, any nonconformity with Applicable Laws.

A.4.4 If the Contractor believes that adjustments to cost or Contract Time is involved because of clarifications or instructions issued by the Owner (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

A.4.5 Pursuant to ORS 352.138, the Owner, as a public university, is not subject to certain provisions of Oregon law, including certain provisions of the public contracting code. To the extent these General Conditions or other Contract Documents include certain of the provisions that are not applicable to public universities under ORS 352.138, those provisions nonetheless are part of the Contract and are enforceable against the Contractor to the extent they impose requirements or obligations on the Contractor.

A.5 INDEPENDENT CONTRACTOR STATUS

The service or services to be performed under this Contract are those of an independent contractor as defined in ORS 670.600. Contractor represents and warrants that it is not an officer, employee or agent of the Owner as those terms are used in ORS 30.265. Nothing contained in this Contract shall be deemed or construed to (1) make Contractor or any Subcontractor the agent, servant, or employee of the Owner, or (2) create any partnership, joint venture, or other association between Owner and Contractor or any Subcontractor.

A.6 RETIREMENT SYSTEM STATUS AND TAXES

Contractor represents and warrants that it is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal, state, county, and regional taxes (including but not limited to Oregon's corporate activity tax) applicable to payment received under this Contract. Contractor will not be eligible for any benefits from these Contract payments of federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual. Unless the Contractor is subject to backup withholding, Owner will not withhold from such payments any amount(s) to cover Contractor's federal or state tax obligations.

A.7 GOVERNMENT EMPLOYMENT STATUS

A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor from holding another contract with the Federal Government.

A.7.2 Contractor represents and warrants that Contractor is not an employee of the Owner or State of Oregon for purposes of performing Work under this Contract.

SECTION B
ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

- B.1.1 The Owner shall administer the Contract as described in the Contract Documents (1) during construction (2) until final payment is due and (3) during the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.
- B.1.2 The Owner will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.
- B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.
- B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

B.2 CONTRACTOR'S MEANS AND METHODS; MITIGATION OF IMPACTS

- B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.
- B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.

- B.2.3 The Contractor is responsible for the actions and omissions (including but not limited to negligent acts and omissions) of all its personnel, laborers, suppliers, and Subcontractors on the project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.
- B.2.4 Review or approval by Owner or its agents of Contractor's means, methods, techniques, procedures or submittals, or of any other aspect of Contractor's Work or services shall not relieve Contractor of its sole liability for any damages resulting from or arising out of defects or deficiencies in the Contractor's means, methods, techniques, procedures or submittals, or of any other aspect of Contractor's Work or services.

B.3 MATERIALS AND WORKMANSHIP

- B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.
- B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective or non-conforming Work shall be corrected at the Contractor's expense.
- B.3.3 Work done and materials furnished may be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.
- B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.
- B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits, licenses and fees, except for those specifically excluded in the Public Improvement Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities.

B.5 COMPLIANCE WITH GOVERNMENT LAWS AND REGULATIONS

- B.5.1 Contractor shall comply with Applicable Laws pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable:
- (i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as

amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended; (vi) all regulations and administrative rules established pursuant to the foregoing laws; and (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and

(a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.

(b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or this Contract when performing the Work.

B.5.3 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time they submit their bids to the Contractor.

B.5.4 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.

B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503) 232-1987.

B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.6 SUPERINTENDENCE

Contractor shall keep on the site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to the Owner and who shall represent the Contractor on the site. Directions given to the superintendent by the Owner shall be confirmed in writing to the Contractor.

B.7 INSPECTION

B.7.1 Owner shall have access to the Work at all times.

B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner, shall be removed and replaced at the Contractor's expense.

B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the

Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.

B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.

B.7.5 If directed to do so any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner, the uncovering and restoration will be paid for pursuant to a Change Order.

B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.

B.7.7 When the United States government participates in the cost of the Work, or the Owner has an agreement with other public or private organizations, or if any portion of the Work is being performed for a third party or in close proximity to third party facilities, representatives of these organizations shall have the right to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

B.8 SEVERABILITY

If any provision of this Contract is declared by a court or arbitrator to be unenforceable, illegal, or in conflict with any law, the validity of the remaining terms and provisions shall not be affected and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

B.9 ACCESS TO RECORDS

B.9.1 Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Change Orders, Construction Change Directives and addenda, in good order and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner access thereto.

B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or this Contract shall be subject to litigation or arbitration, Contractor shall retain all such records until all litigation or arbitration is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation or arbitration is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

B.10 WAIVER

Failure of the Owner to enforce any provision of this Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

B.11 SUBCONTRACTS AND ASSIGNMENT

- B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these Eastern Oregon University General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.
- B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.
- B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under this Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.12 SUCCESSORS IN INTEREST

The provisions of this Contract shall be binding upon and shall accrue to the benefit of the parties to the Contract and their respective permitted successors and assigns.

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor, which will include the Owner's project for the renovation of Inlow Hall. Contractor shall coordinate work with the Owner's other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way

that will minimize interference and delay for all forces involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.14 OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. The Contractor of this Contract shall fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in section B.13. The Contractor specifically acknowledges that the Owner's project to renovate Inlow Hall will occur concurrent with the Contractor's Work, and Contractor has fully taken into account the Inlow Hall renovation project in agreeing to its obligations in the Contract, including its obligations to coordinate its Work activities and schedule with the work activities and schedule of the contractor(s) performing the work on the Inlow Hall renovation project.

B.15 GOVERNING LAW

This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflict of laws.

B.16 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Union County for the State of Oregon; provided, however, (1) if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon, or (2) if jurisdiction cannot be obtained over another person or entity involved in a common issue of law or fact in dispute, then at the Owner's election the Claim may be brought in any such court where jurisdiction may be obtained over such involved person or entity.. In no event shall this section be construed as a waiver by the State of Oregon on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16. The Contractor shall ensure a provision equivalent to this Section B.16 is included in all agreements with Subcontractors.

B.17 ALLOWANCES

- B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.
- B.17.2 Unless otherwise provided in the Contract Documents:
- (a) when finally reconciled, allowances shall cover the cost of the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

- (b) Contractor's costs for unloading and handling at the site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;
- (c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (2) changes in Contractor's costs under Section B.17.2(b).
- (d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples which are described below:
- (a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any subsubcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work.
 - (b) Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
 - (c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- B.18.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the

Contract Documents may be returned by the Architect/Engineer without action.

- B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.
- B.18.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.
- B.18.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order or Construction Change Directive has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.
- B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

B.19 SUBSTITUTIONS

The Contractor may make Substitutions only with the consent of the Owner, after evaluation by the Owner and only in accordance with a Change Order or Construction Change Directive. Substitutions shall be subject to the requirements of the bid documents. By making requests for Substitutions, the Contractor represents that the Contractor has personally investigated the proposed substitute product; represents that the Contractor will provide the same warranty for the Substitution that the Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under this Contract including redesign costs, and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

B.20 USE OF PLANS AND SPECIFICATIONS

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under this Contract. Contractor and its Subcontractors and suppliers are authorized to use and reproduce applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of this Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and other reserved rights, in addition to copyrights, are retained by Owner.

B.21 FUNDS AVAILABLE AND AUTHORIZED

If Owner fails to receive funding, appropriations, allocations or other expenditure authority as contemplated by Owner's budget and Owner determines, in its assessment and ranking of the policy objectives explicit or implicit in Owner's budget, Owner may determine it is necessary to and may terminate the Public Improvement Contract.

B.22 NO THIRD PARTY BENEFICIARIES

Owner and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

SECTION C **WAGES AND LABOR**

C.1 MINIMUM WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Documents establishing those conditions, as determined by the Commissioner of the Bureau of Labor and Industries (BOLI), are included as attachments to or are incorporated by reference in the Contract Documents. Pursuant to ORS 279C.830(1)(d), Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts at all tiers. If the Work is subject to both the state prevailing wage rate law and the federal Davis Bacon Act, Contractor shall pay the higher of the applicable state or federal prevailing rate of wage. Contractor shall provide written notice to all workers of the number of hours per day and days per week such workers may be required to work.

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

- C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out

accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month. The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

- C.2.2 Pursuant to ORS 279C.845(7), the Owner shall retain 25 percent of any amount earned by the Contractor on this public works project until the Contractor has filed the certified statements required by section C.2.1. The Owner shall pay to the Contractor the amount retained under this subsection within 14 days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.

- C.2.3 Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.

- C.2.4 In accordance with statutory requirements and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

- C.3.1 Pursuant to ORS 279C.505 and as a condition precedent to Owner's performance hereunder, the Contractor shall:

- C.3.1.1 Make payment promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the Work provided for in this Contract.

- C.3.1.2 Pay all contributions or amounts due the State Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the Contract.

- C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

- C.3.1.4 Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

- C.3.1.5 Demonstrate that an employee drug testing program is in place as follows:

- (a) Contractor represents and warrants that Contractor has in place at the time of the execution of this Contract, and shall maintain during the term of this Contract, a Qualifying Employee Drug Testing Program for its employees that includes, at a minimum, the following:

- (1) A written employee drug testing policy,
 - (2) Required drug testing for all new Subject Employees or, alternatively, required testing of all Subject Employees every 12 months on a random selection basis, and
 - (3) Required testing of a Subject Employee when the Contractor has reasonable cause to believe the Subject Employee is under the influence of drugs.
- (b) A drug testing program that meets the above requirements will be deemed a "Qualifying Employee Drug Testing Program." For the purposes of this section, an employee is a "Subject Employee" only if that employee will be working on the project job site. Contractor shall require each Subcontractor providing labor for the project to:
- (1) Demonstrate to the Contractor that it has a Qualifying Employee Drug Testing Program for the Subcontractor's Subject Employees,

and represent and warrant to the Contractor that the Qualifying Employee Drug Testing Program is in place at the time of subcontract execution and will continue in full force and effect for the duration of the subcontract, or

- (2) Require that the Subcontractor's Subject Employees participate in the Contractor's Qualifying Employee Drug Testing Program for the duration of the subcontract.

C.3.2 Pursuant to ORS 279C.515, and as a condition precedent to Owner's performance hereunder, Contractor agrees:

C.3.2.1 If Contractor fails, neglects or refuses to pay promptly a person's claim for labor or services that the person provides to the Contractor or a Subcontractor in connection with the project as such claim becomes due, the proper officer that represents the Owner may pay the amount of the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Paying a claim in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to an unpaid claim.

C.3.2.2 If the Contractor or a first-tier Subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the public contract for a public improvement within thirty (30) Days after receiving payment from Owner or a contractor, the contractor or first-tier Subcontractor owes the person the amount due plus interest charges that begin at the end of the 10-Day period within which payment is due under ORS 279C.580(3) and that end upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest on the amount due is nine percent per annum. The amount of interest may not be waived.

C.3.2.3 If the Contractor or a Subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580. Every contract related to this Contract must contain a similar clause.

C.3.3 Pursuant to ORS 279C.580, Contractor shall include in each subcontract for property or services the Contractor enters into with a first-tier Subcontractor, including a material supplier, for the purpose of performing a construction contract:

(a) A payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under the subcontract within ten (10) Days out of amounts the Owner pays to the Contractor under the Contract;

(b) A clause that requires the Contractor to provide the first-tier Subcontractor with a standard form that the first-tier Subcontractor may use as an application for payment or as another method by which the Subcontractor may claim a payment due from the Contractor;

(c) A clause that requires the Contractor, except as otherwise provided in this paragraph, to use the same form and regular administrative procedures for processing payments during the entire term of the subcontract. The Contractor may change the form or the regular administrative procedures the Contractor uses for processing payments if the Contractor:

- (1) Notifies the Subcontractor in writing at least

45 days before the date on which the Contractor makes the change; and

- (2) Includes with the written notice a copy of the new or changed form or a description of the new or changed procedure.

(d) An interest penalty clause that obligates the Contractor, if the Contractor does not pay the first-tier Subcontractor within thirty (30) Days after receiving payment from Owner, to pay the first-tier Subcontractor an interest penalty on amounts due in each payment the Contractor does not make in accordance with the payment clause included in the subcontract under paragraph (a) of this subsection. Contractor or first-tier Subcontractor is not obligated to pay an interest penalty if the only reason that the Contractor or first-tier Subcontractor did not make payment when payment was due is that the Contractor or first-tier Subcontractor did not receive payment from Owner or Contractor when payment was due. The interest penalty applies to the period that begins on the day after the required payment date and that ends on the date on which the amount due is paid; and is computed at the rate specified in ORS 279C.515(2).

(e) A clause which requires each of Contractor's Subcontractors to include, in each of their contracts with lower-tier Subcontractors or suppliers, provisions to the effect that the first-tier Subcontractor shall pay its lower-tier Subcontractors and suppliers in accordance with the provisions of paragraphs (a) through (d) above and requiring each of their Subcontractors and suppliers to include such clauses in their subcontracts and supply contracts.

C.3.4 All employers, including Contractor, that employ subject workers who work under this contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements.

C.4 PAYMENT FOR MEDICAL CARE

Pursuant to ORS 279C.530, and as a condition precedent to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, 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, all sums of which the Contractor agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

C.5 HOURS OF LABOR

As a condition precedent to Owner's performance hereunder, Contractor shall comply with ORS 279C.520, as amended from time to time and incorporated herein by this reference: no person shall be employed to perform Work under this Contract for more than ten (10) hours in any one day or forty (40) hours in any one week, except in cases of necessity, emergency or where public policy absolutely requires it. In such instances, Contractor shall pay the employee at least time and a half pay:

- (a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or
- (b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and
- (c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

This section C.5 will not apply to Contractor's Work under this Contract to the extent Contractor is currently a party to a collective bargaining agreement with any labor organization.

This Section C.5 shall not excuse Contractor from completion of the Work within the time required under this Contract.

SECTION D CHANGES IN THE WORK

D.1 CHANGES IN WORK

D.1.1 The terms of this Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever, without prior written agreement and then only after any necessary approvals have been obtained. A Change Order is required, which shall not be effective until its execution by the parties to this Contract and all approvals required by public contracting laws have been obtained.

D.1.2 It is mutually agreed that changes in Plans, Specifications, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, the Owner may at any time, without notice to the sureties and without impairing the Contract, require changes consistent with this Section D.1. All changes to the Work shall be documented and Change Orders shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

- (a) Modification of specifications and design.
- (b) Increases or decreases in quantities.
- (c) Increases or decreases to the amount of Work.
- (d) Addition or elimination of any Work item.
- (e) Change in the duration of the project.
- (f) Acceleration or delay in performance of Work.
- (g) Deductive changes.

Deductive changes are those that reduce the scope of the Work, and shall be made by mutual agreement whenever feasible. In cases of suspension or partial termination under Section J, Owner reserves the right to unilaterally impose a deductive change and to self-perform such Work, for which the provisions of B.13 (Owner's Right to Do Work) shall then apply. Adjustments in compensation shall be made under the provisions of D.1.3, in which costs for deductive changes shall be based upon a Direct Costs adjustment together with the related percentage markup specified for profit, Overhead and other indirect costs, unless otherwise agreed to by Owner.

D.1.3 The Owner and Contractor agree that adjustments to or deletions from the Work shall be administered and compensated according to the following:

- (a) Unit Pricing: Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that

established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.

- (b) Fixed Fee: If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.
- (c) Time and Material: In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. The Contractor or Subcontractor who performs the Work shall be allowed to add up to ten percent (10%) markup to the Direct Costs as full compensation for profit, Overhead and other indirect costs for Work performed with the Contractor's or Subcontractor's own forces

Each ascending tier Subcontractor or the Contractor that did not perform the Work, will be allowed to add up to five percent (5%) supplemental markup on the Direct Costs of the Work (but not the above allowable markups) covered by a Change Order. No additional markup shall be permitted for any third tier or greater descending Subcontractor.

Example: \$20,000 of Direct Costs Work performed by a 2nd Tier Subcontractor

| | Markup | Allowed Total Fee Plus Markup |
|-------------------------------------|--------|-------------------------------|
| General Contractor | 5% | \$1,000.00 |
| 1 st Tier Sub Contractor | 5% | \$1,000.00 |
| 2 nd Tier Sub Contractor | 10% | \$22,000.00 |

- (d) Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs and impacts (including but not limited to the cumulative impact of other Change Orders) that were incurred by the Contractor or by other forces furnished by the Contractor, including Subcontractors, for adjustments to or deletions from the Work pursuant to a Change Order. Owner may establish a maximum cost for additional Work under this Section D.1.3, which shall not be exceeded for reimbursement without additional written authorization from Owner in the form of a Change Order. Contractor shall not be required to complete such additional Work without additional authorization.

- D.1.4 Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment.

Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of Owner's request for additional Work. If Contractor's request for additional compensation or adjustment of Contract Time is not

made within the thirty (30) Day time limit, Contractor's requests pertaining to that additional Work shall be deemed waived. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

- D.1.5 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of any other part of the Work under this Contract, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner's request for adjustments to or deletions from the Work by Contractor.

The thirty (30) Day time limit applies to claims of Subcontractors, suppliers, or manufacturers who may be affected by Owner's request for adjustments to or deletions from the Work and who request additional compensation or an extension of Contract Time to perform; Contractor has responsibility for contacting its Subcontractors, suppliers, or manufacturers within the thirty (30) Day time limit, and including their requests with Contractor's requests. If the request involves Work to be completed by Subcontractors, or materials to be furnished by suppliers or manufacturers, such requests shall be submitted to the Contractor in writing with full analysis and justification for the adjustments to compensation and Contract Time requested. The Contractor shall analyze and evaluate the merits of the requests submitted by Subcontractors, suppliers, and manufacturers to Contractor prior to including those requests and Contractor's analysis and evaluation of those requests with Contractor's requests for adjustments to compensation or Contract Time that Contractor submits to the Owner. Failure of Subcontractors, suppliers, manufacturers or others to submit their requests to Contractor for inclusion with Contractor's requests submitted to Owner within the time period and by the means described in this section shall constitute a waiver of these Subcontractor claims. The Owner will not consider direct requests or claims from Subcontractors, suppliers, manufacturers or others not a party to this Contract. The consideration of such requests and claims under this section does not give any Person, not a party to the Contract the right to bring a claim against Owner, whether in this claims process, in litigation, arbitration, or in any dispute resolution process.

If the Owner denies the Contractor's request for adjustment to compensation or Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

- D.1.6 No request or Claim by the Contractor for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of final payment application under this Contract. Final payment application must be made by Contractor within the time required under Section E.6.4.

- D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at the time of execution of the Contract. The Contractor is notified that numerous changes may

be required and that there will be no compensation made, unless and only to the extent otherwise provided in the Contract Documents, to the Contractor directly or indirectly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.1.8 Owner may at any time and at its discretion issue a construction change directive adding to, modifying or reducing the scope of Work. Contractor and Owner shall negotiate the need for any additional compensation or additional Contract Time related to the change, subject to the procedures for submitting requests or Claims for additional compensation or additional Contract Time established in this Section D. Unless otherwise directed by Owner, Contractor shall proceed with the Work while any request or Claim is pending, including but not limited to, a request or Claim for additional compensation or additional Contract Time resulting from Work under a Change Order or Construction Change Directive. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease Work without a written stop work order from the Owner.

D.2 DELAYS

D.2.1 Delays in construction include "Avoidable Delays", which are defined in Section D.2.1.1, and "Unavoidable Delays", which are defined in Section D.2.1.2. The effect of Avoidable Delays is described in Section D.2.2 and the effect of Unavoidable Delays is described in Section D.2.3.

D.2.1.1 Avoidable Delays include any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that:

- (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors; or
- (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work nor the completion of the whole Work within the Contract Time; or
- (c) Do not impact activities on the accepted critical path schedule; or
- (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

D.2.1.2 Unavoidable Delays include delays other than Avoidable Delays that are:

- (a) Caused by any actions of the Owner, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.
- (b) Caused by any site conditions which differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor shall notify the Owner immediately of differing site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether or not the conditions

differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the Owner agrees that a differing site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.1.5 for adjustments to or deletions from Work. If the Owner disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

- (c) Caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
- (d) To the extent caused by adverse weather conditions not reasonably anticipatable. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been reasonably anticipated by the Contractor, and adversely impacted the project in a manner that could not be avoided by rescheduling the Work or by implementing measures to protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated:

- (i) Daily rainfall equal to, or greater than, 0.50 inch during a month when the monthly rainfall exceeds the normal monthly average by twenty-five percent (25%) or more.
- (ii) daily rainfall equal to, or greater than, 0.75 inch at any time.

The Office of the Environmental Data Service of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce nearest the project site shall be considered the official agency of record for weather information.

D.2.2 Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.2.3 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:

- (a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).
- (b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under

Section D.2.1.2 (b), Contractor shall submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

If Contractor does not timely submit the notices required under this Section D.2, then unless otherwise prohibited by law, Contractor's Claim shall be barred.

D.3 CLAIMS REVIEW PROCESS

- D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these Eastern Oregon University General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim by Contractor is made in accordance with the time and procedural requirements in these General Conditions, it shall be deemed waived.
- D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.
- D.3.3 The Owner will review all Claims and may take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.
- D.3.4 The Owner's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15)

Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

- D.3.5 The decision of the Owner shall be final and binding unless the Contractor delivers to the Owner its request for mediation, which shall be a non-binding process, within fifteen (15) Days of the date of the Owner's decision. The mediation process will be considered to have commenced as of the date the Contractor delivers the request. Both parties acknowledge and agree that participation in mediation is a prerequisite to commencement of litigation of any disputes relating to the Contract. Both parties further agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the commencement of the mediation through the mediation process set forth herein.

In the event that a lawsuit must be filed within this sixty (60) Day period in order to preserve a cause of action, the parties agree that, notwithstanding the filing, they shall proceed diligently with the mediation to its conclusion prior to actively prosecuting the lawsuit, and shall seek from the Court in which the lawsuit is pending such stays or extensions, including the filing of an answer, as may be necessary to facilitate the mediation process. Further, in the event settlements are reached on any issues through mediation, the plaintiff shall promptly cause to be entered by the Court a stipulated general judgment of dismissal with prejudice, or other appropriate order limiting the scope of litigation as provided in the settlement.

- D.3.6 Should the parties arrive at an impasse regarding any Claims or disputed Claims, it is agreed that the parties shall participate in mediation as specified in Section D.3.5. The mediation process will be considered to have been commenced as of the date one party delivers to the other its request in writing to mediate. The mediator shall be an individual mutually acceptable to both parties, but in the absence of agreement each party shall select a temporary mediator and the temporary mediators shall jointly select the permanent mediator. Each party shall pay its own costs for the time and effort involved in mediation. The cost of the mediator shall be split equally between the two parties. Both parties agree to exercise their best effort in good faith to resolve all disputes in mediation. Participation in mediation is a mandatory requirement of both the Owner and the Contractor. The schedule, time and place for mediation will be mutually acceptable, or, failing mutual agreement, shall be as established by the mediator. The parties agree to comply with Owner's administrative rules governing the confidentiality of mediation, if any, and shall execute all necessary documents to give effect to such confidentiality rules. In any event, the parties shall not subpoena the mediator or otherwise require the mediator to produce records, notes or work product, or to testify in any future proceedings as to information disclosed or representations made in the course of mediation, except to the extent disclosure is required by law.

- D.3.7 Unless otherwise directed by Owner, Contractor shall proceed with the Work while any Claim, or mediation or litigation arising from a Claim, is pending. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease or Delay Work, in whole or in part, without a written stop work order from the Owner.

D.3.8 Should any suit, action or arbitration be commenced in connection with any dispute arising out of this Contract, the prevailing party shall be entitled to recover its costs and disbursements, investigation costs and fees, expert witness costs and fees, and attorney costs and fees, as the court or arbitrator may adjudge reasonable, incurred in connection with such dispute before trial or arbitration, at trial or arbitration, upon any motion for reconsideration, upon any appeal or petition for review, and upon any collection efforts or proceedings.

SECTION E **PAYMENTS**

E.1 SCHEDULE OF VALUES

The Contractor shall submit, by or before the pre-construction conference, a schedule of values ("Schedule of Values") for the contracted Work. This schedule shall provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown shall demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by the Owner, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner, Contractor shall revise the schedule of values and resubmit the same for approval of Owner.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses, in accordance with the requirements of this Section E.2. Applications for payment shall be based upon estimates of Work completed and the Schedule of Values. As a condition precedent to Owner's obligation to pay, all applications for payment shall be approved by the Owner. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest for overdue invoices at the rate of two thirds of one percent per month on the progress payment, not including retainage, due the Contractor. Overdue invoices will be those that have not been paid within fourteen (14) days from the date of the receipt of the accurate invoice.

Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within ten (10) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute.

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

Owner, upon written notice to the Contractor, may elect to make payments to the Contractor only by means of Electronic Funds Transfers (EFT) through Automated Clearing House (ACH) payments. If Owner makes this election, the Contractor shall arrange for receipt of the EFT/ACH payments.

E.2.2 Contractor shall submit to the Owner an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Contractor shall include in its application for payment a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the

face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and the payment therefore, has not been received.

Signed: _____
Dated: _____"

E.2.3 Generally, applications for payment will be accepted only for materials that have been installed. Under special conditions, applications for payment for stored materials will be accepted at Owner's sole discretion. Such a payment, if made, will be subject to the following conditions:

- (a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.
- (b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.
- (c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.
- (d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.
- (e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the project site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.
- (f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material and/or equipment stored and of payment for the storage site.
- (g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under this Contract for the rejection of the Work or materials and/or equipment that are defective or not in conformance with the Contract Documents.
- (h) All required documentation shall be submitted with the respective application for payment.

E.2.4 The Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:

- (a) Work that is defective or non-conforming and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents,
- (b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;

- (c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.1);
- (d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
- (e) damage to the Work, Owner or another contractor;
- (f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- (g) failure to carry out the Work in accordance with the Contract Documents; or
- (h) assessment of liquidated damages, when withholding is made for offset purposes.

E.2.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- (a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by a payment until the Contract Price has been adjusted by a Change Order;
- (b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;
- (c) Subtract the aggregate of previous payments made by the Owner; and
- (d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

E.2.6 Contractor's applications for payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.

E.2.7 The Contractor warrants to Owner that title to all Work covered by an application for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an application for payment all Work for which payments are received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided financing, labor, materials and equipment relating to the Work.

E.2.8 If Contractor disputes any determination by Owner with regard to any application for payment, Contractor nevertheless shall continue to expeditiously perform the Work. No payment made hereunder

shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

E.2.9 Contractor shall submit its initial D/M/W/ESB/SDVBE Report within ten (10) Days of Contractor's execution of the Contract, or if there will be a Guaranteed Maximum Price (GMP) Amendment, then within ten (10) Days of Contractor's execution of the GMP Amendment. Contractor shall submit annual D/M/W/ESB/SDVBE Reports on June 30 of each year the Contract is active. Contracts (or GMP Amendments) first executed by Contractor within ninety (90) Days before June 30 of the year of execution by Contractor may at the discretion of Owner be exempt from submitting the annual D/M/W/ESB/SDVBE Report otherwise due on that June 30. The final D/M/W/ESB/SDVBE Report shall be filed with the application for final payment. Timely receipt of D/M/W/ESB/SDVBE Reports by Owner shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

E.3 PAYROLL CERTIFICATION REQUIREMENT

Owner's receipt of payroll certification pursuant to Section C.2 of this Contract shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

E.4 DUAL PAYMENT SOURCES

Contractor shall not be compensated for Work performed under this Contract from any state agency other than the agency that is a party to this Contract.

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in OAR 580-063-0045, or the applicable Eastern Oregon University standard.

E.5.1.1 Owner may reserve as retainage from any progress payment an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of retainage on or may eliminate retainage on any remaining monthly Contract payments after 50 percent of the Work under the Contract is completed if, in the Owner's discretion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is 97-1/2 percent completed the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to 100 percent of the value of the Work remaining to be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 If the Contract Price exceeds \$500,000, the Owner shall place amounts withheld as retainage into an interest-bearing escrow account pursuant to ORS 701.420(2)(b).

E. 5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the final payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of one percent per month on the final payment due Contractor, interest to commence thirty (30) Days after the date which Owner receives Contractor's final approved application for payment and Work under the Contract has been completed and accepted and to run until the date when final payment is tendered to Contractor. The Contractor shall notify Owner in writing when the

Contractor considers the Work complete and deliver to Owner its final application for payment and Owner shall, within fifteen (15) Days after receiving the written notice and the application for payment, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run thirty (30) Days after the end of the 15 Day period.

E.5.1.4

E.5.1.5 Contractor agrees that if Contractor elects to reserve a retainage from any progress payment due to any Subcontractor or supplier, such retainage shall not exceed five percent of the payment, and such retainage withheld from Subcontractors and suppliers shall be subject to the same terms and conditions stated in Subsection E.5 as apply to Owner's retainage from any progress payment due to Contractor.

E.5.2 As provided in subsections C.2.2 and C.2.3, additional retainage in the amount of 25% of amounts earned shall be withheld and released in accordance with ORS 279C.845(7) when the Contractor fails to file certified statements as required by section C.2.1.

E.6 FINAL PAYMENT

E.6.1 Upon completion of all the Work under this Contract, the Contractor shall notify the Owner, in writing, that Contractor has completed Contractor's obligations under the Contract and shall prepare its application requesting final payment. Upon receipt of such notice and application for payment, the Owner will inspect the Work, and, if acceptable, submit to Contractor a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for final payment. Upon approval of this final application for payment by the Owner and compliance by the Contractor with provisions in Section K, and Contractor's satisfaction of other provisions of the Contract Documents as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.

E.6.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days* prior written notice has been given to the Owner, (2) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (3) consent of surety, if any, to final payment and (4), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees. References to liens and lien waivers in these General Conditions shall not be construed as Owner's concession that such liens are valid under Oregon law.

E.6.3 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.

E.6.4 Contractor agrees to submit its final payment application within ninety (90) Days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay final payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to this Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its final payment application within ninety (90) Days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be waived.

SECTION F
JOB SITE CONDITIONS

F.1 USE OF PREMISES

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, Applicable Laws, permits or directions of the Owner. Contractor shall follow the Owner's instructions regarding use of premises, if any.

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage and shall protect the Owner, workers and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to the Owner any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the job site or otherwise engaged in the undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Work site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Work site safety. Work site safety shall be the responsibility of the Contractor.

F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall, immediately and in writing, report to

the Owner, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.

- F.2.4 Contractor shall be responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, vehicles and materials on the site.
- F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials shall be conducted so no release will occur that may pollute or become hazardous.
- F.2.6 In an emergency affecting the safety of life or limb or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.
- F.2.7 Contractor shall comply with all Owner safety rules and regulations. Prior to commencement of any Work, Contractor shall be required to complete an Owner Contractor Safety Orientation and submit all Owner required safety plans.

F.3 CUTTING AND PATCHING

- F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.
- F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

From time to time as may be prudent or ordered by the Owner and, in any event, immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four hours after notification by the Owner the work may be done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

F.5 ENVIRONMENTAL CONTAMINATION

- F.5.1. To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel of Owner's choice), reimburse and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, (including attorney fees), or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Work or Contractor's obligations under the Contract to the extent caused by the negligence or other actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this section F.5.1 shall limit Contractor's responsibility for obtaining insurance coverages required under Section G.3 of this Contract, and Contractor shall take no action that would void or impair such coverages.

- F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and regulatory agencies having jurisdiction in a manner that complies with Applicable Laws. Cleanup shall be at no cost to the Owner and shall be performed by properly qualified and, if applicable, licensed personnel.
- F.5.1.2 Contractor shall obtain the Owner's written consent prior to bringing onto the Work site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any Applicable Laws. Notwithstanding such written consent from the Owner, the Contractor, at all times, shall:
- (a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials brought onto the Work site, in accordance with all Applicable Laws;
 - (b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Work site; and
 - (c) promptly clean up and remediate, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all Applicable Laws.
- F.5.2 Contractor shall report all reportable quantity releases, as such releases are defined in Applicable Laws, including but not limited to 40 CFR Part 302, Table 302.4 and in OAR 340-142-0050, to applicable federal, state, and local regulatory and emergency response agencies. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to the Owner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:
- (a) Description of items released (identity, quantity, manifest numbers, and any and all other documentation required by law.)
 - (b) Whether amount of items released is EPA/DEQ reportable, and, if so, when reported.
 - (c) Exact time and location of release, including a description of the area involved.
 - (d) Containment procedures initiated.
 - (e) Summary of communications about the release between Contractor and members of the press or State, local or federal officials other than Owner.
 - (f) Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.
 - (g) Personal injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

- F.6.1 Unless disposition of environmental pollution is specifically a part of this Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor

discovers or encounters during performance of the Work required by this Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl (PCB), or petroleum, and any substances, materials or wastes regulated by 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or wellbeing of Contractor's or any Subcontractor's work force, property or the environment.

- F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the project site, Owner shall arrange for the proper disposition of such hazardous substance(s).

F.7 FORCE MAJEURE

A party to this Contract shall not be held responsible for delay or default due to Force Majeure acts, events or occurrences unless they could have been avoided by the exercise of reasonable care, prudence, foresight, and diligence by that party. The Owner may terminate this Contract upon written notice after determining that delay or default caused by Force Majeure acts, events or occurrences will reasonably prevent successful performance of the Contract.

SECTION G **INDEMNITY, BONDING, AND INSURANCE**

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

- G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay to the extent caused by, or result from, the carrying out of the Work to be done under this Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, employees, guests, visitors, invitees and agents.

- G.1.2 To the fullest extent permitted by law, the Contractor shall indemnify, hold harmless, reimburse and defend (with counsel approved by Owner) the Owner and Owner's agents, employees, officers and directors from, for, and against suits, actions, awards, penalties, liabilities, claims, damages, losses and expenses, whether actual or merely alleged and whether directly incurred or from a third party, including but not limited to attorneys' and expert witnesses' fees, and related costs, disbursements, and expenses, arising out of or resulting from performance of the Work including, but not limited to, any such suit, action award, penalty, liability, claim, damage, loss, or expense attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, but only to the extent caused by the negligence, breach of contract, or other wrongful acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they are responsible, or by failure of any such person or entity to perform as required by this Agreement.

- G.1.3 To the fullest extent permitted by law, in claims against any person or entity indemnified under Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for

the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

- G.2.1 When the Contract Price is \$100,000 or more (or \$50,000 or more in the case of Contracts for highways, bridges and other transportation projects), the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

- G.2.2 Bond forms furnished by the Owner and notarized by awarded Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

- G.2.3 Before execution of the Contract the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2005, Chapter 360, and OAR 839-025-0015, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

G.3 INSURANCE

- G.3.1 Contractor shall comply and shall require Subcontractors to comply with the Insurance Requirements in Exhibit A.

SECTION H **SCHEDULE OF WORK**

H.1 CONTRACT PERIOD

- H.1.1 Time is of the essence of the Contractor's performance under the Contract. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein. If required by the Contract Documents, Contractor shall commence Work on the site within fifteen (15) Days of Notice to Proceed, unless directed otherwise.

- H.1.2 Unless specifically extended by a Change Order, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2 (f) and shall be subject to the provisions of Section D.1.

- H.1.3 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 SCHEDULE

- H.2.1 Contractor shall provide, by or before the pre-construction conference, the initial as-planned schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by project components, labor trades, and long lead items

broken down by building and/or floor where applicable. If Owner shall so elect, Contractor shall provide the schedule in CPM format showing the graphical network of planned activities, including i) a reasonably detailed list of all activities required to complete the Work; ii) the time and duration that each activity will take to completion; and iii) the dependencies between the activities. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. The schedule shall include the following: Notice to Proceed or the date the Work commences, if no Notice to Proceed is issued by Owner, Substantial Completion, and Final Completion. Schedules shall be updated monthly, unless otherwise required by the Contract Documents, and submitted with the monthly application for payment. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.2.2 All Work shall be completed during normal weekdays (Monday through Friday) between the hours of 7:00 a.m. and 5:00 p.m. unless otherwise specified in the Contract Documents. Unless otherwise specified in the Contract Documents, no Work shall be performed during the following holidays:

- New Year's Day
- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Veterans Day
- Thanksgiving Day
- Christmas Day

When a holiday falls on a Sunday, the following Monday shall be recognized as a legal holiday. When a holiday falls on Saturday, the preceding Friday shall be recognized as a legal holiday.

H.3 PARTIAL OCCUPANCY OR USE

H.3.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, insurance or self-insurance, maintenance, heat, utilities, and damage to the Work, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents with respect to such portion of the Work. Approval by the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective or non-conforming. Contractor shall promptly remove from the premises and replace all defective or non-conforming materials and equipment as determined by the Owner, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective or non-conforming (Punch List) work. At the end of the thirty-day period, or earlier if requested by the Contractor, Owner shall arrange for inspection of the Work by the Architect/Engineer. Should the work not be complete, and all corrections made, the costs for all subsequent reinspections shall be borne by the Contractor. If Contractor fails to complete the Punch List work within the thirty (30) Day period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for defective or non-conforming Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner. The Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such corrective work within a reasonable time after Owner's demand. If Contractor fails to complete the corrective work within such period as Owner determines reasonable, or at any time in the event of corrective work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand, without affecting Contractor's obligations. The Contractor shall perform the warranty Work by correcting defects within twenty-four (24) hours of notification by Owner, unless otherwise specified in the Contract Documents. Should the Contractor fail to respond within the specified response time, the Owner may, at its option, complete the necessary repairs using another contractor or its own forces. If Owner completes the repairs using Owner's own forces, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's forces, plus related overhead and any direct non-salary costs. If Owner completes the repairs using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the work, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's forces who are required to monitor that contractor's work. Work performed by Owner using Owner's own forces or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions.

I.2.2 Nothing in this Section I.2 provision shall limit or negate Contractor's obligation to perform the Work in accordance with the Contract Documents (or time limitations for Owner's enforcement of those obligations), guarantees or warranties for periods longer than one year including without limitation, such guarantees or warranties required by other sections of the Contract Documents

for specific installations, materials, processes, equipment or fixtures.

- I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until such portion of the Work covered by the applicable warranty has been accepted in writing by the Owner.
- I.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.
- I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation or repose with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.
- I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

SECTION J

SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

- J.1.1 The Owner has the authority to suspend portions or all of the Work due to the following causes:
- (a) Failure of the Contractor to correct unsafe conditions;
 - (b) Failure of the Contractor to carry out any provision of the Contract;
 - (c) Failure of the Contractor to carry out orders;
 - (d) Conditions, in the opinion of the Owner, which are unsuitable for performing the Work;
 - (e) Time required to investigate differing site conditions;
 - (f) Any reason considered to be in the public interest.
- J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension, and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.2 CONTRACTOR'S RESPONSIBILITIES

- J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.
- J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the Work in every respect as though its prosecution had been continuous and without suspension.

J.3 COMPENSATION FOR SUSPENSION

- J.3.1 Depending on the reason for suspension of the Work, the Contractor or the Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, the Owner may assess the Contractor actual costs of the suspension in terms of administration, remedial work by the Owner's forces or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension. If the suspension was caused by acts or omissions of the Owner, the Contractor may be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of the Contractor or the Owner, neither party shall owe the other for the impact.

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

- J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:
- (a) If Contractor should, voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;
 - (b) If Contractor should make a general assignment for the benefit of Contractor's creditors;
 - (c) If a receiver should be appointed on account of Contractor's insolvency;
 - (d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;
 - (e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner; or
 - (f) If Contractor is otherwise in breach of any part of the Contract.
 - (g) If Contractor is in violation of Applicable Laws, either in the conduct of its business or in its performance of the Work.

- J.4.2 At any time that any of the above occurs, Owner may exercise all rights and remedies available to Owner at law or in equity, and, in addition, Owner may take possession of the premises and of all materials and appliances and finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive further payment until the Work is completed. If

the Owner's cost of finishing the Work exceeds the unpaid balance of the Contract Price, Contractor shall pay the difference to the Owner.

J.5 TERMINATION FOR CONVENIENCE

- J.5.1 Owner may terminate the Contract for Owner's convenience in whole or in part whenever Owner determines, in the Owner's sole discretion, that termination of the Contract is in the best interest of Owner and/or the public.
- J.5.2 The Owner shall provide the Contractor with seven (7) Days prior written notice of a termination for Owner's convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination.

J.6 ACTION UPON TERMINATION

- J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.
- J.6.2 As directed by the Owner, Contractor shall, upon termination, transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.
- J.6.3 Upon Owner's notice of termination pursuant to either Section J.4 or J.5, if Owner shall so elect, Contractor shall assign to the Owner such subcontracts and orders as Owner shall specify. In the event Owner elects to take assignment of any such subcontract or order, Contractor shall take such action and shall execute such documents as Owner shall reasonably require for the effectiveness of such assignment and Contractor shall ensure that no contractual arrangement between it and its subcontractors or suppliers of any tier or sub-tier shall prevent such assignment.

SECTION K **CONTRACT CLOSE OUT**

K.1 RECORD DOCUMENTS

As a condition of final payment (refer also to section E.6), Contractor shall comply with the following: Contractor shall provide Record Documents for the entire project to Owner. Record Documents shall depict the project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to the Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed, and accurate D/M/W/ESB/SDVBE Reports.

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner prior to submission of any pay request for more than 75% of the Work. Owner's receipt of the O & M Manuals shall be a condition precedent to

any payment thereafter due. The O & M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, telephone list and contact information for all consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner shall review and return one O & M Manual for any modifications or adjustments required. Prior to submission of its final pay request, Contractor shall deliver two (2) complete and approved sets of O & M Manuals in paper form and one (1) complete and approved set in electronic form to the Owner and Owner's receipt of the O & M Manuals shall be a condition precedent to Owner's obligation to make final payment.

K.3 COMPLETION NOTICES

- K.3.1 Contractor shall provide Owner written notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Both completion notices must be signed and notarized by the Contractor and signed by the Architect/Engineer (if applicable) and Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.
- K.3.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a Punch List be prepared by the Owner with submission of the request for the Substantial Completion notice.

K.4 TRAINING

As part of the Work, and prior to submission of the final application for payment, the Contractor shall schedule with the Owner training sessions for all equipment and systems as required by the Contract Documents. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner to provide its personnel with adequate notice. The O & M Manual shall be used as a basis for training. In addition to any off-site training required by the Contract Documents, training shall include a formal session conducted at the Work site after the equipment and/or system is completely installed and operational in its normal operating environment.

K.5 EXTRA MATERIALS

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the Contract Documents prior to final payment. Delivery point for extra materials shall be designated by the Owner.

K.6 ENVIRONMENTAL CLEAN-UP

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental and pollution clean-up, remediation and closure have been completed in accordance with all Applicable Laws and pursuant to the authority of all agencies having

jurisdiction, and Contractor shall provide Owner with any and all documentation related to the same, including but not limited to directives, orders, letters, certificates and permits related to or arising from such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above. Contractor's completion of its obligations under this Section K.6 and Owner's receipt of documents evidencing such completion shall be a condition precedent to Owner's obligation to make final payment.

K.7 CERTIFICATE OF OCCUPANCY

Owner's receipt of an unconditioned certificate of occupancy from the appropriate state and/or local building officials shall be a condition precedent to Owner's obligation to make final payment, except to the extent failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

K.8 OTHER CONTRACTOR RESPONSIBILITIES

The Contractor shall be responsible for returning to the Owner all property of Owner issued to Contractor during construction such as keys, security passes, site admittance badges, and all other pertinent items. Upon notice from Owner, Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from the Contractor to the Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if the Owner does not take beneficial use of the facility and the Contractor's forces continue with the Work.

The Owner's property is tobacco free, drug free, and weapons free areas. Contractor shall be required to ensure that its employees, Subcontractors and agents shall comply with the Owner Drug, Tobacco and Weapon Free Campus policies, hereby incorporated by reference.

K.9 SURVIVAL

Without limiting the survivability of any other provision of the Contract, that by its nature survives termination, all corrective obligations, warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.



Stewardship
through Design.



EASTERN OREGON UNIVERSITY

**INLOW HALL - GENERATOR DESIGN
LA GRANDE, OR 97850**

PERMIT SET

FEBRUARY 13, 2024

ELECTRICAL ENGINEER OF RECORD

Fluent Engineering, Inc.
2110 State Street
Salem, OR 97301
(503) 447-5030
Matthew J. Cash, PE



EXPIRES: 12/31/2025

**THE FOLLOWING SPECIFICATION SECTIONS HAVE BEEN PREPARED BY
MATTHEW CASH, PE:**

DIVISION 1 – GENERAL REQUIREMENTS

- 01 20 00 BASE BID & ALTERNATE BIDS
- 01 56 50 PROJECT SECURITY
- 01 63 00 PRODUCT SUBSTITUTIONS
- 01 63 10 SUBSTITUTION REQUEST
- 01 74 00 CLEANING & TRASH REMOVAL

OTHER DIVISION 1 SECTIONS ARE NOT BY EOR, AND/OR BY OWNER.

DIVISION 2- EXISTING CONDITIONS

- 02 31 51 UTILITY TRENCHING

DIVISION 26 - ELECTRICAL

- 26 00 01 GENERAL ELECTRICAL PROVISIONS
- 26 00 26 SUBMITTALS AND SHOP DRAWINGS
- 26 05 13 MEDIUM VOLTAGE CABLE
- 26 05 19 BUILDING WIRE AND CABLES
- 26 05 26 GROUNDING
- 26 05 29 SUPPORTING DEVICES
- 26 05 33 RACEWAY AND FITTINGS
- 26 05 33.16 OUTLET JUNCTION AND PULL BOXES
- 26 05 53 ELECTRICAL IDENTIFICATION
- 26 05 83 WIRE CONNECTIONS
- 26 12 00 OIL FILLED PAD MOUNT TRANSFORMERS
- 26 13 10 MEDIUM VOLTAGE OUTDOOR PAD MOUNT SWITCHGEAR
- 26 32 00 GENERATOR POWER SYSTEM

MECHANICAL/PLUMBING ENGINEER OF RECORD

Fluent Engineering, Inc.
2110 State Street
Salem, OR 97301
(503) 447-5030
Jeremy Wenger, PE, MBA

**THE FOLLOWING SPECIFICATION SECTIONS HAVE BEEN PREPARED BY
JEREMY WENGER, PE, MBA:**

DIVISION 22 – PLUMBING
22 63 23 NATURAL GAS PIPING



EXPIRES: 06/30/2024

PROJECT

EOU Inlow Hall – Generator Design

Project Site

Eastern Oregon University
One University Blvd.
La Grande, OR 97850

Administrative Office

Eastern Oregon University
One University Blvd.
La Grande, OR 97850

OWNER’S PROJECT MANAGER

John Garlitz, PE
Director of Facilities & Planning
Eastern Oregon University
Phone: (541) 962-3114
E-mail: jgarlitz@eou.edu

ENGINEER OF RECORD

Fluent Engineering, Inc.
2110 State Street
Salem, OR 97301
Phone: (503) 447-5030
Electrical Proj. Eng.: Matthew J. Cash, PE
Mechanical/Plumbing Proj. Eng.: Jeremy Wenger, PE, MBA

DIVISION 0 – By Owner

DIVISION 1 – GENERAL REQUIREMENTS

| | |
|----------|--|
| 01 10 00 | SUMMARY |
| 01 20 00 | BASE BID & ALTERNATE BIDS |
| 01 20 01 | PRICE AND PAYMENT PROCEDURES |
| 01 30 00 | ADMINISTRATIVE REQUIREMENTS |
| 01 31 13 | PROJECT COORDINATION |
| 01 32 00 | CONSTRUCTION PROGRESS SCHEDULES |
| 01 45 00 | CONTRACTOR QUALITY CONTROL |
| 01 45 30 | TESTING LABORATORY SERVICES |
| 01 50 00 | TEMPORARY FACILITIES AND CONTROLS |
| 01 56 50 | PROJECT SECURITY |
| 01 63 00 | PRODUCT SUBSTITUTIONS |
| 01 63 10 | SUBSTITUTION REQUEST |
| 01 70 00 | CONTRACT CLOSEOUT |
| 01 74 00 | CLEANING & TRASH REMOVAL |
| 01 74 19 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL |
| 01 78 00 | CLOSEOUT SUBMITTALS |
| 01 79 00 | DEMONSTRATION AND TRAINING |

DIVISION 2 – EXISTING CONDITIONS

02 31 51 UTILITY TRENCHING

DIVISION 22 – PLUMBING

22 63 23 NATURAL GAS PIPING

DIVISION 26 – ELECTRICAL

26 00 01 GENERAL ELECTRICAL PROVISIONS

26 00 26 SUBMITTALS AND SHOP DRAWINGS

26 05 13 MEDIUM VOLTAGE CABLE

26 05 19 BUILDING WIRE AND CABLES

26 05 26 GROUNDING

26 05 29 SUPPORTING DEVICES

26 05 33 RACEWAY AND FITTINGS

26 05 33.16 OUTLET JUNCTION AND PULL BOXES

26 05 53 ELECTRICAL IDENTIFICATION

26 05 83 WIRE CONNECTIONS

26 12 00 OIL FILLED PAD MOUNT TRANSFORMERS

26 13 10 MEDIUM VOLTAGE OUTDOOR PAD MOUNT SWITCHGEAR

26 32 00 GENERATOR POWER SYSTEM

01 1000 SUMMARY

PART 1 GENERAL

1.1 REQUIREMENTS

- A. The term "Architect" and the like utilized herein shall be synonymous with the term "Engineer" and the like utilized herein. Project developed by Engineer (Engineer of Record- EOR), and does not represent that an Architect, or the practice of architecture is included.
- B. Owner Occupancy
 - 1. Cooperate with Eastern Oregon University to minimize conflict and to facilitate Eastern Oregon University's operations.
 - 2. Schedule the Work to accommodate Eastern Oregon University use of the site and facilities.
- C. Contractor Use of Site and Premises – Includes building interiors during renovations and remodels:
 - 1. Arrange use of site and premises to allow:
 - a. Work by Others.
 - b. Work by Eastern Oregon University.
 - c. Use of Eastern Oregon University campus pathways and facilities by public.
 - 2. Provide access to and from site as required by law and by Eastern Oregon University:
 - a. Do not obstruct roadways, sidewalks, or other public ways without permit.
 - b. Do not obstruct building corridors or other areas of the project in use by Eastern Oregon University.
 - c. Limit parking and staging areas to areas designated by Eastern Oregon University.
 - 3. Time Restrictions:
 - a. In compliance with the City of La Grande Ordinance #3241, Section 12.5 Noise Disturbances: Limit exterior work between the hours of 7:00am and 9:30pm, except by special permit granted by the La Grande Chief of Police.
 - b. Limits to interior work to be determined on a per project basis.
 - 4. Utility Outages and Shutdown:
 - a. Limit disruption of utility services to hours the site is unoccupied or as approved by Eastern Oregon University.
 - b. Do not disrupt or shut down life safety systems and utilities, which may impact the campus or other facilities, including but not limited to electrical service, plumbing service, network service, fire sprinklers and fire alarm system, without 7 days notice to Eastern Oregon University and authorities having jurisdiction.
 - 5. Prevent accidental disruption of utility services to other facilities.
- D. Overtime Work
 - 1. To permit arrangements for inspections, the Contractor shall notify the Owner's Representative at least 48 hours in advance of any overtime work, including nights, weekends, and holidays. Do no overtime work without obtaining approval by the Owner's Representative.
 - 2. The Contractor shall reimburse the Architect and Owner for any expenses incurred by them because of Contractor's overtime work.

E. Work in Public Right of Way

1. The Contractor shall obtain any required Right-of-Way Work Permits, pay Permit Fees, and comply with governing Regulatory Agency requirements, including providing any additional Insurance required by Public Authority.

F. Protecting Existing Utilities

1. Drawings indicate approximate location of any known, concealed Utility Lines. Before starting work, Contractor shall determine exact location of any of these Lines that could be damaged by Contract Work.
2. Contractor shall assume that other unknown Utility Lines do exist, and Contractor shall proceed with caution when working in areas that could conceal unknown Utilities. If such Utility Lines are encountered, immediately request disposition instructions from Architect and Owner's Representative.
3. If Utility Lines are damaged, remove, repair, or replace Lines as directed. Additional compensation and/or extensions of time, if any, caused by removing, repairing, or replacing Lines will be determined in accordance with General Conditions.

G. Correction Period for Non-Complying Work

1. Contractor's response to notice of Work to be Corrected shall be accomplished during the following time periods:
 - a. Emergency Work:
 1. Failures or deficiencies constituting immediate danger or health hazard to People or likely damage to Property.
 2. Response Time: 24 hours per day 7 days per week.
 - b. Urgent Work:
 1. Failures or deficiencies which do not immediately endanger Persons or Property, but would soon do so if not corrected.
 2. Response Time: Between 7AM and 4PM on Mondays through Fridays and within 3 calendar days following receipt of Notice.
 - c. Routine Work:
 1. Failures or deficiencies of less importance that do not meet criteria of Emergency or Urgent work.
 2. Response Time: Between 7AM and 4PM on Mondays through Fridays and within 5 calendar days following receipt of Notice.

SECTION 01 20 00
BASE BID & ALTERNATE BIDS

• **RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS**

- Submission & Acceptance of Bids: Division 00
- Owner-Contractor Agreement Form: Division 00

• **BASE BID**

- Includes all Work shown on Drawings or included in Specifications, excepting only that Work noted in the following Alternate Bids, and that Work specifically noted as excepted.

• **ALTERNATE BIDS**

- The following Alternate Bids are each identified by number and each describes basic changes to be incorporated into the Work, only when that Alternate is made part of the Work by specific provision in the Owner-Contractor Agreement.
- Referenced Specification Sections stipulate pertinent requirements for Products and methods to achieve the Work stipulated in the Alternate.
- Coordinate related Work and modify surrounding Work as required to integrate the Work of the Alternate, and to provide complete construction required by Contract Documents.

• **Alternate Bid No. 1:**

- Refer to Trench Details shown on Drawings. Replace PGRC with PVC where PGRC indicated. Include PGRC in base bid, provide PVC for Alternate Bid. PGRC required for medium voltage conductors, and spare raceway in base bid. Schedule 80 PVC required for medium voltage conductors, and spare raceway in alternate bid.

• **Additive Alternate Bid No. 2:**

- Refer to Sections 00 40 00 (Procurement Forms) and 00 40 10 (SB5505 Bidders Declaration Form). Bidders are required to submit a Lump Sum cost for complying with SB5505 Section 10 requirements. If compliance costs are included in your Base Bid, indicate this by entering 'Zero Dollars (\$0)' in the line item. If unable to meet SB5505 Section 10 requirements, write 'No' in the line item and briefly explain on the required SB5505 Bidders Declaration Form. Note that the Owner, as per ORS350.389(5), reserves the right to utilize SB5505 funds without implementing Additive Alternate No. 2 if the bid pool is inadequate or if compliance results in excessive costs or delays. Conversely, if the bid pool is sufficient and costs are reasonable without causing delays, and the Owner opts to use SB5505 funds for the project, payment for this additive alternate will be based on the percentage of completion. The decision to include SB5505 funds in the project budget and whether to activate Additive Alternate Bid No. 2 will be made after bidding and before contract negotiations with the apparent low base bid bidder."

END OF SECTION

01 2001 PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.

1.02 DEFINITIONS

- A. Engineer's Supplemental Instruction (ESI): Minor change in Work directed by Engineer.
- B. Proposal Request (PR): A formal request from Architect or Owner to Contractor for change in Contract Sum and Time required to perform the proposed change in Work. Proposal Request is not a directive to perform the proposed change.
- C. "Construction Change Directive" and "Change Order" have meanings defined in AIA Document A201.
- D. Extraordinary Contract Administration: Architectural service to enforce Contract Documents resulting from Contractor's failure to comply with requirements for Contractor's request for accelerated procedures.

1.03 SCHEDULE OF VALUE

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect and Owner for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on AIA Form G703 – Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered and must be approved by owner prior use.
- D. Submit Schedule of Value in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization.
- F. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.
- G. Revise schedule to list approved Change Orders, with each Application for Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the General Conditions to the Public Improvement Contract.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to the Owner for approval.
- C. Forms filled out by hand will not be accepted.
- D. Present required information in typewritten form.
- E. Form: AIA G702 Application and Certificate for Payment and AIA G703 – Continuation Sheet including continuation sheets when required.
- F. Execute certification by signature of authorized officer.
- G. Use data from approved Schedule of Values or Bid Schedule. Provide dollar value in each column for each line item for portion of work performed and for stored Products.

- H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- I. Include the following with the application:
 - 1. Construction progress schedule, revised and current as specified in Section 01 3000.
 - 2. Project Record Documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
 - a. Alternative: Review Record Documents with the Owner prior to submitting Application.
 - 3. Preliminary Closeout Documents when specified in Section 01 7800
- J. When the Owner requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.
- K. The Owner may request a meeting with the Contractor to review and walk the work for which the invoice is submitted.
- L. On or before the last day of month for which payment is due submit application for Payment to the Owner.

1.05 PAYMENT FOR PRODUCTS STORED OFF THE PROJECT SITE

- A. When delay or added cost to Owner can be avoided by storing Products off Site, Owner will make payment to Contractor for said Products provided that Contractor shall:
 - 1. Locate Storage Facilities as close as possible to Project Site.
 - 2. Make Storage Facilities available for Architect's visual inspection.
 - 3. Segregate and label Stored Products for specified Project.
 - 4. Assume all risk for loss.
 - 5. Assume responsibility for exceeding Product "shelf-life".
 - 6. Protect Stored Products and provide applicable Insurance against their damage, discoloration, and theft, naming the Owner and any Mortgagee as Additional Insureds.
 - 7. Submit itemized Inventory and Schedule of Values for Stored Products together with Certificate of Insurance.
 - 8. Submit payment requests to Owner as part of Contractor's regular Progress Payment Request.
 - 9. Reimburse Owner for damages sustained if Stored Products are not delivered to Jobsite when needed.
 - 10. Submit to Owner, with copy to Architect, a written Waiver of Lien insuring Owner against claims for unpaid Storage Costs.
 - 11. Upon receipt of payment from Owner prepare and issue to Owner, with a copy for Architect and any Mortgagee, a Bill of Sale for Stored Products. (See required Bill of Sale Form bound hereinafter.)

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3000 ADMINISTRATIVE REQUIREMENTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Progress photographs.
- D. Coordination drawings.
- E. Submittals for review, information, and project closeout.
- F. Number of copies of submittals.
- G. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Stages of the Work, Work covered by each contract, and occupancy.
- B. Section 01 3216 - Construction Progress Schedule: Form, content, and administration of schedules.
- C. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.
- D. Section 01 7800 - Closeout Submittals: Project record documents.
- E. Section 01 9113 - General Commissioning Requirements: Additional procedures for submittals relating to commissioning.
 - 1. Where submittals are indicated for review by both Architect and the Commissioning Authority, submit one extra and route to Architect first, for forwarding to the Commissioning Authority.
 - 2. Where submittals are not indicated to be reviewed by Architect, submit directly to the Commissioning Authority; otherwise, the procedures specified in this section apply to commissioning submittals.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PRECONSTRUCTION MEETING**

- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Other's as request by the Owner.
- C. Agenda:

1. Execution of Owner-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 5. Designation of personnel representing the parties to Contract, Owner and Architect.
 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 7. Scheduling.
 8. Review of Tree and Plant Protection provisions as described in Section 01 5320.
 9. Review of Contractor Use of Site and Premises provisions as described in Section 01 1000.
- D. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work on a weekly basis at minimum.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers as needed, Owner, Architect/Engineers, as appropriate to agenda topics for each meeting.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems that impede, or will impede, planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of RFIs schedule and status of RFIs.
 7. Review of PCOs and status of PCOs.
 8. Maintenance of progress schedule.
 9. Corrective measures to regain projected schedules.
 10. Planned progress during succeeding work period and specific required progress photos related to the work.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS PHOTOGRAPHS

- A. Submit photographs to architect and owner periodically as requested and at the end of the project.
- B. Maintain an electronic set of all photographs at project site for reference.
- C. Provide photographs of site and construction prior to the start of Work and throughout progress of Work produced by an experienced photographer.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
 - 1. Completion of site clearing.
 - 2. Excavations in progress.
 - 3. Foundations in progress and upon completion.
 - 4. Structural framing in progress and upon completion.
 - 5. Enclosure of building, upon completion.
 - 6. Final completion, minimum of ten (10) photos.
- F. Views:
 - 1. Provide non-aerial photographs from four cardinal views at each specified time, until Date of Substantial Completion.
 - 2. Consult with Architect and Owner for instructions on views required.
 - 3. Provide factual presentation.
- G. Digital Photographs: 24-bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Via email or ftp site.
 - 2. The Contractor may elect to have professional photographs taken upon completion of the project. These may be edited to enhance the quality of the image, but should not alter the image or misrepresent the work performed.

3.04 COORDINATION DRAWINGS

- A. Review drawings prior to submission to Architect.

3.05 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. Samples for verification.
- B. Submit to Architect and Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - CLOSEOUT SUBMITTALS.

3.06 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. LEED submittals and reports.
 - 3. Certificates.
 - 4. Test reports.
 - 5. Inspection reports.
 - 6. Manufacturer's instructions.
 - 7. Manufacturer's field reports.
 - 8. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

- A. When the following are specified in individual sections, submit them at project closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.
 - 6. All closeout documents organized and saved to flash card.
- B. Submit for Owner's benefit during and after project completion.

3.08 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review and Information:
 - 1. Documents 11x17 or smaller: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
 - 2. Documents larger than 11x17 inches: Submit PDF plus the number of hard copies that Contractor requires, plus two copies that will be retained by Architect.
- C. Documents for Project Closeout:
- D. Provide one digital copy of submittal originally reviewed in closeout documents. Submit one flash card with all closeout documents as described in 01 7800 Closeout Submittals.
- E. Provide one hard copy as described in 01 7800 Closeout Submittals, if requested by the Owner.
- F. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect and one retained by Owner.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

- A. Transmit each submittal with approved form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Deliver submittals to Architect and Owner at business addresses.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 3113 PROJECT COORDINATION**PART 1 GENERAL****1.01 RELATED SECTIONS**

- A. Summary of Work: Section 01 1000
- B. Construction Progress Schedules: Section 01 3200
- C. Contract Closeout: Section 01 7000

1.02 CONSTRUCTION ORGANIZATION & START-UP

- A. Establish on-site Lines of Authority and Communications including the following:
 - 1. Schedule and conduct Pre-construction Meeting and Progress Meetings as specified in Section 01200.
 - 2. Establish procedures for Intra-project Communications including:
 - a. Submittals
 - b. Reports & Records
 - c. Recommendations
 - d. Coordination Drawings
 - e. Schedules
 - f. Resolution of Conflicts
 - 3. Contract Documents Interpretation:
 - a. Consult with Architect to obtain interpretation.
 - b. Assist in resolution of questions or conflicts which may arise.
 - c. Transmit written interpretations to Subcontractors and to other concerned parties.
 - 4. Permits & Approvals:
 - a. Verify that Subcontractors have obtained required Permits and Inspections for Work and for Temporary Facilities.
 - 5. Control use of Site:
 - a. Supervise Field Engineering and Project Layout.
 - b. Allocate Field Office Space and Work and Storage Areas for use of each Subcontractor.

1.03 COORDINATING SUBCONTRACTORS' WORK

- A. Coordinate the Work of all Subcontractors and make certain that, where the Work of one Trade is dependent upon the Work of another Trade, the Work first installed is properly placed, installed, aligned, and finished as specified or required to properly receive subsequent Materials applied or attached thereto.
- B. Direct Subcontractors to correct defects in Substrates they install when Subcontractors of subsequent Materials have a reasonable and justifiable objection to such surfaces.
- C. Do not force Subcontractors to apply or install Product to improperly placed or improperly finished Substrate that would result in an unsatisfactory or unacceptable finished Product.

1.04 COORDINATING WORK WITH OWNER'S WORK

- A. Coordinate, and make certain that, where Work of either party is dependent upon the other party, the Work first performed is properly placed, installed, aligned, and finished as required to permit the proper installation of the following Work.
- B. If the Other Work in any way interferes with the Contractor's Work, so notify the Owner sufficiently in advance so that the Owner has reasonable time to make necessary adjustments.
- C. If the Contractor's Work in any way interferes with the Other Work, so notify the Owner as soon as possible. If the Contractor's Work must be modified to accommodate the Owner's Work, the Contract Sum and/or the Contract Time will, when necessary, be adjusted by a Change Order.

1.05 CLOSE-OUT DUTIES

- A. Mechanical & Electrical Equipment start-up:
 - 1. Comply with requirements specified in Section 01650.
- B. At completion of Work of each Subcontract, conduct inspection to assure that:
 - 1. Work is acceptable.
 - 2. Specified cleaning has been accomplished.
 - 3. Temporary Facilities and Debris have been removed from Site.
- C. Substantial Completion:
 - 1. Conduct inspection and prepare list of Work to be completed or corrected.
 - 2. Assist Architect and Owner in inspection.
 - 3. Supervise correction and completion of Work as established in Architect's Inspection Reports.
- D. Final Completion:
 - 1. Assist Architect and Owner in inspection.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3200 CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.01 GENERAL

- A. Unless otherwise requested, within 15 Working Days after Contract award, prepare and submit to Architect and Owner estimated Progress Schedules for the Work, with Sub-schedules of Related Activities which are essential to its progress.
- B. Revise Schedules when appropriate.
- C. Provide to the owner a revised schedule update by the seventh day of each month.
- D. If Contractor fails to deliver Schedule on time or properly update Schedule, Owner may withhold Progress Payment approval until such time as Contractor complies with these requirements.
- E. If, in the Owner's opinion, Work progress falls behind approved Schedule, Contractor shall take necessary action to regain lost time.
- F. Contractor shall increase Work amount, or number of shifts, or establish overtime operations, or all three, and submit for review Schedule revisions in which progress rate will be regained, all without additional cost to the Owner.
- G. Contractor's failure to comply with these requirements shall be grounds for determination that Contractor is not prosecuting Work with such diligence as will insure Project completion within specified time.
- H. Upon determination that the Contractor is not prosecuting Work diligently, Owner may terminate Contractor's right to proceed with Work, or any separable part thereof, in accordance with General Conditions.
- I. The Contractor and all Subcontractors, Suppliers, and Manufacturers shall schedule material deliveries and installations to conform with the Schedule, and provisions to this effect shall be included in all Subcontracts.

1.02 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

- A. Summary of Work: Section 01010
- B. Project Meetings: Section 01200

1.03 SCHEDULES

- A. Form: Bar Graph
- B. Horizontal Time Scale: Identify first Work Day of each Week.
- C. Scale and Spacing: Allow space for notations and future revisions.
- D. Headings: Include separate heading for each Specification Section Title and Section Number listed in Project Manual Table of Contents.

1.04 SCHEDULE CONTENTS

- A. Construction Progress Schedule:
 - 1. Show complete sequence of construction by activity.
 - 2. Show dates for beginning, and completion, of each major element of Work.
- B. Submittal Schedule for Shop Drawings, Product Data, and Samples:

1. Show dates for Contractor's submittals.
2. Show dates Submittals will be required for Owner-furnished Products, if any.
3. Show dates Approved Submittals will be required from the Architect.

C. Products Delivery Schedule:

1. Show delivery dates for Products furnished by Owner, if any.

1.05 SCHEDULE REVISIONS

- A. Indicate progress of each Activity up to date of each Schedule submission.
- B. Show changes occurring since previous Schedule submission.
 1. Major changes in scope
 2. Activities modified since previous submission
 3. Revised projections of progress and completion
 4. Other identifiable changes
- C. Provide a Narrative Report as needed to define:
 1. Problem areas, anticipated delays, and related impact on Schedule.
 2. Corrective action recommended, and expected effect.
 3. The effect of changes on schedules of other Prime Contractors.

1.06 SUBMISSIONS

- A. Submit initial Schedules within 15 days after Contract award.
 1. Architect and Owner will review Schedules and return Review Copy within 10 days after receipt.
 2. If required, resubmit within 7 days after return of Review Copy.
- B. Submit revised Progress Schedules with each Application for Payment.
- C. Submit 2 approved opaque copies of each submission for Architect's permanent use.

1.07 DISTRIBUTION

- A. Distribute copies of reviewed Schedules to:
 1. Jobsite file
 2. Subcontractors
 3. Architect
 4. Owner's Representative
 5. Other concerned parties
- B. Instruct recipients to report promptly to Contractor, in writing, any problems anticipated by projections shown in Schedules.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 4500 CONTRACTOR QUALITY CONTROL**PART 1 GENERAL****1.01 RELATED SECTIONS**

- A. Shop Drawings, Product Data and Samples: Section 01330
- B. Testing Laboratory Services: Section 01453
- C. Contract Closeout: Section 01700

1.02 EXTENT OF WORK

- A. Contractor shall implement and maintain aggressive Quality Control Program conforming to the following requirements:
 - 1. Monitor quality of all Work, including that of Subcontractors and Service Providers, to ensure that Work complies with Contract Documents.
 - 2. Include compliance with currently approved Progress Schedule.
 - 3. Include continuing inspections of Work.
- B. Responsibilities include, but are not limited to the following:
 - 1. Prior to submission to Architect, and in compliance with requirements specified in Section 01330, review and approve Shop Drawings, Product Data, and Samples for compliance with Contract Documents.
 - 2. Prior to starting Work, review appropriate Contract Drawings & Specifications, Shop Drawings, Product Data, Samples, and Contract Modifications, as well as affected Existing Conditions.
 - 3. Work closely and cooperate with Architect, Owner and Jurisdiction Having Authority. Attend required Meetings, and execute decisions reached by the owner.
 - 4. Assign and maintain at Jobsite, Supervisory Personnel acceptable to Owner, who have authority to act in Contractor's behalf at all times Work is being performed, including any Overtime Periods.
 - 5. Schedule and coordinate inspections and tests with Regulatory Agency Inspectors and with Testing Agency Personnel.
 - 6. Submit to Architect and Owner signed Reports of Inspections and Tests made by Building Officials, Special Inspectors, and any others performing inspections or tests.
 - 7. Schedule and coordinate required Pre-Installation Conferences.
 - 8. Assure that Record Documents, including those prepared by Subcontractors, are accurately maintained and up to date.
 - 9. Schedule and coordinate specified System and Equipment demonstrations and training sessions for Owner's Personnel.
 - 10. Make final inspections with Subcontractors of all Work to determine that Work is in compliance with Contract Documents. Prior to calling for Architect's Substantial Completion and Final Inspections, verify that Work deficiencies discovered during Contractor's inspections have been satisfactorily corrected.
 - 11. Accompany Architect during Architect's inspections.
 - 12. Coordinate final closeout procedures, including those of Subcontractors, to assure compliance with procedures specified in Section 01770.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 4530 TESTING LABORATORY SERVICES**PART 1 GENERAL****1.01 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS**

- A. Inspections and testing required by laws, ordinances, rules, regulations, and orders of Public Authorities; See General Conditions and Chapter 17 of the Oregon Structural Specialty Code. The Owner will select and contract with the Inspection and Testing company.
- B. Product Certification; See respective Specification Sections.
- C. Equipment testing, adjusting, and balancing; See respective Specification Sections.

1.02 COSTS

- A. Paid by Owner:
 - 1. For Testing Laboratory services specified in this Section.
 - 2. For Code-required Special Inspections of Masonry, Welding, and Concrete.
- B. Paid by Contractor:
 - 1. For re-inspections and re-testing required because of defective Work or ill-timed notices.

1.03 LABORATORY'S DUTIES

- A. Provide qualified Personnel for specified inspections, sampling, and testing.
- B. Ascertain and certify compliance with Contract Documents.
- B. When requested by Architect, provide interpretation of Test results
- C. Promptly submit written Inspection & Test Reports to:
 - 1. Owner
 - 2. Building Official
 - 3. Contractor
 - 4. Architect
- D. Additionally, submit copies of the following Reports to:
 - 1. Tested Earthwork: Geotechnical Engineer and Owner.
 - 2. Tested Asphaltic Concrete: Architect and Owner.
 - 3. Tested Structural Work: Architect and Owner.
- E. Include the following in Test Reports:
 - 1. Date issued.
 - 2. Project title and location.
 - 3. Testing Laboratory name and address.
 - 4. Inspector's name.
 - 5. Date of inspection or sampling.
 - 6. Record of temperature and weather.
 - 7. Date of test.

8. Identification of Product tested.
 9. Test location in Project.
 10. Type of inspection or test.
 11. Observations regarding compliance with Contract Documents.
- F. Laboratory is not authorized to:
1. Release, revoke, alter, or enlarge on Contract Documents requirements.
 2. Approve or accept any portion of Work.
 3. Assume any duties of Contractor.
 4. Stop Work.

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with Laboratory Personnel; provide access to Work and to Manufacturer's operations.
- B. Provide to Laboratory representative samples of materials to be tested, in required quantities.
- C. Furnish casual labor and facilities:
 1. For access to Work to be tested.
 2. To obtain and handle Test Samples at Site.
 3. To facilitate inspections and tests.
 4. For Laboratory's exclusive use for storage and curing of Test Samples until removed to Laboratory.
- D. Notify Laboratory at least 24 hours in advance of operations to allow for Personnel assignments and Test scheduling.
- E. Repair any Test Holes to match original conditions.

1.05 LIABILITY

- A. Laboratory service is provided for Owner's self-assurance and does not relieve Contractor's responsibility to comply with Contract Documents.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 5000 TEMPORARY FACILITIES AND CONTROLS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Temporary utilities
- B. Temporary telecommunications services
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, Exterior Enclosures
- E. Security requirements.
- F. Waste removal facilities and services
- G. Project Identification sign.
- H. Field offices

1.02 TEMPORARY UTILITIES

- A. EOU will provide temporary utilities. The contractor is responsible for making connections to these facilities after obtaining approval from EOU:
 - 1. Electrical power, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY TELECOMMUNICATIONS SERVICES

- A. The Contractor is responsible for providing a wireless and/or wired connection to the field office at time of project mobilization.

1.04 TEMPORARY SANITARY FACILITIES

- A. In unoccupied renovations or unoccupied zones of a building renovation, use of facility is permitted during construction when fully operational. Otherwise, provide and maintain required facilities and enclosures.
- B. Maintain daily in clean and sanitary condition.

1.05 TEMPORARY CONTROLS

- A. Barriers
 - 1. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
 - 2. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
 - 3. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- B. Fencing
 - 1. Provide and maintain 6 foot minimum height chain link fencing around any portion of the construction site where conditions potentially dangerous to students, staff, or visitors may exist. Equip with vehicular and pedestrian gates with locks. Submit to Owner two keys for each gate lock.

C. Exterior Enclosures

1. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons.

D. Interior Enclosures When Working In An Occupied Building

1. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
2. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.

1.06 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Eastern Oregon University's operations from unauthorized entry, vandalism, or theft. The Contractor is responsible for ensuring the work site, equipment and materials are safe and secure.

1.07 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Designated existing on-site roads may be used for construction traffic.
- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.08 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Recycle materials as required.
- C. Provide containers with lids. Schedule trash to be removed the site periodically.
- D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.09 BULLETIN BOARD

- A. Provide 1 weatherproof 4x4 ft. Bulletin Board where regularly visible to Workers.
- B. Display employee benefits such as Health & Welfare Plan, Pension Plan, etc., if any; Equal Opportunity Employment Requirements; Emergency Telephone Numbers; and other important data in addition to those items required by the Bureau of Labor and Industry, OSHA, and any other state, federal or local requirements.

1.010 PROJECT IDENTIFICATION

- A. Owner, at their discretion, may require contractor to install a project identification/information sign. Format and content of the sign will be directed by the Owner and/or Architect. Owner will pay for costs of sign.
- B. No other signs are allowed without Owner permission, except those required by law.

1.011 FIELD OFFICES

- A. Office: If designated office space is not predetermined and provided by the Owner, the Contractor is responsible for providing an office for their employees. The office location must be approved by EOU prior to placement.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. At Contractor's option, and pending Owner approval, portable buildings or mobile homes suitable for Office use may be used.

1.012 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS – NOT USED**PART 3 EXECUTION – NOT USED****END OF SECTION**

SECTION 01 56 50
PROJECT SECURITY

• **REQUIREMENTS INCLUDED**

- Establish and maintain Project Security Program to:
 - Protect Work, Stored Products, and Construction Equipment against Theft and Vandalism.
 - Protect Premises against unauthorized intrusion.
- Protect Owner's facilities and operations at Site against Theft, Vandalism, and Damage by Contractor's Work or Workers.
- Comply with Owner's Security requirements, coordinate with Project Manager.
- Background checks may be required of all individuals on site.

• **MAINTENANCE OF SECURITY**

- Initiate Security Program in compliance with Owner's System prior to Job Mobilization.
- Maintain Security Program throughout construction period, until Owner-occupancy or Owner-acceptance precludes the need for Contractor-security.

END OF SECTION

SECTION 01 63 00
PRODUCT SUBSTITUTIONS

• **GENERAL**

- Wherever a Material, Article, or piece of Equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Engineer, of equal substance, appearance, and function. The substituted Product shall not be purchased or installed by the Contractor without the Engineer's written approval.
- The Engineer will be sole judge of acceptability of any proposed substitution.
- Only approved substitutions may be used on Contract Work.
- Each request for substitution approval shall include:
 - Identity of Product for which substitution is requested; include Specification page and line number.
 - Identity of substitution including complete Product description, drawings, photographs, performance and test data, and all other information necessary for evaluation.
 - Quality comparison of proposed substitution with specified Product. Changes in other Work required because of substitution.
 - Effect on construction progress schedule.
 - Cost of proposed substitution compared with specified Product.
 - Any required license fees or royalties.
 - Availability of maintenance service.
 - Source of replacement materials.

• **SUBSTITUTIONS DURING BIDDING PERIOD**

- No request for substitution approval will be considered unless electronic written request has been submitted on Standard Form bound hereinafter, and has been received by Engineer at least 7 Working Days prior to Bid opening, or 3 Working Days prior to last Addendum due Date, whichever comes first.
- Requests must be hand-delivered, faxed, or postal-mailed. (Note: Neither faxed requests nor requests submitted without self-addressed and stamped envelope will be individually acknowledged.)
- Engineer will issue Addenda prior to Bid opening listing all approved substitutions.

• **SUBSTITUTIONS AFTER CONTRACT AWARD**

- Approval will be granted only when recommended by Engineer, when approved by Owner, and when:
 - Specified Product cannot be delivered without Project delay, or
 - Specified Product has been discontinued, or
 - Specified Product has been replaced by superior Product, or
 - Specified Product cannot be guaranteed as specified, or
 - Specified Product will not perform properly, or
 - Specified Product will not fit within designated space, or
 - Specified Product does not comply with governing codes, or
 - Substitution will be clearly in Owner's interest.

- If and when approved, Engineer will issue Change Order for Owner's signature authorizing approved substitution and revising Contract Sum where appropriate.
- Owner will be entitled to deduct from the Contract Sum such amounts paid to Engineer for evaluating Substitution Requests after Contract award, and to make agreed-upon changes to the Drawings and Specifications made necessary by Owner's acceptance of such substitutions.
- Engineer approved CSI form shall also be attested and submitted.

• **CONTRACT COMPLIANCE**

- Substitution approval does not relieve Contractor from responsibility for proper execution of the Work and for compliance with other Contract requirements.

END OF SECTION

SUBSTITUTION REQUEST

To: _____

Project: _____

Specified Item: _____

Specifications Section No.: _____ **Page No.:** _____ **Para. (Line) No.:** _____

Proposed Substitution Item: _____

Attached Data Includes:

1. Product description, specifications, photographs, drawings, performance data, and/or test data necessary for request evaluation.
2. Description of changes to Construction Documents that proposed substitution will require for proper installation.

The Undersigned hereby certifies that the following is correct, unless otherwise modified by included attachments:

1. Proposed substitution is equivalent or superior to specified item.
2. If proposed substitution should alter project design, dimensions, or installation requirements, the Undersigned will pay for any increased costs necessitated by substitution, including costs for additional engineering, drawing, and specifying.
3. Proposed substitution will have no adverse effect upon Work of other trades, progress schedule, Code compliance, or warranty requirements.
4. Maintenance service and replacement products will be locally and readily available.

Additionally, the Undersigned hereby certifies that if this page is altered or modified, that the terms and requirements of the Contract Documents will remain unaltered or unmodified.

(Print or type the following)

Submitted by: _____

Signature: _____

Firm Name: _____

Street Address: _____

City, State, & Zip: _____

Phone: (____) _____ Date: _____

(If submitted after Contract award):

Contractor's Signature: _____

Owner's Signature: _____

(For use by design professional)

___Approved

___Approved as noted

___Not Approved

___Received too late

By _____

Date _____

Remarks _____

SECTION 01 7000 CONTRACT CLOSEOUT**PART 1 GENERAL****1.01 CONTRACT CONDITIONS**

- A. Comply with Contract Condition requirements and specified Administrative Procedures in closing out Work.

1.02 SUBSTANTIAL COMPLETION INSPECTION

- A. When Contractor considers Work substantially complete, as defined in General Conditions, he shall submit to the Owner and Architect:
 - 1. Written notice that Work, or designated portion thereof, is substantially complete.
 - 2. List of Items to be completed or corrected.
- B. Architect will, as soon as possible thereafter, make inspection to determine completion status.
- C. Should Architect determine that Work is not substantially complete:
 - 1. Architect will promptly notify Contractor in writing, giving reasons therefore.
 - 2. Contractor shall remedy Work deficiencies, and send second notice of substantial completion to Architect.
 - 3. Architect will re-inspect Work.
- D. When the Owner and Architect concur, that Work is substantially complete, he will:
- E. Prepare Certificate of Substantial Completion, accompanied with Contractor's list of items to be completed or corrected, as verified and amended by Owner and/or Architect.
- F. The Owner, Architect and Contractor will sign the Certificate accepting of the responsibilities assigned to them in the Certificate.

1.03 FINAL INSPECTION

- A. When Contractor considers Work complete, he shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Contractor has inspected Work for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
- B. Equipment and Systems have been tested in presence of Owner's Representative and are operational.
 - 1. Work is complete and ready for final inspection.
 - 2. The Owner and Architect will inspect Work to verify completion status as soon as possible after receipt of Contractor's Certification.
 - 3. Should the Owner or Architect consider Work incomplete or defective:
- C. Architect will promptly notify Contractor in writing, listing incomplete or defective Work.
- D. Contractor shall immediately remedy deficiencies, and send second written certification to Architect that Work is complete.
- E. Owner and Architect will re-inspect Work.

- F. When Architect finds Work acceptable under Contract Documents, he will request Contractor to make closeout submittals.

1.04 REINSPECTION FEES

- A. Architect will make 1 Substantial Completion Inspection to determine any Work Deficiencies and 1 Final Completion Inspection to ascertain that Deficiencies have been satisfactorily corrected.
- B. Should Architect be required to make more than 2 Inspections due to Contractor's failure to correct specified Deficiencies:
 - 1. Owner will compensate Architect for such additional services.
 - 2. Owner will deduct Architect's compensation amount from Contractor's final payment as follows:
 - a. Architect's time at current Billing Rates.
 - b. Architect's Employees' time at current Billing Rates.
 - c. Others at 1.10 times direct cost incurred.
 - d. Charges will be made for necessary travel time, inspection time, inspection report writing time, auto expense computed using the EOU Contractor Travel Reimbursement Policy rates.

1.05 EVIDENCE OF PAYMENTS & RELEASE OF LIENS

- A. Contractor shall submit the following:
 - 1. Contractor's Affidavit of Payment of Debts and Claims, AIA Doc. G706.
 - 2. Contractor's Affidavit of Release of Liens, AIA Doc. G706A including the following:
 - a. Consent of Contractor's Surety to Final Payment, AIA Doc. G707.
 - b. Contractor's Release or Waiver of Liens.
 - c. Separate releases or waivers of lien for Subcontractors, Suppliers, and others with lien rights against Owner's Property, together with list of those parties.
- B. Contractor shall duly sign and execute all Submittals, before delivery to Owner.

1.06 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ARCHITECT

- A. Certificate of Insurance for Products & Completed Operations: AIA Document A 201.
- B. Project Record Documents: See Section 01 7800
- C. Owner's Operating & Maintenance Manual: See Section 01 7800

1.07 SPARE PARTS & MAINTENANCE MATERIALS SUBMITTAL TO OWNER

- A. Specific Requirements: See Specification Sections.
- B. Products: Identical to those included in Project Work.
- C. Storage Location: On Project premises where directed by Owner.
- D. Required Submittals:
 - 1. As required by Specifications

1.08 DEMONSTRATIONS

- A. Instruct Owner in operation of all Systems and Equipment in accordance with Section 01730.

1.09 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit final statement of accounting to Architect, including the following:
 - 1. Original Contract Sum
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders
 - b. Other adjustments
 - c. Deductions for uncompleted Work
 - d. Deductions for Re-inspection Payments
 - 3. Total Contract Sum, as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- B. Owner will prepare and issue final Change Order, reflecting approved adjustments to Contract Sum not previously made by Change Orders.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 74 00
CLEANING & TRASH REMOVAL

• **PART 1 - GENERAL**

• **EXTENT OF WORK**

- As required by Contract Conditions and as specified herein, execute Cleaning and Trash removal during Work progress and at Work completion.

• **RELATED WORK SPECIFIED IN OTHER SECTIONS**

- Cleaning specific Products or Work: See respective Specification Sections.

• **ALTERNATES**

- Refer to Section 01 20 00 for possible effect upon Work of this Section.

• **REGULATORY AGENCY REQUIREMENTS**

- Comply with governing Codes, Regulations, Ordinances, and Antipollution requirements.

• **PART 2 - PRODUCTS**

• **CLEANING MATERIALS**

- Use only those which will not create hazards to health or property, and which will not damage Surfaces.
- Use only those recommended by Manufacturer of Surface to be cleaned.
- Use only on Surfaces recommended by Cleaning Material Manufacturer.

• **PART 3 - EXECUTION**

• **GENERAL**

- Follow Cleaning Material and Surface Manufacturers' instructions.

• **DURING CONSTRUCTION**

- Periodically, and when directed by Engineer, clean to maintain Work, Site, and adjacent Properties free from accumulations of Waste, Rubbish, and Windblown Debris, resulting from Construction Operations.
- Provide on-site Containers for collection of Waste, Debris, and Rubbish, Recycling.
- Remove Waste, Debris, and Rubbish; legally dispose of away from Project Site weekly.

• **PART 3 - EXECUTION**

• **DUST CONTROL**

- Clean Interior Surfaces prior to painting, and continue cleaning as needed until painting is complete.

- Schedule cleaning so that resultant Dust and Contaminants will not fall on wet or newly-coated Surfaces.

- **FINAL CLEANING**

- Remove Waste, Debris, and Surplus Material from Project Site and Adjacent Property.
- Clean Grounds In addition to debris-removal and cleaning specified in other Sections, clean exposed-to-view Exterior and Interior Surfaces to match Conditions found at beginning of Project:
 - Employ skilled Workers to perform cleaning.
 - Remove any Temporary Protection and Labels not required to remain.
 - From sight-exposed Exterior and Interior Surfaces, remove Grease, Adhesive, Mastic, Dust, Dirt, Paint, Stains, Fingerprints, and other Foreign Substances as required on:
 - Electrical Equipment Enclosures
 - Glossy Surfaces
 - Vacuum-clean Carpet and similar Soft Materials.
- Maintain Structure and Components clean until Project Substantial Completion.

END OF SECTION

01 7419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**PART 1 GENERAL****1.01 WASTE MANAGEMENT REQUIREMENTS**

- A. Eastern Oregon University requires that projects generate the least amount of trash and waste possible.
- B. Contractor shall employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Required Recycling, Salvage, and Reuse: Recycle materials as possible. The local waste collector and landfill has a list of materials it will accept that can be found on their website: <https://waste-pro.com/recycling/>
- E. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
 - 5. Incineration, either on- or off-site.
- F. Regulatory Requirements: The General Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state, and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

PART 2 PRODUCTS – NOT USED**PART 3 EXECUTION****3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION**

- A. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- B. Hazardous Wastes are to be handled and disposed of in accordance with all applicable regulations.
- C. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

- D. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- E. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 7800 CLOSEOUT SUBMITTALS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and Bonds.

1.02 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Owner with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit a preliminary draft or proposed formats and outlines of contents before start of Work. Owner and Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit electronic and if requested hard copies (one to Owner and one to Architect) of completed documents 15 days prior to final inspection. These copies will be reviewed and returned after final inspection, with Architect and Owner comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit one hard copy set and one digital set of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish first floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract drawings.
- G. Record Drawings will be reviewed each month prior to payment.
- H. At completion of project, provide Record Drawings to Design Team for drafting.

3.02 OPERATION AND MAINTENANCE DATA

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.
 - 4. Complete nomenclature and model number of replaceable parts.
- B. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- D. Provide servicing and lubrication schedule, and list of lubricants required.
- E. Include manufacturer's printed operation and maintenance instructions.
- F. Include sequence of operation by controls manufacturer.
- G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- H. Additional Requirements: As specified in individual product specification sections.

3.05 OPERATION AND MAINTENANCE MANUALS

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- B. Prepare data in the form of an instructional manual.
- C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- H. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

- I. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.
 - e. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
 - f. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

3.07 ELECTRONIC COPIES

- A. Provide all closeout submittals, including Record Drawings, Record Specifications, Operation and Maintenance Manuals, RFI's, Submittals, Demonstration Videos, and Warranty information, organized on a single Flash Card, labeled for this project.

END OF SECTION

SECTION 01 7900 DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUMMARY

- A. Demonstration of products and systems to be commissioned and where indicated in specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
 - 1. All software-operated systems.
 - 2. Plumbing equipment.
 - 4. Electrical systems and equipment.
 - 5. Items specified in individual product Sections.
- C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
 - 1. Roofing, waterproofing, and other weather-exposed or moisture protection products.
 - 2. Finishes, including flooring, wall finishes, ceiling finishes.
 - 3. Fixtures and fittings.
 - 4. Landscape systems such as plantings and irrigation fixtures and fittings.
 - 5. Items specified in individual product Sections.

1.02 RELATED REQUIREMENTS

- A. Section 01 7800 - Closeout Submittals: Operation and maintenance manuals.
- B. Other Specification Sections: Additional requirements for demonstration and training.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures; except:
- B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such a slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.

- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- D. Training Reports:
 - 1. Identification of each training session, date, time, and duration.
 - 2. Sign-in sheet showing names and job titles of attendees.
 - 3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.
- E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
 - 1. Format: USB Flash Drive
 - 2. Label each flash drive and container with session identification and date.

1.04 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
 - 1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
 - 2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
- B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.
- C. Demonstration may be combined with Owner personnel training if applicable.
- D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
 - 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

- E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

- A. Conduct training on-site unless otherwise indicated.
- C. Owner will provide classroom and seating at no cost to Contractor.
- D. Do not start training until Functional Testing is complete, unless otherwise specified or approved
- F. Training schedule will be subject to availability of Owner's personnel to be trained. Provide a training schedule to the owner a minimum of two weeks before training. Adjust training dates as requested by the Owner. Once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
- H. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 - 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 - 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
 - 3. Typical uses of the O&M manuals.
- I. Product- and System-Specific Training:
 - 1. Review the applicable O&M manuals.
 - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
 - 4. Provide hands-on training on all operational modes possible and preventive maintenance.
 - 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 - 6. Discuss common troubleshooting problems and solutions.
 - 7. Discuss any peculiarities of equipment installation or operation.
 - 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 - 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 - 10. Review spare parts and tools required to be furnished by Contractor.
 - 11. Review spare parts suppliers and sources and procurement procedures.
- J. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide a complete written response within three days.

END OF SECTION

SECTION 02 31 51
UTILITY TRENCHING

PART 1 GENERAL

1.1 CONTRACT CONDITIONS

- A. Work of this Section is bound by the Contract Conditions of the Retainer Program, in addition to this Specification and accompanying Drawings.

1.2 WORK INCLUDED

- A. Trenching, Pipe Bedding, and Backfilling for Project Utilities including the following:
1. Electrical System Service

1.3 WORK INCLUDED, BUT REIMBURSED BY OWNER

- A. Should Rock as defined below be encountered, other than any exposed to view during Bidding Period, Owner will pay extra for any necessary Rock removal and take credit for omitted Earth excavation, in accordance with Contract Conditions.

1.4 DEFINITIONS

- A. Rock:
1. Material that cannot be removed with Pick and Shovel or by Backhoe with 9500 lb. digging force.
- B. Unstable Soil:
1. Soft, loose, or wet ground that is incapable of supporting Materials, Equipment, Personnel, or Structure.
- C. AASHTO:
1. American Association of State Highway and Transportation Officials, 341 National Press Building, Washington D.C., 20004.
- D. PIPE:
1. Water Supply Pipe, Sewage Pipe, Drainage Pipe, Irrigation Pipe, Gas Pipe, and Electrical Conduit.
- E. OPTIONS
1. In lieu of Crushed Rock, Backfill Contractor may at Contractor's option, substitute the following:
 - (a) Pea Gravel or Sand:
 - (i) Where subsequent Backfill settlement is considered critical, such as at Trenches below Pavement, Walkways, Curbs, etc.
 - (b) Native Material:
 - (i) Where subsequent Backfill settlement is not considered critical, such as at Trenches below Unsurfaced Areas.
 2. In lieu of providing Crushed Rock, Backfill Contractor shall, where Trenches are within Public Right-of-way, substitute Controlled Density Fill (CDF) consisting of 1000 psi minimum density Cement/Gravel mix.

1.5 ALTERNATES

- A. Refer to Drawings for possible effect upon Work of this Section.

1.6 COORDINATION

- A. Coordinate with other Trades affecting or affected by Work of this Section.

1.7 FIELD MEASUREMENTS

- A. System layout on Drawings, including existing Utility locations, is diagrammatic and may not be exact
- B. Contractor to verify prior to starting Work all existing utility lines in the area of the Work.
- C. If field measurements differ slightly from Drawing dimensions modify Work as required for accurate fit. If measurements differ substantially, notify Architect prior to starting Work.

PART 2 PRODUCTS

2.1 CRUSHED ROCK

- A. Washed, sound, durable, uniform, evenly-graded Rock which is free of soft, friable, thin, elongated, or laminated pieces, disintegrated Material, Organic Matter, Oil, Alkali, or other Deleterious Substance.
- B. Mechanically crush as follows:
 - 1. Fracture at least 70 percent of Particles on at least 2 faces.
 - 2. Unfractured Particles:
 - (a) 3/8 inch and larger: 10% maximum
 - (b) Smaller than 3/8 inch: 5% maximum
- C. Gradation:
 - 1. Even from Coarse to Fine.
- D. Maximum Size:
 - 1. At Backfills: ¾ inch.

2.2 PEA GRAVEL

- A. Round, water-worn, washed, sound, durable, uniform, evenly graded Rock which is free of soft, friable, thin, elongated or laminated Pieces, disintegrated Material, Organic Matter, Oil, Alkali, or other Deleterious Substance.

2.3 NATIVE MATERIAL

- A. Excavated Soil native to Project Site and free of Solids larger than 3 inch diameter, Wood, and other Deleterious Materials.

2.4 BURIED UTILITY MARKERS

- A. Tracer Wire: 18 ga. Min. solid Copper protected by Green Insulation.
- B. Metallic Foil:
 - 1. Manufacture & Brand: Reef Industries, Inc. Terra Tape, or approved.
 - 2. Material: Metallic Foil inert to Soil Conditions
 - 3. Thickness: 1 mil
 - 4. Width: 3 inches
 - 5. Imprinted Message:
 - (a) "Caution (Type of Utility) Line buried below"
 - (b) Repeat Message over full length of Tape.
- C. Extent of Work: Provide both Markers directly above all metallic and non-metallic Buried Utility pipe
- D. Additional as indicated in individual specification sections (See Electrical).

PART 3 EXECUTION

3.1 EXISTING CONDITIONS

- A. Prior to starting Work, verify that existing conditions are suitable to perform work.

- B. Notify General Contractor about defects requiring correction.
- C. Do not start Work until conditions are satisfactory
- D. Should any suspected Contaminated Soil be encountered perform the following:
 1. Immediately notify Architect and Dept. of Environmental Quality.
 2. Comply with Architect's directions and Regulatory Agency requirements.
 3. Perform no Work that could disturb or spread suspected Contaminated Soil.
 4. Owner will employ and pay Testing Lab to confirm presence of Contaminated Soil.
 5. If Laboratory Tests confirm presence of Contaminated Soil, Owner will remove Contaminated Soil and will issue Change Order increasing Contract Sum for any proven additional cost to the Contractor and extending Contract Completion Date for any proven Contractor's lost time.

3.2 TRAFFIC CONTROL

- A. Provide Barricades, Detours, Warning Devices, Flaggers, and Equipment Movement necessary to maintain Vehicle and Pedestrian Traffic on public or private Streets and Walks.

3.3 PROTECTING OTHER WORK

- A. Existing Monuments:
 1. Carefully maintain Bench Marks, Monuments, and other Reference Points.
 2. If disturbed or destroyed, replace as directed.
- B. Existing Utilities:
 1. Existing Utilities shown on Drawings are located according to best available information, but accuracy is not guaranteed.
 2. Protect encountered active Utilities against damage or dislocation.
 3. As directed by Utility Owner, repair or replace active Utilities damaged by work of this Section.
 4. Remove inactive or abandoned Utilities from within Building lines. Plug or cap at least 3 feet outside Building Lines.
- C. Street Cleaning:
 1. Maintain Public and Private Streets and Walkways clean at all times.
- D. Dust Control:
 1. Protect Persons and Property against damage and discomfort caused by Dust. Water as necessary and when directed.
- E. Existing Trees & Plants to remain.
 1. Protect against damage as specified in Section 01560.
- F. Open Trenches:
 1. Protect Persons and Property against injury and damage caused by Open Trenches.
- G. Other Work & Adjacent Property:
 1. Protect against damage and discoloration caused by work of this Section.

3.4 CUTTING EXISTING PAVEMENT OR WALKS

- A. Cut prior to excavation with vertical, straight-line Joints using Appropriate Saw.
- B. Make Cuts parallel or perpendicular to Pavement centerline or joints in Walks.
- C. Cut Width: Extend Cut 1 ft. beyond each side of Trench in Pavement.
- D. Cut entire concrete walk section as indicated on Drawings.
- E. Replace Pavement to condition at least as good as existing prior to cutting. Comply with City Specifications.

1. Do Not replace Concrete Walks, fill and compact subgrade ready for concrete replacement by Owner.

3.5 TRENCHING

A. Before Starting to Excavate:

1. Strip available Topsoil from areas to be excavated.
2. Stockpile Topsoil where and as directed by Owner Representative.

B. Excavating:

1. Excavate to Lines and Grades shown on Drawings or Specifications, unless otherwise directed by Architect.
2. Allow ample Space for Pipe and Pipe Bedding.
3. Leave Bearing Surfaces undisturbed, level, and true.
4. Hand-grade where necessary.

C. Blasting:

1. None permitted.

D. Depth:

1. Unless otherwise specified or shown on Drawings, allow for at least 24 inches cover over Pipe.

E. Excavation Width:

1. Where parallel Pipes are to be laid within single Trench:
 - (a) At least 18 inches wider than sum of inside diameters of parallel Pipes plus distance between Pipes.

F. Elsewhere:

1. For 4 inch I.D. Pipes & Smaller, if any: 18 inches minimum.
2. For 6 inch I.D. & larger Pipes, if any: 24 inches minimum.

G. Increase widths where directed by Architect and where necessary to receive Shoring.

H. Do not damage adjacent Structures of Property.

I. Do not extend Excavation beyond Construction Easements, unless approved by affected Property Owners.

J. Temporary Stockpiling of Excavated Material:

1. Locate within Construction Area.
2. Unless otherwise approved, do not obstruct Private or Public Streets, Drives, or Walkways.
3. Locate at least 2 ft. from Trench edges. Contractor responsible for safe-loading Trenches.
4. At Temporary Stockpiles remaining during Rainy Periods, grade and cover Stockpile as required to prevent Compaction, Erosion, and Water Infiltration.

K. Over-excavation:

1. Where Excavation, through Contractor's error, is carried to levels lower than those shown on Drawings, fill with compacted Pipe Bedding Material to proper levels at no additional cost to Owner.

L. Shoring:

1. Brace, shore sides, or increase width of excavations as necessary to prevent Cave-ins.
2. Repair Slides and Cave-ins should they occur.
3. Remove Shoring before Backfilling.

M. Water & Frost:

1. Keep Bearing Surfaces dry and frost-free.
2. When working within Excavation, provide and operate Pumping Equipment necessary to keep excavations free from Standing Water. Do not reduce adjacent Ground Water level to extent that could endanger or damage adjacent

- 1 Structures or Property. When releasing Ground Water to its static level,
2 prevent Pipe floatation and Backfill disturbance.
3 3. Should Bearing Surfaces be softened by Water or Frost, re-excavate to solid
4 bearing and fill at Contractor's expense as specified above for Over-
5 excavation.
6

7 **3.6 EXCESS & UNSUTABLE EXCAVATED MATERIAL**

- 8 A. Remove from Site.
9

10 **3.7 BURIED UTILITY MARKER INSTALLATION**

- 11 A. Install at the following uniform distance above the top of Buried Pipe:
12 1. Minimum: 10 inches.
13 2. Maximum: 12 inches.
14

15 **3.8 BACKFILLING**

- 16 A. Remove Debris and Decay able Matter from areas to be filled before proceeding.
17 B. Make Fills as soon as feasible to assure thorough settlement.
18 C. Do not drop sharp, heavy Material onto Pipe.
19 D. Do not use sharp Tamping Tool around Pipe.
20 E. Do not push Backfill Material in Trench allowing Material to free-fall into open
21 Trench, until at least 2 feet of Cover is provided over Pipe.
22 F. Place Fills in 6 to 8 inch maximum Lifts.
23

24 **3.9 TRENCH BACKFILL MAINTENANCE**

- 25 A. Continually maintain unsurfaced Backfilled Trenches throughout Construction
26 Period.
27

28 **3.10 PROTECTING COMPLETED WORK**

- 29 A. Protect against displacement and intrusion by foreign Matter.
30

31 **3.11 PRODUCT CLEANING AND REPAIRING**

- 32 A. Where completed areas are disturbed by subsequent Construction Operations or
33 Adverse Weather, scarify Surface, re-shape, and compact to required Density prior to
34 further Construction.
35 B. Including Work of other Trades, clean, repair and touch-up, or replace when directed,
36 Products which have been soiled, discolored, or damaged by work of this Section.
37 C. Remove Debris from Project Site upon work completion, or sooner if directed.
38

39 **END OF SECTION**

**SECTION 22 63 23
NATURAL-GAS PIPING**

PART 1 - GENERAL

1.01 CONTRACT CONDITIONS

- A. Work of this Section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this Specification and accompanying Drawings.

1.02 SUMMARY

- A. Section Includes:
 - 1. Pipes, tubes, and fittings.
 - 2. Piping specialties.
 - 3. Piping and tubing joining materials.
 - 4. Valves.
 - 5. Pressure regulators.

1.03 PERFORMANCE REQUIREMENTS

- A. Minimum Operating-Pressure Ratings:
 - 1. Piping and Valves: 100 psig minimum unless otherwise indicated, or required.
 - 2. Service Regulators: 65 psig minimum unless otherwise indicated, or required.
- B. Natural-Gas System Pressures within Buildings: Two pressure ranges. Primary pressure is more than 0.5 psig but not more than 2 psig, and is reduced to secondary pressure of 0.5 psig or less.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Operation and maintenance data.

1.05 QUALITY ASSURANCE

- A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 2 - PRODUCTS

2.02 PIPES, TUBES, AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
 - 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
 - 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
 - 4. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.
 - a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.
- B. Corrugated, Stainless-Steel Tubing: Comply with ANSI/IAS LC 1.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. OmegaFlex, Inc.
 - b. Parker Hannifin Corporation; Parflex Division.
 - c. Titeflex.
 - d. Tru-Flex Metal Hose Corp.
 - 2. Tubing: ASTM A 240/A 240M, corrugated, Series 300 stainless steel.
 - 3. Coating: PE with flame retardant.
 - a. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1) Flame-Spread Index: 25 or less.
 - 2) Smoke-Developed Index: 50 or less.
 - 4. Fittings: Copper-alloy mechanical fittings with ends made to fit and listed for use with corrugated stainless-steel tubing and capable of metal-to-metal seal without gaskets. Include brazing socket or threaded ends complying with ASME B1.20.1.
 - 5. Striker Plates: Steel, designed to protect tubing from penetrations.
 - 6. Manifolds: Malleable iron or steel with factory-applied protective coating. Threaded connections shall comply with ASME B1.20.1 for pipe inlet and corrugated tubing outlets.
 - 7. Operating-Pressure Rating: 5 psig.
- C. PE Pipe: ASTM D 2513, SDR 11.
 - 1. Labeling: Pipe shall be marked as "Gas" and "ASTM D2513"
 - 2. PE Fittings: Fitting shall conform to ASTM D2513 and shall be marked "ASTM D2513"
 - a. Heat fusion fittings shall be marked "ASTM D2513"
 - 3. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 - 4. Anodeless Service-Line Risers: Factory fabricated and leak tested.
 - a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
 - b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering. Vent casing aboveground.

- c. Aboveground Portion: PE transition fitting, nail guards, protection throughout, not installed in areas subject to damage.
 - d. Outlet shall be threaded or suitable for welded connection.
 - e. Tracer wire connection.
 - f. Ultraviolet shield.
 - g. Stake supports with factory finish to match steel pipe casing or carrier pipe.
- 5. Transition Service-Line Risers: Factory fabricated and leak tested.
 - a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
 - b. Outlet shall be threaded or suitable for welded connection.
 - c. Bridging sleeve over mechanical coupling.
 - d. Factory-connected anode.
 - e. Tracer wire connection.
 - f. Ultraviolet shield.
 - g. Stake supports with factory finish to match steel pipe casing or carrier pipe.
- 6. Tracer wire:
 - a. Solid type coated locating wire (minimum AWG #18) shall be installed with polyethylene pipe since it is not locatable on its own. Horizontal Directional Drill (HDD) installs shall be installed with a tracer wire as well (minimum AWG #10 should be used).
 - b. Color: Yellow

2.03 PIPING SPECIALTIES

- A. Appliance Flexible Connectors:
 - 1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
 - 2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
 - 3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
 - 4. Corrugated stainless-steel tubing with polymer coating.
 - 5. Operating-Pressure Rating: 0.5 psig.
 - 6. End Fittings: Zinc-coated steel.
 - 7. Threaded Ends: Comply with ASME B1.20.1.
 - 8. Maximum Length: 72 inches
- B. Quick-Disconnect Devices: Comply with ANSI Z21.41.
 - 1. Copper-alloy convenience outlet and matching plug connector.
 - 2. Nitrile seals.
 - 3. Hand operated with automatic shutoff when disconnected.
 - 4. For indoor or outdoor applications.
 - 5. Adjustable, retractable restraining cable.

2.04 JOINING MATERIALS

- A. Joint Compound and Tape: Suitable for natural gas.
- B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

- C. Brazing Filler Metals: Alloy with melting point greater than 1000 deg F complying with AWS A5.8/A5.8M. Brazing alloys containing more than 0.05 percent phosphorus are prohibited.

2.05 MANUAL GAS SHUTOFF VALVES

- A. See "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.
- B. General Requirements for Metallic Valves, NPS 3 and Smaller: Comply with ASME B16.44.
 - 1. CWP Rating: 125 psig.
 - 2. Threaded Ends: Comply with ASME B1.20.1.
 - 3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
 - 4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 - 5. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch and smaller.
 - 6. Service Mark: Valves 1-1/4 inches to NPS 3 shall have initials "WOG" permanently marked on valve body.
- C. One-Piece, Bronze Ball Valve with Bronze Trim: MSS SP-110.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 - 2. Body: Bronze, complying with ASTM B 584.
 - 3. Ball: Chrome-plated brass.
 - 4. Stem: Bronze; blowout proof.
 - 5. Seats: Reinforced TFE; blowout proof.
 - 6. Packing: Separate packnut with adjustable-stem packing threaded ends.
 - 7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 - 8. CWP Rating: 600 psig.
 - 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 - 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.
- D. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 - 2. Body: Bronze, complying with ASTM B 584.
 - 3. Ball: Chrome-plated bronze.
 - 4. Stem: Bronze; blowout proof.
 - 5. Seats: Reinforced TFE; blowout proof.
 - 6. Packing: Threaded-body packnut design with adjustable-stem packing.

7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 8. CWP Rating: 600 psig.
 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.
- E. Two-Piece, Regular-Port Bronze Ball Valves with Bronze Trim: MSS SP-110.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 2. Body: Bronze, complying with ASTM B 584.
 3. Ball: Chrome-plated bronze.
 4. Stem: Bronze; blowout proof.
 5. Seats: Reinforced TFE.
 6. Packing: Threaded-body packnut design with adjustable-stem packing.
 7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 8. CWP Rating: 600 psig.
 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.
- F. PE Ball Valves: Comply with ASME B16.40.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Kerotest Manufacturing Corp.
 - b. Lyall, R. W. & Company, Inc.
 - c. Perfection Corporation; a subsidiary of American Meter Company.
 2. Body: PE.
 3. Ball: PE.
 4. Stem: Acetal.
 5. Seats and Seals: Nitrile.
 6. Ends: Plain or fusible to match piping.
 7. CWP Rating: 80 psig.
 8. Operating Temperature: Minus 20 to plus 140 deg F.
 9. Operator: Nut or flat head for key operation.
 10. Include plastic valve extension.
 11. Include tamperproof locking feature for valves where indicated on Drawings.

2.06 PRESSURE REGULATORS

- A. General Requirements:
1. Single stage and suitable for natural gas.
 2. Steel jacket and corrosion-resistant components.
 3. Elevation compensator.
 4. End Connections: Threaded for regulators NPS 3 and smaller.

- B. Appliance Pressure Regulators: Comply with ANSI Z21.18.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved:
 - a. Canadian Meter Company Inc.
 - b. Eaton Corporation; Controls Div.
 - c. Harper Wyman Co.
 - d. Maxitrol Company.
 - e. SCP, Inc.
 - 2. Body and Diaphragm Case: Die-cast aluminum.
 - 3. Springs: Zinc-plated steel; interchangeable.
 - 4. Diaphragm Plate: Zinc-plated steel.
 - 5. Seat Disc: Nitrile rubber.
 - 6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
 - 7. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.
 - 8. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.
 - 9. Maximum Inlet Pressure: 2 psig.

2.07 DIELECTRIC UNIONS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved:
 - 1. Capitol Manufacturing Company.
 - 2. Central Plastics Company.
 - 3. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
 - 4. Wilkins; Zurn Plumbing Products Group.
- B. Minimum Operating-Pressure Rating: 150 psig.
- C. Combination fitting of copper alloy and ferrous materials
- D. Insulating materials suitable for natural gas.
- E. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

2.08 SLEEVES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

2.09 LABELING AND IDENTIFYING

- A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, integral tracer wire, a minimum of 6 inches wide

and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

PART 3 - EXECUTION

3.01 OUTDOOR PIPING INSTALLATION

- A. Comply with NFPA 54 and the International Fuel Gas Code for installation and purging of natural-gas piping.
- B. Provide per gas utility requirements. Contractor is responsible for a system that meets, or exceeds utility requirements. Contractor is responsible to determine, correct, and/or provide any requirements of serving utility such that system is deemed, or otherwise provided for the utility to maintain, and/or own such that it meets or exceeds utility requirements.
- C. Install underground, natural-gas piping buried at least 36 inches below finished grade.
- D. Install underground, PE, natural-gas piping according to ASTM D 2774.
- E. Steel Piping with Protective Coating:
 - 1. Apply joint cover kits to pipe after joining to cover, seal, and protect joints.
 - 2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.
 - 3. Replace pipe having damaged PE coating with new pipe.
- F. Install fittings for changes in direction and branch connections.

3.02 VALVE INSTALLATION

- A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing.
- B. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

3.03 PIPING JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints:
 - 1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
 - 2. Cut threads full and clean using sharp dies.
 - 3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
 - 4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.

5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Welded Joints:
 1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
 2. Bevel plain ends of steel pipe.
 3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
- F. Flared Joints: Cut tubing with roll cutting tool. Flare tube end with tool to result in flare dimensions complying with SAE J513. Tighten finger tight, then use wrench. Do not overtighten.
- G. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
 1. Plain-End Pipe and Fittings: Use butt fusion.
 2. Plain-End Pipe and Socket Fittings: Use socket fusion.

3.04 SUPPORT INSTALLATION

- A. Support above ground piping as required to prevent excessive movement and to prevent undue strain on the connected appliance. Piping supports shall conform to the requirements of MSS SP-58 and the Fuel Gas Code.
- B. Additional as required per piping or gas appliance manufacturer.

3.05 CONNECTIONS

- A. Connect to utility's gas main according to utility's procedures and requirements.
- B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.
- C. Install piping adjacent to appliances to allow service and maintenance of appliances.
- D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.
- E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.06 LABELING AND IDENTIFYING

- A. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.07 FIELD QUALITY CONTROL

- A. Test, inspect, and purge natural gas according to NFPA 54 and the International Fuel Gas Code and authorities having jurisdiction.
- B. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

3.08 OUTDOOR PIPING SCHEDULE

- A. Underground natural-gas piping shall be one of the following:
 - 1. PE pipe and fittings joined by heat fusion; service-line risers with tracer wire terminated in an accessible location.
- B. Aboveground natural-gas piping shall be one of the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.
 - 2. Steel pipe with wrought-steel fittings and welded joints.

END OF SECTION

SECTION 26 00 01
GENERAL ELECTRICAL PROVISIONS

PART 1 - GENERAL

- A. Products under this contract must meet minimum specifications requirements in detail without exception unless specifically noted and approved as provided in these Specifications. Equipment submitted for review must clearly state on cover sheet any differences from specified product. Equipment substitution or submittal review does not relieve Contractor from meeting all requirements of specified item.

1.1 DEFINITIONS

- A. Definitions herein are intended as advisory and shall not limit requirements within the Contract Documents. Where a conflict of definitions exists, the more stringent standard shall be used. Where a term is defined on a Drawing the Drawing definition shall be used for that drawing. Not all definitions are included. Trade standard terms are not defined.

1.2 CONTRACT DOCUMENTS

- A. The Contract Documents are inclusive. All requirements of all Contract Documents shall be binding as if repeated herein and within this Division as required by any other Division or Contract Document.
- B. This Division does not express or imply separation of the Contract Documents and shall not be considered as separation of the Work.
- C. See Advertisement For Bids, Instructions to Bidders, Supplemental Instructions to Bidders, General Conditions, Supplemental General Conditions, Drawings and Specifications, and modifications incorporated in the documents before execution of the Agreement.
- D. Conflicts: If any conflicts exist the more stringent is required.

1.3 SCOPE OF WORK

- A. General: Provide complete and functional electrical systems as specified, as shown on Drawings, as required, and as intended. Work generally includes, inspections, electrical distribution, generator, devices, wiring systems, cabling, raceways, and control systems.
- B. Omissions: Contractor shall be responsible for additional labor, or additional material necessary for the proper execution of the Work. Omissions of expressed reference to any item shall not relieve the responsibility to conform to the Contract Documents
- C. Scope of Electrical Work
 1. All materials and workmanship shall be furnished for complete, tested, and operating electrical systems as shown on the drawings and specified herein.
 2. Electrical work is to include the electrical service. Complete to the point of connection with the serving utility. Any changes of or work required by the serving utility, are part of this work and shall be fully included in the bid price.
 3. Control Connections to unitary Equipment provided by others, specified, not shown, and/or part of a complete and operable system. This equipment may, or may not be shown, and generally includes, and is not limited to, control and power wiring.

1.4 CONFORMANCE WITH REQUIREMENTS

- A. General: All Work shall conform to the reasonable requirements of the project within the scope of the project and authorizations. All work shall conform to the methods and requirements of Code at the location of the Work.
 - 1. Access and inspection: All portions of the Work shall be accessible to inspections and review at all reasonable times during construction. Contractor is responsible for providing access for review and inspection of the Work. Contractor shall secure written inspection reports prior to concealing Work. Contractor is responsible for damages to properly review the Work due to lack of at least 7 Days advance written notification to the Architect, and Engineer that Work is ready for inspection.
 - 2. Plenums: Provide raceway where conductors, and/or cables are routed through plenums. If specifically noted, or specified raceway is not required, plenum routes may utilize conductors/cables rated for use in plenums, and shall be marked as such per NEC. Supporting devices utilized shall also be rated for use in plenums.
- B. Accounting: Provide general accounting information as to labor and equipment costs to assist in determination of modifications to the Contract. Provide accounting breakdown when required for securing Owner financing, or for analysis of equipment costs or equipment payback periods, as well as information for Owner incentives.

1.5 COORDINATION OF TRADES

- A. Check all other trade drawings to avert potential installation conflicts. Should major changes from the Drawings be required to resolve potential conflicts, notify the Architect and secure written approval and agreement on necessary adjustments prior to start of installation.
- B. Check all equipment locations and connections on the site for coordination with other Divisions equipment and connections and structure and the like.
- C. Contractor is responsible for scheduling trades to properly execute all the Work as intended.

1.6 STANDARD OF CARE AND QUALIFICATIONS

- A. General: Contractor shall be experienced and knowledgeable to Provide Work. Owner is not responsible for improper operation, incompliance, or installation due to Contractor's lack of knowledge or experience. Upon request, and where required herein the Contractor shall supply qualifications and experience. Drawings are presented with industry terms, statements, and trade practices and it is the responsibility of the Contractor to be familiar. Provide written notification prior to Bid to the Architect if any representation is not understood, or outside standard practice.
- B. Like Materials and Quality Control: All systems provided shall be new and of like materials provided through manufacturer authorized distributors. Provide equipment of same system and type by same manufacturer. Items of the same by different manufacturers will be rejected. Equipment shall conform to all applicable Code and applicable listing criteria as of the date of the Contract Documents. Equipment determined to be manufactured under any other listing or Code prior to the date of the

Contract is not acceptable, even if the equipment is new or has not been used. All equipment provided to project shall be listed by an approved listing organization.

1.7 EXAMINATION OF SITE

- A. Examine Site of Work prior to making Bid. Ascertain all related physical conditions.
- B. Verify at the Site of Work prior to Bid scale dimensions shown due to exact locations, distances, and levels will be governed by actual field conditions.
- C. Owner will not be responsible for any loss or costs that may be incurred due to a Bidder's failure to fully inform themselves prior to Bid in regard to conditions pertaining to the Work and nature of the Work.

1.8 SPARE RACEWAY

- A. In addition to spare raceways required elsewhere in the specifications, provide spare raceways emanating from equipment pads where pads prevent access to equipment mounted on pads. Examples include transformers, MCC's, pad mounted switches, switchboards, generators, and the like. Route spares to landscaped areas at exterior locations or to equipment room interior accessible walls at interior locations.
- B. Provide not less than (2) 4" and (4) 2" spare raceway for each pad. Coordinate termination and route locations/direction with Owner. See Raceway Specifications. Additional Spare Raceway may be shown on Drawings, or required elsewhere herein.

1.9 MINOR DEVIATIONS

- A. Make minor changes in equipment locations and equipment connections as directed or required without extra cost.

1.10 RECORD DRAWINGS

- A. Maintain a marked set of prints at job site at all times. Show all changes from the original drawing set whether visible or concealed. Include all addendums, field orders, change orders, clarifications, request for information drawn responses, and deviations. Dimension accurately from building lines, floor, or curb elevations. Show exact location, elevation, and size of conduit/raceway, access panels and doors, equipment, and all other information pertinent to the Work.
- B. At project completion, submit marked set to Architect for review.

1.11 TRAINING

- A. Provide training of Owner's selected staff for all electrical systems specified herein.
- B. Training of all systems shall be digitally recorded, and two copies shall be distributed to Owner.
- C. Notify and Coordinate with Owner for training and attendance not later than 15 Days prior to training.
- D. Provide 2 hours of general system training in addition to training indicated below.
 - 1. Pad Mounted Switch- 4 hours
 - 2. Generator- 4 hours

- E. Training shall be conducted by qualified individuals familiar with the Work, and with the equipment.
- F. Instructor shall be familiar with programming and operation of equipment and shall provide instruction to do such.
- G. Provide contact information to Owner for an additional 1 hours support for all electrical systems.
- H. Training shall not occur prior to systems being fully inspected, operational, and complete.
- I. Utilize necessary training materials, conduct training at project location including walk-through of equipment on-site.
- J. Provide Owner with all required Operation, Maintenance, and Programming manuals provided by equipment manufacturer.
- K. Owner shall determine attendees at training, not the contractor. Contractor shall re-train if attendees were not selected by the Owner.

1.12 WARRANTY

- A. Warrant Work, materials, and equipment for not less than one year.
- B. Provide additional warranty as required herein.

PART 2 - PRODUCTS

THIS PART NOT USED

PART 3 - EXECUTION

THIS PART NOT USED

END OF SECTION

SECTION 26 00 26 SUBMITTALS AND SHOP DRAWINGS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Refer to Division 1
- B. Organization
 - 1. Provide 3-ring type hard cover notebook with 3-hole punch product data sheets.
 - 2. Order submittals in logical form with tab dividers indicating specification section, and specification title
 - 3. Equipment shown on schedules shall be in logical order as the equipment appears on the schedule (i.e. light fixture type A precedes light fixture type Z), and be submitted with IDs matching schedule(s).
 - 4. Submit 5 copies for review. Not all copies will be returned to Contractor.
 - 5. Clearly readable electronic submittals are permitted in – Lieu of initial hard copies provided they are printed by the Contractor with the O&M Manuals for Owner's hard-copy.
 - a. Contractor is responsible to verify receipt of electronic submittals by Engineer.
 - b. Electronic Submittals shall include the project title in the subject line with unique submittal number, and description of submittal.
 - c. Submit to Email address: submittals@fluentengineering.com
 - (i) Fluent Engineering has no limit on E-mail sizes; however, from time to time our email service provider may restrict incoming e-mails beyond our control.
 - (ii) Contractor is responsible for any damage as a result of viruses or other malicious software or links to such contained with submittal
 - (iii) Fluent Engineering will accept only PDF electronic files. ZIP files, links, images files, images within an email message, and Dropbox type services, etc. will not be opened/accepted.
 - (iv) Open file sharing programs such as Dropbox are not permitted and are considered a compromise of project security / non-disclosure agreements.
 - (v) Coordinate with Engineer if PDF E-mail is too large to be sent.
 - (vi) Engineer may elect on a case by case basis to utilize the/a Contractor's online submittal system with Owner's approval.
 - (vii) Otherwise, use hardcopy format.
- C. Allow no less than 20 Days for review by Engineer.
- D. Contractor is responsible to submit, verify receipt, and verify receipt of comments for all submittals.
- E. Resubmittals shall contain all items included in pervious submittals with changes clearly identified with a cover letter listing the changed items, or if permitted by Division 1 only resubmit items that have changed with changes clearly identified. Only revised items will be reviewed.

- F. No item requiring review shall be delivered to the site or otherwise provided to the Project until submittals have been reviewed by the Engineer.

1.2 DEFINITIONS

- A. Manufacturing Data: Information regarding the product(s) and equipment issued by the manufacturer as described below.
- B. Manufacturer's Label: Manufacturer's label shall include a typewritten list of manufacturer's name, sizes and model or catalog numbers.
- C. Manufacturer's Catalog Data: Manufacturer's catalog data shall include standard catalog information (Cut Sheets) marked to indicate specific equipment and options for complete and functional system. All components of the system shall be included. Include listing information. Include installation instructions.
- D. Manufacturer's Technical and Engineering Data: Manufacturer's technical and engineering data shall include materials, dimensions, details, installation instructions, weights, capacities, illustrations, wiring diagrams, control diagrams, control schematics, piping diagrams, connection diagrams, performance data, trip curves, listings, mix design, test results, and any other information required for a complete evaluation of the equipment specified, and to verify compliance with the Contract Documents. All available details shall be included with any modifications to the equipment indicated. All manufacturers and associated model numbers used for complete system shall be indicated.
- E. Shop Drawings: Shop drawings are Construction drawings of items manufactured specifically for this project. Shop drawings shall include dimensions, construction details, weights, and additional information to identify the physical features of the system or piece of equipment. Drawings shall be adequately sized and scaled for a complete review.
- F. Samples: Samples include actual example of the equipment to be installed. Include actual color, finish, and functioning replica of equipment to be installed. Samples will be returned to the Contractor when submitted with pre-paid postage.
- G. Certifications and Qualifications: Submit list of past projects with same systems. Submit information listing references, copies of certificates issued by manufacturer, school, and standards organizations. Submit information mandated in specific specification section.

1.3 SUBMITTALS REQUIRED

- A. Product Evaluation Data. 5 copies of product literature. The submittal schedule for product evaluation data is as indicated below. Each item requiring a submittal is given the following code:

| | |
|----|---|
| L | Manufacturer's Label |
| C | Manufacturer's catalog data (Cuts) |
| E | Manufacturer's technical and engineering data |
| S | Shop drawings |
| SA | Samples |

CR Certifications
Q Qualifications

1.4 SUBMITTAL SCHEDULE

Division 26 - Electrical

| | |
|---|------------------|
| Section 26 05 13 MEDIUM VOLTAGE CABLES (AND SPLICES)..... | C, E, S(SPLICES) |
| Section 26 05 19- BUILDING WIRE AND CABLES | C |
| Section 26 05 26- GROUNDING | C |
| Section 26 05 29- SUPPORTING DEVICES | L |
| Section 26 05 33- RACEWAYS & FITTINGS | L |
| Section 26 05 33.16- OUTLET, JUNCTION, AND PULL BOXES | C |
| Section 26 05 53- ELECTRICAL IDENTIFICATION | L |
| Section 26 05 83- WIRE CONNECTIONS | L |
| Section 26 12 00 OIL FILLED TRANSFORMERS..... | C,E,S |
| Section 26 13 10 MEDIUM VOLTAGE OUTDOOR PAD MOUNT SWITCHGEAR..... | C,E,S,CR,Q |
| Section 26 32 00- GENERATOR POWER SYSTEM..... | C,E,S,CR |

PART 2 - PRODUCTS

THIS PART NOT USED

PART 3 - EXECUTION

THIS PART NOT USED

END OF SECTION

**SECTION 26 05 13
MEDIUM VOLTAGE CABLE**

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Provide, terminate, and connect medium voltage cables.

1.2 CONTRACT CONDITIONS

- A. Work of this Section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this Specification and accompanying Drawings

1.3 APPLICABLE STANDARDS

- A. National Fire Protection Association (NFPA)
 - 1. NFPA 70 National Electrical Code
- B. Insulated Power Cable Engineers Association (IPCEA)
 - 1. S-93-969 5-46kV Shielded Power Cable for Use in Transmission and Distribution of Electrical Energy (NMEA WC-74)
- C. Underwriters Laboratories (UL)
 - 1. UL 1072-2006 Medium Voltage Power Cable

1.4 SUBMITTALS

- A. Submit WC -74 manufacturers certified reports to Engineer. Certified copies shall show conformance with the referenced standards and shall be reviewed prior to delivery of cable.
- B. Submit test results indicated herein when requested, and at Contract Closeout.

PART 2 PRODUCTS

2.1 MATERIAL, MEDIUM VOLTAGE CABLE:

- A. Medium voltage cable shall be in accordance with the NEC, IPEA, and as shown on the Drawings.
- B. Shall be single conductor stranded copper type as shown on the Drawings.
- C. Insulation:
 - 1. Insulation level shall be 133 percent.
 - a. Types:
 - i. Ethylene propylene rubber insulation shall be thermosetting, light and heat stabilized. Cable type abbreviation, EPR.
 - ii. Polyethylene insulation shall be thermosetting, light and heat stabilized, chemically crosslinked. Cable type abbreviation, CCLP.
 - iii. Within vaults, switchgear rooms and equipment assemblies where the incoming feeder cables are not suitable for connections between the protective equipment, disconnects and transformers, install suitable, approved cables.
- D. Conductors and insulation shall be wrapped separately with semi-conducting tape.

- E. Insulation shall be wrapped with non-magnetic, metallic shielding.
- F. Heavy duty, overall protective jackets of chlorosulphonated polyethylene, neoprene, polyvinyl chloride or equal shall enclose cable.
- G. Cable temperature ratings for continuous operation, emergency overload operation and short circuit operation shall be not less than the IPCEA Standard for the respective cable.
- H. Manufacturer's name, size, insulation type, and other pertinent information shall be marked or molded clearly on the overall jacket's outside surface or incorporated on marker tapes within the cables at reasonable intervals.

2.2 MATERIAL, TERMINATIONS

- A. The materials shall be compatible with the conductors, insulations and protective jackets on the cables and wires.
- B. The terminations shall insulate and protect the conductors not less than the insulation and protective jackets on the cables and wires which protect the conductors.
- C. Terminating Fittings:
 - 1. Shall be heavy duty, pressure type fittings which will assure satisfactory performance of the connections under conditions of temperature cycling and magnetic forces from available short circuit currents.
 - 2. The fittings shall be suitable designed and the proper size for the cables and wires being spliced and terminated.
- D. Terminating Kits:
 - 1. General
 - a. Shall be assembled by the manufacturer or supplier of the material and shall be packaged for individual splices and terminations or for groups of splices and terminations.
 - b. Shall consist of materials designed for the cables being spliced and terminated and shall be suitable for the prevailing environmental conditions.
 - c. Shall include detail drawings and printed instructions for each type of splice and termination being installed, as prepared by the manufacturers of the materials in the kits.
 - d. Detail drawings and printed instructions shall indicate the cable type, voltage rating, manufacturer's name and catalog numbers for the materials indicated.
 - e. Voltage ratings for the splices and terminations shall be not less than the voltage ratings for the cables on which they are being installed.
 - f. Reduce stress and absorb shock/expansion as required by termination equipment manufacturer and cable manufacturer (include stress-cone as indicated herein).
 - g. Deadbreak for dead-front equipment rated above 200A. 600A Rated.
 - h. Loadbreak for dead-front equipment rated 200A or below. 200A Rated.

- E. Taped Terminations:
 - 1. Insulating and semi-conducting rubber tapes shall withstand 200 percent elongation without cracking, rupturing or reducing their electrical and self-bonding characteristics by more than 5 percent.
- F. Epoxy Resin Kits shall be as follows:
 - 1. Compatible with the cable insulations and jackets and make the splice watertight and submersible.
 - 2. Thermosetting and generate its own heat so that external fire or heat will not be required.
 - 3. Set solid and cure in approximately 60 minutes in 70 degree F ambient temperature.
 - 4. Not deteriorate when subjected to oil, water, gases, salt water, sewage and fungus.
 - 5. Furnished in pre-measured quantities, sized for each termination, with two resin components in an easy mixing plastic bag which will permit mixing the resin without entrapping air or contaminants. Other methods of packaging and mixing the epoxy resin components will be considered for approval, provided they include adequate safeguards to assure precise proportioning of the resin components and to prevent entrapping air and contaminants.
 - 6. Use snap together, longitudinally-split, interlocking seam, transplant mold bodies or taped frameworks, injection fittings and injection gun or pouring equipment. Completely fill voids within the splices and terminations.

2.3 MATERIAL, FIREPROOFING TAPE

- A. The tape shall consist of a flexible, conformable fabric of organic composition coated one side with flame-retardant elastomer.
- B. The tape shall consist of a flexible, conformable fabric of organic composition coated one side with flame-retardant elastomer.
- C. The tape shall not deteriorate when subjected to water, gases, salt water, sewage, or fungus. It shall be resistant to sunlight and ultraviolet light.
- D. The finished application shall withstand a 200 ampere arc for not less than 30 seconds.
- E. Securing Tape: Shall be glass cloth electrical tape not less than 7 mils thick, and 3/4-inch wide.

PART 3 EXECUTION

3.1 INSTALLATION, MEDIUM VOLTAGE CABLE

- A. Installation shall be in accordance with the NEC, and as shown on the Drawings.
- B. Follow sequencing as indicated on Drawings
- C. Use suitable lubricating compounds on the cables and wires to prevent damage to them during pull. Provide compounds that are not injurious to the cable and wire jackets, and do not harden or become adhesive.

- D. Splice the cables and wires only in manholes and accessible junction boxes, and where shown.
- E. In manholes, underground raceways and other outdoor locations:
 - 1. Seal the cable ends prior to pulling them in to prevent the entry of moisture.
 - 2. For ethylene propylene rubber and polyethylene insulated cables, use bags of epoxy resin which are not less than 1/4-inch larger in diameter than the overall diameter of the cable. Clean each end of each cable before installing the epoxy resin over it.
- F. Provide ground shield and connect to termination equipment/feed as required. Include ground conductor where required per NEC.

3.2 INSTALLATION AND TERMINATIONS

- A. Install the materials as recommended by their manufacturer including special precautions pertaining to air temperature during installations.
- B. Ethylene Propylene Rubber and Polyethylene Insulated Cables:
 - 1. Cables Rated More than 8000 Volts: Install taped splices and termination or premolded rubber splices and terminations.
- C. Installation shall be accomplished by qualified personnel trained to accomplish high voltage equipment installations. All instructions of the manufacturer shall be followed in detail.

3.3 INSTALLATION, FIREPROOFING

- A. Cover all power cables located in manholes, handholes and junction boxes with arcproof and fireproof tape.
- B. Apply the tape in single layer, one-half lapped or as recommended by the manufacturer. Install the tape with the coated side towards the cable and extend it not less than 1-inch into each duct
- C. Secure the tape in place by a random wrap of glass cloth tape.

3.4 FEEDER IDENTIFICATION

- A. In each manhole, pullbox, and termination point install permanent tags on cables and wires of each circuit to clearly designate their identification and voltage. The tags shall be the embossed brass type and shall also show the cable type and voltage rating. Position the tags so they will be easy to read after the fireproofing is installed.

3.5 FIELD TESTS FOR MEDIUM VOLTAGE CABLE

- A. New Cable
 - 1. Acceptance tests shall be performed on new cable only, do not perform any hi-pot tests on existing cables/conductors.
 - 2. Provide High Potential Tests and Dielectric Absorption Tests. Verify conformance with manufacturer's specifications and herein.
 - 3. Test and verify ringing and document ringing procedure and verification results to assure cables are properly phased. Match existing (replaced line) cable phase-to-phase configuration.

4. Test new cable after installation, and terminations have been made, but before connection to service equipment. See Sequence on Drawings.
- B. High Potential Test:
1. Leakage current test shall be by high potential D.C. step voltage method.
 2. Prior to high potential test, test the cable and shields for continuity, shorts, and grounds.
 3. High potential test shall measure the leakage current from each conductor to the insulation shield. Use corona shields, guard rings, taping, mason jars, or plastic gabs to prevent corona current from influencing the readings. Unprepared cable shield ends shall be trimmed back 1-inch or more for each 10 kV of test voltage.
 4. Safety Precautions:
 5. Exercise suitable and adequate safety measures prior to, during, and after the high potential tests, including placing warning signs and preventing people and equipment from being exposed to the test voltage, including within tunnels. Coordinate testing time and date with Owner.
- C. Test Voltages:
1. New shielded EPR and CCLP cable D.C. test voltages shall include 133% level testing.
- D. High Potential Test Method:
1. Apply voltage in approximately 8 to 10 equal steps.
 2. Raise the voltage slowly between steps.
 3. At the end of each step, allow the charging current to decay, and time of the interval of decay.
 4. Read the leakage current and plot a curve of leakage current versus test voltage on graph paper as the test progresses. Read the leakage current at the same time interval for each voltage step.
 5. Stop the test if leakage currents increase excessively or a "knee" appears in the curve before maximum test voltage is reached.
 - a. For new cable, replace the cable and repeat the test.
 6. Upon reaching maximum test voltage, hold the voltage for five (5) minutes. Read the leakage current at 30 second intervals and plot a curve of leakage current versus time on the same graph paper as the step voltage curve.
 - a. Stop the test if leakage current starts to rise or decreases and, again, starts to rise. Leakage current should decrease and stabilize for good cable.
 7. Terminate test and allow sufficient discharge time before testing the next conductor.
 8. Include test documentation at shut-down coordination meeting. Submit test documentation when requested by Owner or Engineer and Submit test documentation with Contract Closeout documentation.
- E. Dielectric Absorption Test:
1. Completely isolate extraneous electrical connections to new cable at terminations and joints.
 2. Safety precautions shall be observed. Each cable shall be given a full dielectric absorption test with a 5000/12000V insulation resistance test set.
 3. Test shall be applied for a long enough time to charge the cable.
 4. Readings shall be recorded every 15 seconds during the first 3 minutes, and 1 minute intervals thereafter.

5. Test shall continue until three equal readings 1 minute apart are obtained. Readings shall not be less than 200 megohms at an ambient temperature of 68 degrees F. Readings taken at other temperatures shall be corrected accordingly.
6. Verify test results per manufacturer requirements, Reference Standards, and herein.
7. Include test documentation at shut-down coordination meeting. Submit test documentation when requested by Owner or Engineer and Submit test documentation with Contract Closeout documentation.

END OF SECTION

**SECTION 26 05 19
BUILDING WIRE & CABLES**

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Wires and Cables

1.2 REFERENCE STANDARDS

- A. National Fire Protection Association (NFPA).
 - 1. NFPA 70 National Electrical Code.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Deliver new wire and new cable to site in new packaging with standard cable coils/reels. Packaging shall clearly show length, wire size, wire/cable type, and manufacturer.
- B. Protect products from weather, moisture, and damage.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Building Wiring & Insulation: Copper, 98 percent conductivity, stranded. Solid may be used at contractor's option for wire smaller than #8 AWG. 600 Volt insulation, Type THHN for dry interior and damp interior locations. Type THW, THWN or XHHW for wet locations, and exterior locations.
 - 1. Cable conductors THHN- 90 Degree C. rated. Use of MC cable not permitted.
 - 2. Number of conductors/cables as required per circuiting/load requirement.
- B. Conductor cable with conductors smaller than #12 AWG for branch circuits not permitted.
- C. Exterior cables exposed to sunlight shall be listed "sunlight resistant."
- D. Control panel wiring no smaller than #14 AWG stranded switchboard Type MTW unless otherwise specified on the Drawings or required by system manufacturer.
- E. Motor control wires shall be no smaller than #14 AWG.
- F. Wire for other areas as shown on the Drawings.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Parallel feeders shall have identical conductor length.
- B. Use UL listed pulling lubricant for greater than equivalent #4 AWG wire diameter.
- C. Use UL listed pulling lubricant for pulls greater than 75 feet.

- D. Remove moisture from raceway prior to wire pull.
- E. Provide copper grounding conductors. Provide a ground wire through conduits. Utilize the ground wire as the equipment grounding conductor no smaller than #12 AWG otherwise sized as shown and per NEC.
- F. Do not splice feeders, or services. Splices only permitted in accessible junction or outlet boxes where circuit routes deviate. Do not splice or tap branch circuits terminating in a single outlet.
- G. Color code conductors per NEC to designate neutral, phase, and ground as follows:
- | | |
|-----------|-------------------------------------|
| CONDUCTOR | 120/208 |
| Phase A | Black, or per (E) facility standard |
| Phase B | Red, or per (E) facility standard |
| Phase C | Blue, or per (E) facility standard |
| Neutral | White |
| Ground | Green |
| Travelers | Pink, or per (E) facility standard |
- H. Wires shall be factory color coded. Coloring shall be integral to the insulation. Plastic tape permitted on #6 AWG and larger where insulation coloring is not available or practical. Apply tape in spiral half-lap over exposed portions of cable at all locations that cable is accessible.
- I. Conductors shall be identified with circuit number where conductors are accessible such as at terminals, outlets, switches, circuit breakers, motor control centers, etc. Identify the ends of a given conductor circuit the same.
- J. Do not install wires of different voltage systems in same raceway, box, or other enclosure. Control voltage is permitted in same enclosure only where specific equipment is listed for multiple voltage use, and a listed voltage barrier is provided.
- K. Radius of cable bends shall not be less than 10 times the outer diameter of the cable.
- L. Do not install cable within conduit per NEC.
- M. Follow standards of practice for storage, handling, and termination of aluminum conductors. Provide anti-oxidation gel, and remove any oxidation by approved means when terminating conductors.
- N. Route parallel or perpendicular to building lines.
- O. No Cable (power, low voltage, etc.) shall be unconcealed in any finished area.

END OF SECTION

SECTION 26 05 26 GROUNDING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Electrical systems grounding.
- B. Signal systems grounding.

1.2 APPLICABLE STANDARDS

- A. Underwriters Laboratories (UL)
 - 1. UL 467 Standard for Grounding and Bonding Equipment
- B. Institute of Electrical and Electronic Engineers (IEEE)
 - 1. IEEE 81 Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System Part 1: Normal Measurements
 - 2. IEEE 142 Recommended Practice for Grounding of Industrial and Commercial Power Systems

1.3 APPLICABLE REGULATIONS

- A. National Fire Protection Association (NFPA)
 - 1. NFPA 70 National Electrical Code (NEC)
- B. NEC references below are based on the 2023 edition. Contractor shall meet current NEC requirements.

1.4 TESTS

- A. Measure ground grid resistance with earth test megger and provide additional listed and approved earth grounding devices and conductors as required until resistance is 25 ohms or less. Inform engineer in writing, if resistance is greater than 5 ohms.

PART 2 - PRODUCTS

2.1 GROUNDING ELECTRODES

- A. Encased Electrode: NEC 250.52(A). One, no smaller than #4 bare solid copper conductor. Install in concrete foundation or footing near contact with earth. Connect to steel reinforcing bars, where available, not less than two times.
- B. Ground Rods: 3/4" diameter, 8' long, copper, with approved clamp near surface. Listed as ground rod for direct contact with earth.
- C. Grounding Electrode: NEC 250.52(A).

2.2 GROUNDING CONDUCTORS, AND JUMPERS

- A. Size: Per NEC 250.
- B. Material: Copper.
- C. Protection: Conductors not in raceway or concealed shall be insulated. Provide raceway where shown or required for physical protection.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Regardless of TESTS results above, Provide not less than the following:
 - 1. Underground Metal Cold Water Pipe electrode; If underground Metal Cold Water Pipe is not available Provide additional Ground Rod
 - 2. Encased Electrode.
 - 3. Two (2) Ground Rods, or Ground Rods as shown.
 - 4. Connection to building steel when present. Connect to pad mount equipment metallic enclosure when present.
- B. Grounding Electrodes: Bond all electrodes together. Do not provide other type of electrode than shown without written approval. Provide additional quantity of electrodes as required by TESTS above.
- C. Provide access to all grounding electrode conductor connections.

3.2 POWER AND SIGNAL SYSTEM GROUNDING

- A. All equipment grounding conductors shall be routed through same equipment conductor raceway from beginning to end (distribution source to load).
- B. Metallic raceways are not approved as equipment grounds.
- C. Circuit Grounding: Install grounding bushings, studs, and jumpers at distribution centers, pullboxes, motor control centers, panelboards, and junction boxes.
- D. Ground Connections: Clean surfaces thoroughly before applying ground lugs or clamps. If surface is coated, the coating must be removed down to the conductive material. After the coating has been removed, apply a listed and approved noncorrosive compound to cleaned surface and connections. Where galvanizing is removed from metal, it shall be re-applied or painted.
- E. Bonding Jumpers: Provide with green insulation and size not smaller than per NEC and larger where shown. Connection to neutral only at service neutral bar. Bonding jumpers shall be contiguous without break, joint, or splice.
- F. Service Panel:
 - 1. Connect the various feeder green grounding conductors to the ground bus in the enclosure with suitable pressure connectors.
 - 2. Connect the grounding electrode conductor to the ground bus.
 - 3. Connect the neutral to the ground bus as the main bonding jumper.
 - 4. Connect metallic conduits, which terminate without mechanical conductive connection to the enclosure, by grounding bushings and ground wire to the ground bus.
- G. Feeders and Branch Circuits: Install green grounding conductors with feeders and branch circuits. Additional locations and systems as shown.
- H. Raceway Systems:
 - 1. Ground all metallic enclosed raceway systems.

2. All enclosed raceway connecting to equipment shall contain a grounding conductor.
 3. Conduit systems shall contain a grounding conductor.
 4. Bond grounding conductor at beginning and end of raceway provided for mechanical protection containing only a grounding conductor.
- I. Boxes, Cabinets, Enclosures, and Panelboards:
1. Bond the grounding wires to each pullbox, junction box, outlet box, cabinets, and other enclosures through which the ground conductors pass.
 2. Provide lugs in each box and enclosure for ground wire termination.
 3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs for terminating the ground wires.
- J. Receptacles - Refer to Section 26 27 26.
- K. Ground lighting fixtures to the equipment grounding conductor of the wiring system.
- L. Fixed electrical equipment shall have a ground lug installed for termination of the equipment ground conductor.
- M. Motors: Install a separate insulated equipment grounding conductor from the equipment ground connection in the motor controller through the raceway and flexible conduit to the ground terminal on the motor housing. Ground motor controller through feeder raceway. No reductions.
- N. Control and Signaling Equipment: Ground metallic enclosures and raceways, terminate shields and drain wires to building ground system. Provide additional grounding as required by equipment manufacturer.

3.3 TESTING

- A. Test per IEEE 81.
- B. Grounding Electrode Conductor:
1. Measure resistance between switchboard ground bus and each grounding electrode, using a Megger and a single length of additional wire.
 2. Measure resistance between both ends of the additional wire used.
 3. Grounding Electrode Conductor resistance is the difference between 1 and 2.
 4. Correct any inadequate connections as indicated.

END OF SECTION

SECTION 26 05 29 SUPPORTING DEVICES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Raceway Supports.
- B. Cable supports.
- C. Provide all hardware and materials to support, as required, a complete and congruent raceway system.

1.2 APPLICABLE STANDARDS

- A. National Fire Protection Association (NFPA)
 - 1. NFPA 70 National Electrical Code
- B. Underwrites Laboratories (UL)
 - 1. UL 2239 Hardware for the Support of Conduit, Tubing, and Cable
- C. National Electrical Contractors Association (NECA)
 - 1. ECA 101 Standard for Installing Steel Conduit

PART 2 - PRODUCTS

2.1 RACEWAY SUPPORTS

- A. Single Runs: Steel rod hangers, galvanized single hole conduit straps, or ring bolt type hangers with spring clips. Adhesives, tape, staples, zip/wire ties, or "J-nails" not acceptable.
- B. Multiple Runs: Rack with 25 percent spare capacity. Maximum width per manufacturer's recommendations.
- C. Vertical Runs: U-channel support with conduit fittings.
- D. All hardware such as inserts, straps, bolts, nuts, screws and washers shall be galvanized or plated steel.
- E. PVC coated galvanized steel in exterior and wet locations.
- F. Channel manufacturers: Kindorf, Unistrut, or approved.

2.2 CABLE SUPPORTS

- A. Approved plastic coated wire-ties.
- B. Approved PVC coated hangers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Supporting devices shall be listed for the location installed. Supports shall be of like material of raceway and be rated for location installed.
- B. Layout to maintain headroom, neat mechanical appearance, and to support equipment loads required.
- C. Exact location and spacing between supports per manufacturer's recommendations and NEC requirements.
- D. Provide adequate spacing to prevent moisture build-up. All runs of conduit shall be arranged so as to be devoid of traps wherever possible.
- E. Cable "Sag" greater than 3-Inches from valley to peak of run, not acceptable.

END OF SECTION

SECTION 26 05 33 RACEWAY & FITTINGS

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Conduit, Fittings, and Tubing.
- B. Flexible Conduit.

1.2 REFERENCE STANDARDS

- A. National Fire Protection Association (NFPA).
 - 1. NFPA 70 National Electrical Code--Chapter 3.
 - 2. Underwriters Laboratories (UL) 6,
 - 3. UL797
 - 4. UL1990

PART 2 PRODUCTS

2.1 MATERIALS AND COMPONENTS

- A. General: No smaller than ¾-inch unless otherwise shown or indicated herein.
- B. Conduit and Tubing: Electrical metallic tubing, galvanized rigid steel threaded conduit, Schedule 40 PVC, PVC Coated rigid steel (See Alternates).
- C. Flexible Conduit: Flexible plastic jacketed type with liquidtight connectors and steel wrap armor (liquidtight flexible metallic conduit).
- D. Fittings:
 - 1. General: Listed and approved for purpose. Water, gas, concrete tight where required.
 - 2. Electrical Metallic Tubing (EMT): Connectors to be steel. All connectors shall have factory insulated throats. Couplers and connectors shall be compression, setscrew type.
 - 3. Galvanized Rigid Steel Conduit (GRC): Threaded. Do not use pressure type. Provide factory insulated throats on bushings.
 - 4. PVC Coated GRC (PGRC): Same as GRC with PVC coating for direct bury applications.
 - 5. Liquidtight Flexible Metallic Conduit: Continuous copper ground in core; approved watertight.
- E. Expansion Joints: Offset or sliding type with bending straps and clamps. Listed for purpose.
- F. Entrance Seal: Shall be modular, mechanical type, consisting of inter-locking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening. The elastomeric element shall be sized and selected per manufacturer's recommendations. Garlock Link-Seal or approved.
- G. Underground Marking Tape: 6-inches wide, yellow, low-density polyethylene 4 mil thickness. Imprinted: "WARNING: STOP DIGGING - BURIED HIGH VOLTAGE

ELECTRIC LINE BELOW" and current date. Tape for controls line similar, except green.

2.2 TYPE

- A. Utilize GRC in concrete with concrete-tight connectors.
- B. Utilize PVC Coated GRC for exterior with watertight connectors (See Alternates).
- C. Utilize electrical metallic tubing concealed in finished interior spaces.
- D. Utilize electrical metallic tubing exposed in unfinished spaces, where not subject to physical damage.
- E. For underground conduit, utilize Schedule 80 PVC or PGRC as indicated on Drawings (See Trench Detail, See Alternates). Provide PVC Coated GRC elbows and PVC Coated GRC risers through penetrations where PVC is used.
- F. Utilize surface metal raceways for exposed runs in finished areas. Paint to match wall finish. Use only where shown on Drawings or where approved.
- G. Connections to motors, vibrating equipment, and movable equipment shall be with flexible metallic conduit or liquidtight flexible metallic conduit. Use liquidtight type in damp locations. No smaller than 1/2-inch for motor connections. Use 3/8-inch only for light fixture wiring where provided by light fixture manufacturer. Provide sufficient length of flexible conduit to stop vibration into connecting support. Sizes not noted on the Drawings shall be as required by the NEC and no smaller than upstream connection conduit size.
- H. Flexible metallic conduit not to exceed 6-feet at any one location unless request is affected by engineer in writing.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install raceway concealed in all areas where required concealment not required in mechanical and electrical rooms, connections to motors, above suspended ceilings, and underfloor spaces.
- B. Coordinate installation of conduit in masonry, cabinetry, and building slab work.
- C. Underground Raceways: Watertight, including fittings, slope 3 inches per 100 feet downward from building. Install underground marking tape. Bury 6 inches to 8 inches below grade directly above raceway. Seal exterior junction boxes or provide with drainage.
- D. PGRC installed in contact with earth shall be protected from coating damage including scrapes, scratches, peel, etc. during installation.
- E. Route all conduits parallel or perpendicular to building lines.
- F. Vertical Runs: Straight and plumb.

- G. Raceways Running in Groups: Run at same elevation, properly spaced and supported.
- H. Install conduit in concrete slab with minimum 2-inch cover. Do not install conduit larger than one inch maximum in concrete slabs unless approved.
- I. Do not interfere with placement of concrete re-bar. Place raceway between re-bar layers. Space at least 8-inches on center. Space as far as possible where terminating at same area. Secure raceway, boxes, inserts, etc. by mechanical means prior to pour.
- J. Install conduit free with no dents or bruises. Cap ends to prevent entry of foreign materials and moisture.
- K. Clean raceway before installation of conductor.
- L. Alter conduit routing to avoid obstructions, minimizing crossovers. Avoid use of bends and offsets where possible. Only bend raceway with an approved conduit bending machine or approved hand (hickey) bender.
- M. Provide listed expansion complete fittings with grounding jumpers where conduits intersect building expansion joints and for longer runs where conduit expansion may be excessive.
- N. Allow minimum of 6 inches clearance at flues, steam pipes, and heat sources.
- O. Dissimilar Metals: Avoid contact with pipe or duct runs of other systems.
- P. Lengths and Bends: Maximum number of bends in any run shall be the equivalent of four quarter bends (360 degrees total). Maximum length of any run shall be 300 feet, less 50 feet for each equivalent quarter bend. Provide Junction and pull boxes to meet these limits.
- Q. Provide entrance seal for exterior wall, underground, and exterior slab raceway penetrations.
- R. Empty raceways shall be provided with pull string or #12 conductor. Provide #12 conductor for exterior empty PVC raceways.
- S. Flexible connections lengths shall not be excessive as deemed by EOR.

END OF SECTION

SECTION 26 05 33.16
OUTLET, JUNCTION, AND PULLBOXES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide electrical boxes and fittings as required for a complete, protected, and operable system.
- B. Comply with local Codes and NEC as required for Providing electrical boxes and fittings.

1.2 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI).
 - 1. C73 Series Dimensions of Attachment Plugs and Receptacles
- B. National Electrical Manufacturers Association (NEMA)
 - 1. OS 1 Sheet-Steel Outlets Boxes, Device Boxes, Covers, and Box Supports
 - 2. FB 1 Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable

1.3 APPLICABLE REGULATIONS

- A. American National Standards Institute (ANSI).
 - 1. C2 National Electrical Safety Code (ANSI/IEEE C2)
- B. National Fire Protection Association (NFPA).
 - 1. NFPA 70 National Electrical Code.
- C. Underwriters' Laboratories (UL).
 - 1. UL50 Cabinets and Boxes (ANSI/UL50).
 - 2. UL514 Outlet Boxes and Fittings (ANSI/UL514).

PART 2 - PRODUCTS

2.1 OUTLET BOXES:

- A. No smaller than 4-inch, 1-1/2-inches deep box. Provide raised covers where required for surface mounted outlets, plaster rings on flush outlets. Provide tile rings where flush outlets installed in tile. Concrete type where installed in concrete.
- B. Receptacle Outlets and Flush Switch: 4-inch square box, 1-1/2-inches deep, with single or two-gang plaster ring.
- C. Match one piece gang boxes to number of devices, install one device per gang. Devices requiring more than one-gang shall be installed in individual boxes matched to device size. Do not exceed 5-gang configuration per row of devices at same location.
- D. Provide galvanized steel interior dry location outlet wiring boxes for emt raceway shaped and sized, to conform to each individual location and installation. Provide with factory knockouts in back and sides, and with threaded holes with screws for securing box covers or devices.

- E. Provide outlet box accessories as required. Accessories include mounting brackets, wallboard hangers, extension rings, fixture studs, cable clamps and metal straps for supporting outlet boxes. Choice of accessories is Contractor's option.
- F. Outlet Box Covers:
 - 1. Flush Mounting: Bevelled, 302 stainless steel, match device installed or full cover where no device installed.
 - 2. Surface Mounting: Bevelled, steel, pressure formed, match device installed or full cover where no device installed.

2.2 WEATHERPROOF / WET LOCATION OUTLET BOXES:

- A. Provide corrosion-resistant cast metal weatherproof outlet wiring boxes, shaped and sized, to conform to each individual location and installation. Provide with threaded conduit ends, suitably configured for each application, including face plate gasket and corrosion proof fasteners.
- B. Weatherproof boxes shall have smooth sides, gray finish.
- C. Boxes used in contact with earth shall be cast iron alloy with gasketed screw cover and water-tight hubs.
- D. Weatherproof Plates: Cast metal, gasketed for switches provide spring loaded sealed door(s).
- E. Weatherproof Receptacle Outlet Cover: Cast metal, NEMA 3R, In-Use type, with locking tab. Match device configuration. 3 1/4 -inches internal depth. T&B CK series, or approved

2.3 WEATHERPROOF JUNCTION AND PULL BOXES:

- A. Provide galvanized sheet steel junction and pull boxes, with screw-on covers; of the type, shape and size, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers.

2.4 KNOCKOUT CLOSURES:

- A. Provide punched-steel knockout closures for steel boxes.

2.5 PULLBOXES

- A. Provide sheet metal in interior dry locations for EMT raceway. Provide cast metal in exterior, or damp locations. Type and material shall conform to National Electrical Code, with screw-on cover.
- B. Flush Mounted Pullboxes: Provide overlapping covers with flush head screws, finished in light gray enamel.
- C. Box volumes shall meet NEC for size and number of entering conduits and cables.

2.6 UNDERGROUND PULLBOXES

- A. Underground Pull Boxes: Cast concrete with suitable concrete cover to withhold loads in location installed. Provide heavy-duty traffic cover where installed with vehicle traffic. Cover and box shall not deform and be rated for location installed. Provide drainage and

no less than 4 feet compacted gravel below installation. Size, and configuration to match installation. Provide where required, and shown on Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Match one piece gang boxes to number of devices, install one device per gang. Do not exceed 4-gang configurations per row of devices at same location.
- B. Locate outlet boxes flush other than in mechanical rooms, electrical rooms, and above suspended ceilings. Provide insulation behind box to prevent condensation for boxes mounted in exterior walls.
- C. Provide insulation behind box for walls with insulation for sound reduction.
- D. Coordinate location and mounting heights with built-in units and cabinetry. Outlet mounting height shall be at same level required for equipment served.
- E. When mounting receptacle, or voice/voice outlet boxes above bench or counter, mount box to the side (horizontally) for finished receptacle grounding pole at left.
- F. Locate pullboxes and junction boxes concealed above suspended ceilings or in electrical rooms, mechanical rooms, or unfinished areas.
- G. Support: Provide adequate support of all outlet boxes. Secure boxes independent raceway, by attaching directly to building structure by approved means.
- H. Identify each junction and pullbox with system description including branch circuit numbers of enclosed circuits, and voltage.
- I. Secure all raceway to entering boxes with approved bushings, and locknuts.
- J. Do not mount boxes back-to-back. Boxes on opposite sides of wall shall be separated by at least 3 inches.
- K. Maintain sound transmission and fire properties of surface installed. Provide appropriate fire stop and sound stop materials as required to maintain these properties.
- L. Provide separate boxes where two voltage systems have equipment at same location. Provide separate boxes for equipment on emergency power system.

END OF SECTION

SECTION 26 05 53

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Permanent Identification of system components.

1.2 APPLICABLE REGULATIONS

- A. National Fire Protection Association (NFPA)
 - 1. NFPA 70: National Electrical Code.

1.3 SUBMITTAL

- A. Provide sample of each label type.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Phenolic Nameplate:
 - 1. Three -layer, white front and back with black core.
 - 2. Neatly engraved through outer layer to show white characters on black background.
 - 3. Beveled edges, print lettering.
 - 4. Other colors as specified or shown. Use red for fire alarm, or fire sprinkler only.
- B. Stenciling and Silk Screening: Printed lettering with enamel or lacquer paints. Legends contrasting with the background on which applied
- C. Panelboard Directory Card: Fiberboard typed. Laminate or place in protective cover.
- D. Concealed Box Labels: Permanent black ink such as "Sharpie" pen with neat and legible writing. Red permanent ink for fire alarm.
- E. Concealed Conductor Labels: Listed white tape wrapped around individual conductor or cable, with permanent black ink with printed lettering
- F. Permanent Self-Adhesive Labels: Temperature, moisture and UV resistant. Metallic and reflective background with printed contrasting lettering.
- G. Exterior Weather-proof Adhesive Label. Temperature, moisture and UV resistant with printed contrasting lettering.
- H. Outlet / Device covers: Clear / transparent tape with matching printed black ink letter / numbering.
- I. Brass Nameplates: Printed Engraved as required, Painted contrast inset labeling, connected via WP metallic crimp chain, or other approved means.

PART 3 EXECUTION

3.1 EQUIPMENT TO BE IDENTIFIED

- A. Motor starters, panels, lighting panels and the disconnecting devices contained therein.
- B. Disconnects.
- C. Control panels, starters, pushbutton stations, pilot lights and other control devices.
- D. Transformers.
- E. Remote control devices.
- F. Conductors at both device and terminal strip terminations for control and instrumentation cables and conductors.
- G. Other items as specified, required by NEC, or noted on Drawings
- H. Devices in lighting panels and power panels shall be identified on the panelboard directory card.
- I. Receptacles and Switches.
- J. Junction Boxes.

3.2 PHENOLIC NAMEPLATES

- A. Power panels shall be labeled on the door of the interior with a nameplate. Letters for panels shall be printed and no less than 1/2 inch high.
- B. Provide nameplate on switchboard, and pad mounted equipment.
- C. Provide nameplates where specified and as shown.

3.3 BRASS NAMEPLATES

- A. Each Termination end of Medium Voltage Cable including splice locations
- B. Indicate Connection location such as “Generator”, “Inlow Hall”, “Library”, “Utility Feed” , etc.
- C. Indicate conductor size and material such as “#2 AWG Copper”
- D. Utilize Capitol letters

3.4 APPLYING IDENTIFICATION

- A. Stenciled letters shall be applied by brush or by spraying.
- B. Nameplates shall be attached with either adhesive or screws. If adhesive is used, it shall adequately adhere to the surface installed.

3.5 IDENTIFICATION REQUIREMENTS

- A. Indicate Voltage for all concealed labels, and for Disconnects, panelboard and switchboard identification.
- B. Identification for disconnecting devices contained in panels and motor control centers shall show the equipment name and location by floor, area, and direction to adequately indicate location of load. Do not include Voltage when the Voltage is the same as for the panel or motor control center.
- C. Nameplates on disconnect devices located in the area but not part of a panel or motor control center shall have the equipment name, power source identification, and voltage designation. Nameplates for disconnect devices located remotely from the equipment shall also show the equipment location by floor, area, and direction to adequately indicate location of load.
- D. Indicators and controls for control panels, starters, and the like shall be labeled, such as (Start, Stop, On, Off, Reset, Fault, etc.).
- E. Panelboard directory cards shall list the circuit numbers and show the equipment name and location supplied by the circuits. Equipment locations shall be shown by floor, area and direction, or by room numbers.
- F. Device covers to include serving circuit and panelboard name, include at receptacles, switches, outlets, system furniture connections, floor boxes, etc.
- G. Apply clear/ translucent adhesive tape with typed black lettering not more than 1/4" in height via use of label maker.

END OF SECTION

SECTION 26 05 83
WIRE CONNECTIONS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Wires Connectors

1.2 REFERENCE STANDARDS

- A. National Fire Protection Association (NFPA).
 - 1. NFPA 70 National Electrical Code.
- B. Underwriters' Laboratories, Inc (UL)
 - 1. UL 486A through UL 486E
- C. American National Standards Institute (ANSI)
 - 1. ANSI/UL 467

PART 2 PRODUCTS

2.1 TWIST-ON CONNECTOR

- A. Pressure-type wound spring twist on connector.
- B. Solderless pressure connectors.
- C. Shell rating of 105 degrees C.
- D. "Push-On" or "punch" type connectors not permitted.

2.2 COMPRESSION ADAPTER

- A. Dual rated for use with both aluminum and copper cable conductors.
- B. Diameter and ampacity as current carrying equivalent copper wire.
- C. Pre-filled with approved joint compound
- D. Connectors shall be clearly marked with Catalog Number, wire size and color-coded die index number.
- E. Burndy "Hyplug" type AYP or equal by T&B, or approved.

2.3 TERMINAL, CRIMP TYPE

- A. Flat; fork tongue, or flat circular matched to terminal size.
- B. Color coded to wire size.
- C. T&B "Sta-Kon", or approved.

2.4 WP COATING

- A. Liquid
- B. For use as an outer seal on vinyl tape splice, fast- drying, suitable for use for direct burial and moisture protection.
- C. 3M Scotchkote Electrical Coating FD, or approved

PART 3 EXECUTION

3.1 INSTALLATION

- A. Provide Twist-On Connectors at taps and splices for conductors no larger than #10 AWG. Provide only in approved junction and outlet boxes.
- B. Provide Compression Adapters for terminating a single conductor into mechanical connectors such as a circuit breaker or set screw lugs. Provide only where required for AL/CU transitions or where lugs require adapters.
- C. Provide Crimp terminal at all Control voltage terminal blocks, unless otherwise recommended by manufacturer.
- D. Do not nick conductor when stripping insulation. No “ringing”
- E. Conductor and cable shall not be reduced at the terminal for connections.
- F. Connectors shall be approved and listed for the purpose used.
- G. Wrap all twist-on connectors with listed tape to maintain equivalent insulation of wire.
 - 1. Exterior, Underground, and WP connections shall include 2-coats of WP Coating.
- H. Remove any obstructions on connection to maintain continuity prior to installation of connectors, such as paint, dirt, and construction materials.
- I. Copper conductors can be terminated in approved compression or mechanical connector, including set screws.
- J. Provide slack at equipment to allow for a neat termination, access to conductors, and ability to repair or replace equipment.

END OF SECTION

**OIL FILLED TRANSFORMERS
SECTION 26 12 00**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide transformers, including mounts, hardware, grounding, connections, and other accessories for a complete and operational installation.

1.2 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI)
- B. Institute of Electrical and Electronics Engineers (IEEE)
- C. National Fire Protection Association (NFPA)
 - 1. NFPA 70 National Electrical Code
- D. Underwriters Laboratory (UL)
- E. National Electrical Manufacturers Association (NEMA)
- F. National Electrical Contractors Association (NECA)
- G. American Society for Testing and Materials (ASTM)

1.3 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.

1.4 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.

1.5 FIELD MEASUREMENTS

- A. Measure primary and secondary voltages and make appropriate tap adjustments.

1.6 QUALITY ASSURANCE

- A. Acceptable Manufacturers:
 - 1. Eaton, ABB, or approved.

PART 2 - PRODUCTS

2.1 RATINGS

- A. The ratings of the transformer shall be as shown on the drawings. Not more than 7% Impedance.

2.2 CONSTRUCTION

- A. The unit shall be mineral oil filled and shall be in accordance with the latest edition of the NEC. High fire point fluids shall be Factory Mutual and UL listed.
- B. The transformer shall carry its continuous rating with average winding or temperature rise by resistance that shall not exceed 65 degrees C rise, based on an average ambient of 30 degrees C over 24 hours with a maximum of 40 degrees C.
- C. The transformer shall be designed to meet the sound level standards for liquid transformers as defined in NEMA and ANSI.
- D. High-voltage and low-voltage windings shall be copper or aluminum. Insulation between layers of the windings shall be by thermally set insulating paper or equal.
- E. The main transformer tank and attached components shall be designed to withstand pressures greater than the required operating design value without permanent deformation. Construction shall consist of carbon steel reinforced with external, internal or sidewall braces. All seams and joints shall be continuously welded.
- F. The assembly shall be individually welded and receive a quality control pressurized check for leaks. The entire tank assembly shall receive a similar leak test before tanking. A final six-hour leak test shall be performed.
- G. The transformer(s) shall be compartmental-type, self-cooled and tamper-resistant for mounting on a pad. The unit shall restrict the entry of water into the compartments so as not to impair its operation. There shall be no exposed screws, bolts or other fastening devices which are externally removable.
- H. The transformer(s) shall consist of a transformer tank and full-height, bolt-on low-voltage cable terminating compartments located side-by-side separated by a rigid metal barrier. Dead-Front high voltage termination. Each compartment shall have separate access.
- I. Compartment sills, doors and covers shall be removable to facilitate cable pulling and installation. Compartments shall be designed for cable entry from below.
- J. Transformer(s) shall be supplied with a welded or bolted main tank cover and be of a sealed-tank construction designed to withstand a pressure of 7 psig without permanent distortion. The tank cover shall be designed to shed water and be supplied with a tamper-resistant access handhole sized to allow access to internal bushing and switch connections. Transformers supplied with "less flammable" fluids shall be manufactured to withstand 12 psig without rupture. The transformer shall remain effectively sealed for

a top-oil temperature of -5 degrees C to 105 degrees C. When necessary to meet the temperature rise rating specified, cooling panels shall be provided.

- K. The transformer manufacturer shall certify that the transformer is non-PCB containing less than 1 part per million detectable PCBs. Nonflammable transformer liquids including askarel and insulating liquids containing tetrachloroethylene, perchloroethylene, chlorine compounds, or halogenated compounds are not acceptable and shall not be provided.
- L. When high-voltage taps are specified, full-capacity taps shall be provided with a tap changing mechanism designed for de-energized operation. The tap changer operator shall be located within one of the compartments.
- M. The coil windings shall be designed to reduce losses and manufactured with the conductor material as specified above. All insulating materials shall be rated for 120 degrees C class.
- N. Meet NEMA TR-1 sound levels measured per ANSI standards.
- O. The core material shall be high-grade, grain-oriented, non-aging silicon core steel with high magnetic permeability, low hysteresis and eddy current losses. Magnetic flux densities are to be kept well below saturation to allow for a minimum of 10 percent overvoltage excitation. The cores shall be properly annealed to reduce stresses induced during the manufacturing processes and reduce core losses.
- P. The core frame shall be designed to provide maximum support of the core and coil assembly. The core frame shall be welded or bolted to ensure maximum short-circuit strength.
- Q. The core and coil assembly shall be designed and manufactured to meet the short-circuit requirements of ANSI C57.12.90. The core and coil assembly shall be baked in an oven prior to tanking to "set" the epoxy coating on the insulating paper and remove moisture from the insulation prior to vacuum filling.
- R. Transformer shall be vacuum-filled with the appropriate fluid as indicated above. The process shall be of sufficient vacuum and duration to ensure that the core and coil assembly is free of moisture prior to filling the tank.

2.3 ACCESSORIES

- A. Transformer features and accessories shall include:
 - 1. Dial-type thermometer
 - 2. Liquid level gauge
 - 3. Pressure-vacuum gauge
 - 4. Drain valve with sample valve
 - 5. Pressure relief valve
 - 6. Non-PCB label
 - 7. Upper fill/filter press connection or valve

2.4 PRIMARY CONNECTIONS

- A. Transformer primary connections shall be deadfront load break wells and inserts for cable sizes shown on the drawings.

2.5 PRIMARY FUSING

- A. Provide the following fuses:
 - 1. Provide oil-immersed, loadbreak bay-o-net overload sensing fuses in series with under oil partial range current limiting fuses.

2.6 FINISH

- A. Transformer units shall include suitable outdoor paint finish. The paint shall be applied using an electrostatically deposited dry powder system to a minimum of three (3) mils average thickness. Units shall be painted to match generator (light brown) color.

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 applicable ANSI and NEMA standards.
- B. The manufacturer shall provide certified copies of factory test reports to the Engineer upon request.

3.2 INSTALLATION

- A. Install equipment according to manufacturer's installation recommendations and installation requirements in addition to requirements herein and as shown.
- B. Install on pad where shown on drawings. Transformer shall be installed level and plumb with the building construction.

3.4 FIELD ADJUSTMENTS

- A. The taps of the transformer shall be adjusted to produce the full rated voltage of the transformer at the service switchboard which is connected to the transformer secondary.

3.5 FIELD TESTING

- A. Measure primary and secondary voltages for proper tap settings.
- B. Megger primary and secondary windings.

END OF SECTION

SECTION 26 13 10
MEDIUM VOLTAGE OUTDOOR PAD MOUNT SWITCHGEAR

PART 1 GENERAL

1.1 WORK INCLUDED

- A. SF6 insulated, electronically controlled fault interrupters.

1.2 REFERENCE STANDARDS

- A. IEEE C57.12.28, IEEE 37.72, IEEE 37.74, IEEE 37.60, IEEE 386
- B. National Fire Protection Association (NFPA).
 - 1. NFPA 70 National Electrical Code.
- C. ASTM A167 (ASTM International) – Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- D. IEEE C57.12.28 (Institute of Electrical and Electronics Engineers) – Pad Mounted Equipment - Enclosure Integrity.
- E. IEEE C37.74 (Institute of Electrical and Electronics Engineers) – Requirements for Subsurface, Vault, and Pad-Mounted Load-Interrupter Switchgear and Fused Load-Interrupter Switchgear for Alternating Current Systems Up To 38 kV.
- F. IEEE 37.112 (Institute of Electrical and Electronics Engineers) – Inverse-Time Characteristic Equations for Overcurrent Relays
- G. IEEE Std. 386 (Institute of Electrical and Electronics Engineers) – Separable Insulated Connector Systems for Power Distribution Systems Above 600 V.
- H. IEEE Std. C37.62 (Institute of Electrical and Electronics Engineers) – Pad-Mounted Dry Vault, Submersible, and Overhead Fault Interrupters for Alternating Current Systems Up to and including 38 kV.
- I. NFPA 70 (National Fire Protection Association) – National Electrical Code.

1.3 QUALITY ASSURANCE

- A. Manufacturers:
 - 1. G&W, or approved.

1.4 SUBMITTALS

- A. Shop Drawings:
 - 1. Dimensioned outline drawings.
 - 2. Required clearances.
 - 3. Lifting and support points, equipment weight.
 - 4. Schematic Drawings:
 - a. Single-line Drawings
 - b. Three-line Wiring Diagrams for:
 - (i) Power
 - (ii) Control Systems

- (iii) Differentiate between manufacturer-installed and field-installed wiring.
 - (iv) Annunciator
 - (v) Generator connections/interties. Generator controls.
- B. Protective Relay Programmer (Programmer) Qualification from SEL, or approved indicating: Submit qualifications showing the following items.
 - 1. Factory certifications.
 - 2. Understanding of required generator interties, including closed transition.
 - 3. Example settings summary and TCC's including monitored variable boundaries.
 - 4. Name of technician(s).
 - 5. Training experience (training of owners).
- C. Closeout Submittal:
 - 1. Field Quality Control Test Results
 - a. Test procedures.
 - b. Test results.
 - c. Corrective action taken to achieve required functions.
 - d. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.

1.5 QUALIFICATIONS

- A. Programming of Protective Relay (Programmer): Not less than 5-years experience programming specified relay. Factory trained; factory authorized. Not less than the following elements are required:
 - 1. Calculations, formulas, settings, and documenting as-found, and as-left settings.
 - 2. Comprehension of project documents including but not limited to: Drawings, Specifications, Project manual, Shop drawings and the like.
 - 3. Protective Relay logic, and formulas.
 - 4. Event report interpretation, software interface, relay user interface, and input/output programming.
 - 5. Switching sequences, closed transition requirements, lock-outs, and latching.
 - 6. Relay monitoring, alarms, and remote outputs as well as SCADA interface.
 - 7. Medium Voltage experience, construction site, and safety protocols including, but not limited to NFPA 70 E.
 - 8. Arc-Flash hazards, and Arc-Fault ratings.
 - 9. Intertie with 3rd party equipment including power generation, utility, etc.

1.6 EXTRA MATERIALS

- A. Touchup Paint.
- B. Insulating covers for unused ways.

PART 2 PRODUCTS

2.1 MEDIUM VOLTAGE PAD MOUNTED SWITCHES

- A. Ratings and Requirements
 - 1. Construction shall be a dead front design. Switches shall be shipped factory filled with SF6 gas conforming to ASTM D-2472.

2. Each switching way is to be equipped with an internally mounted operating mechanism capable of providing quick-make, quick-break operation in either switching direction. Switch positions are to be clearly identified, padlockable and adaptable to keylock schemes. The operating mechanism shall be actuated from outside the switch tank with an operating handle. The operating shaft shall be made of stainless steel. A double "O" ring type operating shaft seal shall be used. Switch contacts shall be plated, high-conductivity copper alloy with arcing tips of copper/tungsten alloy. The contacts shall be designed such that arcing does not occur in the area of main current interchange and contact pressure will increase with increased current flow. Stationary contacts shall be supported independent of the cable entrance bushings. Switch contacts shall be clearly visible in the open position through viewing windows.
3. Maximum interrupting time shall be three cycles (50 msec). Movable contact shaft shall be flagged to indicate the contact position, open or closed.
4. Switch Ratings. The Switch shall be rated:

| SELECTION OF RATINGS | IEEE/IEC |
|---|----------|
| Maximum Design Voltage, kV | 15.5 |
| Load Break Switch Impulse Level (BIL) Voltage, kV | 110 |
| Fault Interrupter Impulse Level (BIL) Voltage, kV | 95 |
| Continuous Current, Amperes | 630 |
| Load break Current, Amperes | 630 |
| One Minute Withstand (dry), AC kV | 35 |
| Production Test Rating | 34 |
| 15 Minute Withstand, DC kV | 53 |
| Momentary Current, kA, ASYM | 40 |
| Fault-Close Current, kA, ASYM | 40 |
| One Second Current, kA, SYM | 25 |
| Fault Interrupting Rating, kA, SYM | 20 |
| Mechanical Endurance, Operations | 2000 |
| Load Break Switch Operations at 600 Amperes | 1200 |

5. Interrupters shall be tested to IEEE C37.60 Fault Interrupter Duty per the table below.

| Percent of Maximum: Interrupting Rating | Approx. Interrupting: Current Amps | No. of Fault: Interruptions |
|--|---------------------------------------|--------------------------------|
| 15-20% | 2000 | 44 |
| 45-55% | 6000 | 56 |
| 90-100% | 12000 | 16 |
| Total Number of Fault Interruptions: 116 | | |

B. Factory Testing

1. Each switch shall undergo the following production testing. Test reports must be available upon request.
 - a. Each switch shall be factory filled with SF6 gas. The gas shall be checked for moisture content.
 - b. Each switch shall undergo an SF6 leak check to verify the integrity of the tank, seals, and gaskets.
 - c. A mechanical operation check of each switching mechanism.
 - d. AC hi-pot tested one minute phase-to-phase, phase-to-ground and across the open contacts.
 - e. Circuit resistance shall be checked.
 - f. Primary current injection test to test CTs, trip mechanism, and electronic control.

C. Switch Configuration & Construction

1. Pad mount Enclosure
 - a. The enclosure shall be fabricated of 12-gauge galvanized steel and manufactured to ANSI C37.72 and C57.12.28 standards. The enclosure shall be tamper-resistant incorporating hinged access doors with penta-head locking bolts and provisions for padlocking. The enclosure shall be provided with lifting provisions and painted matching generator enclosure color, light brown.
 - b. Each switch shall be equipped with 3-phase load break switch ways and 3-phase fault interrupter ways configurable for 1-phase or 3-phase operation.
 - c. Switches shall be designed for front access to cables and operators.
2. Quick disconnect fitting to remove the pressure gauge without loss of SF6 gas.
3. Provisions to mount a key interlock after installation.
4. Auxiliary switches to mount two (2) Form C contacts for remote switch position indication of the load break switch.
5. Auxiliary switches to mount two Form C contacts for remote switch position indication of the fault interrupter.
6. Junction box for wiring SF6 alarms, remote switch position contacts, or external power source for Electronic Control.
7. Operation counters.

D. Cables Entrances

1. 600-amp G&W Quik-Change disconnectable apparatus bushing.

E. Components

1. The following shall be included as standard:
 - a. Mild steel tank.
 - b. Fixed operating handles for each load break switch and fault interrupter.
 - c. Gas pressure gauge and fill valve.
 - d. Sufficient grounding provisions for all cable entrances.
 - e. Stainless steel three-line diagram and corrosion-resistant nameplates.
 - f. Switch operating handles with padlock provision.
 - g. Parking stands for each bushing.
 - h. (1) viewing window per load break switch to view open contact position.
 - i. (1) viewing window per fault interrupter to view vacuum bottle position.
 - j. Provision to mount future low-pressure alarm.
 - k. Status annunciator.
2. Control Station
 - a. Provide in NEMA 4X or greater sealed enclosure with environmental controls as required (active/passive ventilation, heating, humidity control, etc.). Provide humidistat, thermostat, etc. as required to maintain environmental requirements of equipment installed.
 - b. Lockable
 - c. Additional enclosure allocation space for required UPS, batteries, remotes, etc. as required.
 - d. Future Automation Control Dispatch interconnection space/spare area not less than 24"x24"x12" reasonable adjustable any dimension to maintain overall volume for future equipment.
3. Insulation
 - a. Solid dielectric.
4. Voltage Sensors:
 - a. As required, internal mounted
 - b. Accuracy +/- 2%, ratio as required for 4,160V Line-to-Line 3-Phase.
5. Protective Relays:
 - a. Schweitzer Engineering Laboratories (SEL) matching facility communication & automation standard.
 - b. Flush Mounted, or Semi-Flush mounted Microprocessor controlled (IEEE C37.90) protection relay with LED status, LCD interface. Factory integrated (Field fabricated kits are not permitted).
 - c. Inputs (Protection Functions): adjustable, not less than the following each way as applicable, and shown on Drawings:
 - (i) Way Interlock (ATS, Utility Isolation)
 - (ii) Way Make before Break (Closed Transition)
 - (iii) DC Battery Monitor
 - (iv) UPS Monitor
 - (v) Sequential Events Recorder
 - (vi) Breaker Failure Protection
 - (vii) Breaker Wear Monitor
 - (viii) Breaker Open/Manually Operated Monitor (See Alarms)
 - (ix) 27 (Undervoltage)
 - (x) 32 (Power Monitoring)
 - (xi) 50P (Phase Instantaneous Overcurrent)
 - (xii) 50G (Ground Instantaneous Overcurrent)

- (xiii) 50N (Neutral Instantaneous Overcurrent)
- (xiv) 50Q (Negative-Sequence Overcurrent)
- (xv) 51P (Phase Time Overcurrent)
- (xvi) 51G (Ground Time Overcurrent)
- (xvii) 51N (Neutral Time Overcurrent)
- (xviii) 51Q (Negative-Sequence Time Overcurrent)
- (xix) 55 (Power Factor)
- (xx) 59 (Overvoltage)
- (xxi) 59G (Zero-Sequence Overvoltage)
- (xxii) 59Q (Negative-Sequence Overvoltage)
- (xxiii) 81 (Frequency)
- (xxiv) LOP60 (Loss of Potential)
- d. Outputs: Not less than one per protection device shown. Contact Ratings 6A continuous, 30A surge, 125V DC. High-speed, each interconnected with protection, switching, and closed transition controls, along with interlocking/lock-out as required. Include test function, test switch each.
- e. Alarm Contacts: Provide alarm contacts as required for alarm functions specified herein. Additional alarms to include:
 - (i) General Relay Fault/Failure.
 - (ii) Battery voltage monitor. Adjustable limits for:
 - 1. Low level warning
 - 2. Low level fail
 - 3. Charger, Fault
 - 4. UPS Fault
- f. Breaker/Switch Status-
 - (i) Manually Open
 - (ii) Motor Operator Fault
 - (iii) Fail to Close
- g. Generator Interface-
 - (i) Generator Fault (input from Generator)
 - (ii) Communication Loss (Supervised connection to Generator)
 - (iii) Fail to transfer, way/Breaker interlock no proof, [closed transition error], and fail to start.
- h. Annunciator requirements
 - (i) Visible without requirement to open enclosure, audible from 5-feet from closed enclosure.
 - (ii) Utilization of alarm, output, and other contacts is acceptable for annunciator function. Indicate fault such that generator not in auto, or fault that will prevent utilization of backup power including UPS and/or Battery faults. See drawings for additional requirements. Annunciator can be protected status panel visible from exterior, or provide exterior visible, and audible alarm such that upon alarm the relay status panel will indicate fault condition after opening of enclosure. General alarm/fault/failure shall not require entrance into the enclosure to be annunciated.
- i. IRIG-B: The relay shall include an interface port for a demodulated IRIG-B time synchronization input signal. The relays shall generate a time synchronizing signal to provide a synchronizing signal to other relays.
 - (i)

6. Real Time Automation Controller (RTAC):
 - a. Provide an RTAC for every two pad mounted switches located in the same vicinity.
 - b. Manufacturer: Schweitzer Engineering Laboratories – Model SEL-3505 platform.
 - (i) Substitutions: Approved equal.
 - c. Real Time Automation Controller (RTAC).
 - d. Product Description: Microprocessor based, substation hardened, real time automation controller.
 - e. Power Supply: 24 volts DC.
 - f. Ethernet Connections: One single mode 100BASE-FX fiber optic connection and one 10/100 BASE-T Ethernet connection.
 - g. Input/Output (IO): 1 Outputs, 1 Inputs rated for 24 volts DC.
 - h. Client Protocols: SEL, DNP3, Modbus, IEEE C37.118 Synchrophasors, L&G 8979, and IEC 61850 MMS.
 - i. Server Protocols: SEL, DNP3, Modbus, IEEE C37.118 Synchrophasors, L&G 8979, SES- 92, and IEC 60870-5-101/104.
 - j. Peer to Peer Protocols: Mirrored Bits and IEC 61850 GOOSE.
 - k. Rear Serial Ports: Four EIA-232 serial ports.
 - l. Conformal Coating: Provide conformal coating for outdoor substations within 1 mile of salt water.
 7. Batteries, Charger, and UPS
 - a. Provide battery(ies), charger(s), and UPS('s) as required.
 8. Voltage Transformer Connection:
 - a. Provide 600A loop-feed bushing for connection to and external voltage transformer. See One-Line.
 9. Factory Production Tests
 - a. Each way (and interrupter) be factory tested as follows. Test reports shall be submitted with O&M manuals. Owner expressly does not accept equipment (or delivery of such) if any required test is indicated as failed, and/or not passed.
 - (i) Circuit resistance.
 - (ii) Mechanical operational check.
 - (iii) Each solid dielectric module shall be inspected for voids. Include X-ray or other non-contact penetration inspection with partial discharge to verify void-free materials.
 - (iv) AC hi-pot test for not less than one minute phase-to-phase, phase-to-ground and across open contacts at limits per reference standards herein.
- F. Labeling
1. Hazard Alerting Signs:

The exterior of the pad mount enclosure shall be provided with “Warning--Keep Out--Hazardous Voltage Inside--Can Shock, Burn, or Cause Death” signs. Each unit of switchgear shall be provided with a “Danger--Hazardous Voltage--Failure to Follow These Instructions Will Likely Cause Shock, Burns, or Death” sign. The text shall further indicate that operating personnel must know and obey the employer’s work rules, know the hazards involved, and use proper protective equipment and tools to work on this equipment. Each unit of switchgear shall be provided with a “Danger--Keep Away--Hazardous Voltage--Will Shock, Burn, or Cause Death” sign.
 2. Nameplates, Ratings Labels, and Connection Diagrams:

Each unit of switchgear shall be provided with a nameplate indicating the manufacturer's name, catalog number, model number, date of manufacture, and serial number. Each unit of switchgear shall be provided with a ratings label indicating the following: voltage rating; main bus continuous rating; short-circuit rating; fault interrupter ratings including interrupting and duty-cycle fault-closing; and load break switch ratings including duty-cycle fault-closing and short-time.

2.2 ELECTRONIC CONTROL

- A. An electronic control shall be provided to monitor load and fault current on all three phases of the fault interrupter. Each phase shall have a current transformer mounted inside the switch tank to provide control power and current sensing. No external power source shall be required for overcurrent protection. Operational temperature range of the control shall be -40°C to +65°C. Maximum time for power up and ready-to-trip when closing on a circuit shall be ten percent of the trip time or 1/2 cycle, whichever is greater. Trip selection may be made with the fault interrupter energized.

Type 3 Plus

The control shall include 60 pre-loaded and 5 user created time current characteristic (TCC). All setting options shall be accomplished using the Vacuum Fluorescent Display or a computer. In addition, the control shall include a Phase Imbalance (Ground Fault) setting. The control shall allow for multiple curve modification options for each minimum trip setting (phase and ground) including Instantaneous Trip, Inrush Restraint, and Phase Time Delay. The control shall allow for two settings groups (protection and alternate). The control shall allow for two TCC curves for each protection settings group (one for phase and the other for phase imbalance (ground fault)). The control shall include an option for single or three phase trip (Phase Imbalance/ Ground Fault shall not be available when the control is set for single phase trip). The control shall include a Sequence of Events Recorder (SER) which shall include the last 16 causes of trip. The control programming software shall include password protection, the ability to download the SER, and the ability to save and print setting files.

Type Protection Relay

Include every function specified by type selected, plus functions as identified herein (Protective Functions) customized for specific installation.

[SEL relay protection settings per generator manufacturer]

Provide additional as shown on one-line. Auxiliary trip input for generator. Closed transition, generator controls, and cool down timers, etc. as required. Remote fault/alarm annunciation. Type electronic control selected, functions may be by protection relay such that Type 1, Type 3 EZ Set, Type 3 Plus are not required provided protection relay provides each function included, and additional required.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install pad mounted switchgear on concrete pad in accordance with manufacturer's instructions. Provide vibration isolation.
- B. Verify mounting supports are properly sized and located.

3.2 IDENTIFICATION

- A. Provide additional warning and caution signs where indicated or required by the Authority Having Jurisdiction.

3.3 FIELD QUALITY CONTROL

- A. Engage a factory-authorized service representative to startup, program, or program verify, and inspect installation of the equipment. The manufacturer's representative shall provide technical assistance, and direction as required for a complete operational system as specified, intended, and required.

3.4 CLEANING

- A. Clean complete exterior and interior of equipment free of construction splatters, dirt, debris, etc.

3.5 TRAINING

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel in accordance with the following.
 - 1. Train maintenance personnel for estimated 4 hours. Include training on alarms, maintenance, maintenance schedules, automatic operation, service calls, programmer contact, emergency procedures, servicing, etc.
 - 2. Lock-out protections
 - 3. Train system as a whole- Protection Relay, and Pad Mounted Switch as system
 - 4. Digitally record training
 - 5. See General Electrical Provisions for additional training requirements.
 - 6. G&W, or approved.

END OF SECTION

SECTION 26 32 00
GENERATOR POWER SYSTEM

PART 1 GENERAL

1.1 REFERENCE STANDARD

- A. NFPA: 70, 76A, 101, 110/111
- B. MIL
- C. UL

1.2 DESCRIPTION

- A. The Contractor shall provide all incidentals and materials and labor and install a complete and operable power system.
- B. This Specification covers requirements for providing a new, factory built, factory tested, field proven complete and operable standby diesel engine generator system, including all equipment specified herein, shown on the drawings, and/or required for the service.
- C. The standby system is to include an automatic transfer switch, engine/generator controls, batteries and other components, accessories, tests, documents and services as needed to meet the performance requirements of this specification and to provide a complete and operational system.

1.3 RESPONSIBILITY

- A. This equipment will be manufactured by a single manufacturer who has been regularly engaged in the production of engine/generator sets, generators, transfer switches and controls for a minimum of ten years, so as to provide single source responsibility to the owner for warranty, parts and service. The manufacturer shall have local representatives who can provide factory trained service personnel, an adequate stock of replacement parts, and technical assistance for the entire standby system.

1.4 WARRANTY:

- A. Five year or 1800 hours of operation, whichever occurs first, from the time of substantial completion. The entire warranty shall be supplied by one manufacturer with technical expertise and adequate resources to provide adequate warranty support.

1.5 SUBMITTALS: Provide shop drawings per Requirements.

1.6 O & M MANUAL: Provide complete operation maintenance manuals and parts catalogues for all items comprising the standby system per requirements.

1.7 FACTORY TESTING

- A. Testing: The intent of this specification is to provide equipment of proven reliability and compatibility. Factory prototype model tests, factory production model tests and field tests shall be performed and certified.

- B. Prototype testing shall be performed on separate prototype models, per NFPA 110, not on the equipment sold or installed. Certification shall be submitted certifying the following tests have been performed.
 - 1. Maximum power level (maximum KW).
 - 2. Maximum motor starting capacity (maximum KVA).
 - 3. Structural soundness.
 - 4. Torsional analysis per MIL-STD 705B, Method 504.2 (Separate calculations based on engine or generator are not acceptable).
 - 5. Engine-alternator cooling air flow.
 - 6. Alternator temperature rise.
 - 7. Harmonic analysis and voltage wave form deviation per MIL-STD-705B, method 601.4.
 - 8. Three-phase short circuit test for mechanical and electrical strength.
 - 9. Failure mode test for voltage regulator.
 - 10. Endurance test at rated load and speed.
- C. Factory production model tests shall be made, prior to shipment, of all system components. These tests shall be performed under rated load and power factor (unity power factor is not acceptable). Other tests shall include:
 - 1. Single step load pickup per NFPA 76A.
 - 2. Transient response and steady state governing.
 - 3. Functional compatibility between generator set controls and transfer switch controls.

PART 2 PRODUCTS

2.1 ENGINE GENERATOR SET

- A. This system shall include one engine generator set rated .8 power factor, 60 Hz, 3 phase, 4 wire, 120/208 volt on a continuous standby basis sized as noted on One-Line. The generator set shall be mounted on a steel base suitable for mounting on a level surface. Vibration isolators are to be provided between engine generator and skid.
- B. The engine shall be stationary, radiator cooled, diesel for use with Number 2 diesel fuel. It shall be four-cycle, with a minimum: Six (4) cylinders, 504 cubic inch displacement, capable of producing 192 BHP at rated speed.
- C. The engine equipment shall include the following:
 - 1. Remote two wire negative ground starting system. Positive shift, gear engaging starter. With two independent methods provided to disconnect the starting circuit upon engine starting. The starting system shall be either twelve (12) or twenty-four (24) VDC.
 - 2. Positive displacement, mechanical full pressure lubrication pump, oil filters, oil level indicator, and oil drain valve with hose extension.
 - 3. Primary and secondary fuel filters with replaceable elements, electric fuel transfer pump, automatic fuel shut-off, replaceable dry element air cleaner, all mounted on engine.
 - 4. Gear driven mechanical governor, with adjustable speed regulation of 5% from no load to rated load, automatic overspeed shutdown.
 - 5. Low coolant level shut-down and high engine temperature shut-down.
 - 6. Water temperature gauge, oil pressure gauge battery charger ammeter.

7. Engine mounted water jacket heater, 120/208 VAC, 1 phase, 1500 watt. Means of disconnect provided when engine is running.

2.2 ENGINE COOLING SYSTEM

- A. Shall be radiator cooled with belt or direct driven pusher fan, coolant pump, thermostat coolant resistant. Radiator shall have duct adapter flange for cooling duct.
- B. Coolant system shall be filled with 50% Ethylene-glycol antifreeze/water solution as recommended by manufacturer.

2.3 ENGINE EXHAUST SYSTEM

- A. Residential grade silencer with condensate trap. Sized as recommended by engine manufacturer.
- B. Stainless steel flexible exhaust connection.

2.4 FUEL SYSTEM

- A. Double shell full size skid tank with overflow/leak alarm sized not less than 24 hour run time.
- B. Integral fuel delivery system.
- C. Venting as required with stack mounted away from combustibles.

2.5 GENERATOR

- A. Generator shall be single bearing, self-aligning, four pole, synchronous type, revolving field, with amortisseur windings, direct drive centrifugal blower for proper cooling, asynchronous solid state voltage regulator, with brushless rotating rectifier exciter system. No brushes allowed. Generator shall be direct connected to the engine flywheel housing, driven through a flexible coupling to ensure proper alignment. Gear driven generators are not acceptable. Class F insulation.
- B. Three phase, broad range, twelve lead reconnectable generator.
- C. Frequency regulation shall not exceed 3 Hz from no load to rated load. Voltage regulator shall be solid-state design and shall function by controlling the exciter magnetic field between stator and rotor to provide no load to full load regulation within + 1.0% of rated voltage during steady-state conditions. The generator set and regulator must sustain at least 90% of no load voltage for ten seconds with 250% of rated load at near zero power factor connected to its terminals. A rheostat or solid state control shall provide a minimum of + 5.0% voltage adjustment from rated value.
- D. The alternator, exciter, and voltage regulator shall be designed and manufactured by the generator set manufacturer so that the characteristics shall be matched to the torque curve of the prime mover. The design shall allow the prime mover to utilize its fullest power producing capacity (without exceeding it or over compensating) at speeds lower than rated, to provide the fastest possible system recovery from transient speed dips. System shall provide automatic voltage reduction if the load demand exceeds the engine capacity to prevent engine stalling and saturation of magnetic components.

- E. Exciter shall be three phase, full-wave, rectified, with heavy-duty silicon diodes mounted on the common rotor shaft and sized for maximum motor starting capability. System using three-wire solid state control elements (such as transistors or SCR's) rotating on the rotor is not acceptable.
- F. For electronic loads a "Torque Match 2" regulator shall be included.

2.6 ENGINE-GENERATOR CONTROLS

- A. Provide a lighted, unit mounted, control console, vibration isolated mounted, wired and tested by the generator manufacturer. Terminals shall be identified as to their function, or purpose. Control terminals in the generator control panel and automatic transfer switch shall be identical for ease of connection by the contractor.
- B. Control console shall include the following:
 - 1. Engine controls and gauges.
 - 2. Three position selector switch (Run-Stop-Remote).
 - 3. Contacts for engine start and stop.
 - 4. Engine monitor (solid state) with fault lights and external alarm terminals for overcrank, overspeed, high coolant temperature, low oil pressure and low engine coolant temperature. Engine shutdown provided for overcrank, overspeed, high coolant temperature and low oil pressure shutdown. Pre-alarms shall be provided for high coolant temperature and low oil pressure. Contacts shall be provided for remote annunciation of the above.
 - 5. Provide an adjustable solid state cycle cranker which shall disconnect the starting control after sixty seconds and a minimum of three cranking attempts.
 - 6. Asynchronous solid state voltage regulator with voltage adjusting rheostat.
 - 7. Manual reset field circuit breaker.
 - 8. Mounted output circuit breaker, size as indicated on the drawings with AUX. Contacts each.
 - a. Not less than one breaker position frame size shall be full output of generator or larger.
 - 9. Monitoring function per NFPA 110/111.
 - 10. Generator Breaker(s), trip alarm.
 - 11. Running time meter, AC voltmeter (dual range - indicating all voltages), AC ammeter (dual range), voltmeter/ammeter phase selector switch with OFF position and frequency meters. AC meters shall be 2% accuracy.

2.7 ACCESSORIES

- A. Heavy duty lead acid batteries with battery rack, as recommended by the engine manufacturer.
- B. Vibration isolators, spring type, sized as recommended by generator manufacturer, minimum of four.
- C. Complete WP insulated, sound insulated and lockable enclosure. Color per arch.
- D. Remote annunciator located at a staffed location within the building, with the following:
 - 1. Audible alarms
 - 2. Visual alarms
 - 3. Emergency stop switch
 - 4. Lockable cover
 - 5. NFPA 110/111 monitoring
 - 6. All alarms at generator annunciated at remote locates

7. Generator breaker tripped
8. Generator not ready
9. Generator/ATS not in auto
10. Digital annunciation preferred

2.8 AUTOMATIC TRANSFER SWITCHES

- A. The complete automatic load transfer control shall be designed, built, and tested by the generator manufacturer. The load transfer control shall be rated for continuous duty and for all classes of load. The automatic load transfer control shall be provided with three poles for normal standby service of 120/208 volt, 60 Hz, 3 phase.
- B. Operation: The Automatic Load Transfer Control shall sense complete loss of normal power on any phase and signal the standby generating set to start after normal power failure. When the standby power attains proper voltage and frequency, the Load Transfer Control will automatically transfer the load to standby power. This operation shall occur within 10 seconds. When the normal power is restored, the Automatic Load Transfer Control shall sense this and retransfer the load from standby power to normal power, and signal the standby source to stop.
- C. Rating and Performance:
 1. The transfer switch shall be rated for all classes of load including inductive and noninductive load at 600 volts and tungsten lamp load at 250 volts. The transfer switch portion of the control shall be designed, built, and tested to close on an inrush current up to and including twenty (20) times the continuous rating of the switch without welding or excessive burning of the contacts. The transfer switch shall be capable of switching the load up to and including fifteen (15) times the continuous rating of the switch and capable of enduring six thousand (6000) cycles of operation, at rated current, at a rate of six (6) cycles per minute, without failure. One cycle shall consist of one complete opening and closure of both sets of contacts on an inrush current of ten (10) times the continuous rating of the switch.
 2. Transfer switch shall be rated for amps as shown and have a withstand current of not less than 30,000 amps (RMS-symmetrical) and as shown.

2.9 CONSTRUCTION

- A. An indoor, non-ventilated NEMA 1 enclosure with key locked door shall house the transfer switch and control components. The indicating lamps and meters shall mount on the front to be visible without opening doors.
- B. Voltage sensors and time delays shall be solid-state, plug-in devices. The control relays shall be dust covered, plug-in devices. These control accessories shall mount on a dead-front, swing-out, control accessory panel to avoid generator shock hazard while adjusting control functions, but will swing out exposing the wiring to facilitate servicing.
- C. The transfer switch, with terminal lugs for either copper or aluminum wire, shall have individual heat resistant chambers enclosing solid silver cadmium oxide, double-break contacts. The transfer switch, with mechanical and electrical and interlocks to prevent simultaneously energizing both normal and standby service shall be mechanically held on line side with auxiliary contacts rated 6-amp, 120 volt AC; 3-amp, 240 volt, AC on line side and generator side of transfer switch.

2.10 ACCESSORIES The following accessories shall be provided with the Automatic Transfer Switch.

- A. A time delay to start standby power, adjustable from 0 - 10 seconds, shall be provided to prevent needless starting and stopping during periods of momentary voltage fluctuations from the normal power source.
- B. A time delay to pick-up load, adjustable from .5 - 30 seconds, shall be provided to prevent the standby power from accepting load until proper voltage and frequency is reached.
- C. A time delay to retransfer the load, adjustable from 0 - 30 minutes, shall be provided to delay retransfer to avoid short term normal power restoration.
- D. A time delay to stop the engine-generator after the load has been transferred to normal power shall be provided. The time delay, adjustable from 1 to 15 minutes, shall permit engine to run unloaded to cool down before shutdown.
- E. Automatic bypass to re-transfer the load from generating set to normal power source if the standby set should fail during the delay period.
- F. Provide battery charger, SCR voltage regulated type with float and taper features; 6-amp at 24 V.D.C.; 10- amp at 12 V.D.C. as required for generator set. Charger shall have charging ammeter and fuse protection. Charger shall not be damaged during engine cranking/running.
- G. Provide a test switch to simulate an interruption of power from the normal source.
- H. Provide an exerciser clock to automatically start the generating set at regular intervals and allow it to run for a preset time period.
- I. A load selector switch shall be provided to test or exercise generator with or without building load.
- J. Adjustable solid state voltage sensors, one per phase on line side. Sensors shall be temperature compensated over the temperature range of 225 degrees F. to +175 degrees F.
- K. Manually operable should "automatic" portion of transfer switch fail.
- L. Disconnect plug to electrically disconnect the control section from the transfer switch for maintenance service during normal operation.
- M. Normal and emergency indicating lamps to indicate which source is supplying power to the load shall be provided on the front of the enclosure door.
- N. A.C. ammeter 0 - 6 amp for battery charger.
- O. Overcrank indicator lamp.

2.11 MANUFACTURER

- A. Onan, caterpillar or approved.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Follow manufacturer's recommendations and requirements explicitly.
- B. Engine generator set shall be installed as required when shown on the drawings.
- C. The Electrical Contractor shall fill the fuel oil storage tank with No. 2 diesel fuel for testing and final checking prior to acceptance. Provide fuel to completely fill the tank to capacity.
- D. Provide and mount on level elevated seismic concrete pad outdoors, away from peril. Bolt to pad.
 - 1. Engage licensed structural engineer for design-built pad unless signed/stamped drawings are included in CD's.

3.2 START-UP

- A. Factory Start-up: A qualified factory technician will:
 - 1. Certify installation.
 - 2. Check installation and interface connections to insure proper mating of generator system with building wiring.
 - 3. Notify Owner and Engineer 72 hours in advance prior to Operation Test.
 - 4. Perform on site load testing which includes:
 - a. Two hours at 50% of generator set rating (can be performed at factory).
 - b. Simulated power failure tests utilizing building load and using the transfer switch and its time delays (two hours).
 - c. A fifteen-minute engine/generator cool down period without load before shutdown.
 - d. All testing shall include records at fifteen-minute intervals of water temperature, oil pressure, ambient air temperature, voltage, current, frequency, KW and power factor. These tests shall be forwarded, in triplicate, to the Owner.
 - 5. Fill engine cooling system with ethylene-glycol antifreeze and water solution.

3.3 GENERATOR TIME SETTINGS

- A. Loss of normal power to power available: within 10 seconds
- B. Load re-transfer: 15 minutes.
- C. Cool down period (no load): 10 minutes.

END OF SECTION

ELECTRICAL SYMBOL LEGEND

| ABBREVIATIONS | | | |
|---------------|--|------------|---|
| AFF, A.F.F. | ABOVE FINISHED FLOOR | IATS | AUTOMATIC TRANSFER SWITCH |
| ARCH. | ARCHITECT/ARCHITECTURAL | LV | LOW VOLTAGE |
| BLDG. | BUILDING | MDF | MAIN DISTRIBUTION FRAME |
| C | CONDUIT | MECH | MECHANICAL |
| CD | CANDELA | MV | MEDIUM VOLTAGE |
| CKT | CIRCUIT | N.L | NIGHT LIGHT |
| C.L. | COLUMN LINE | PNL | PANEL |
| (E) | EXISTING | PROVIDE | FURNISH AND INSTALL |
| ELEC | ELECTRICAL | SD | SUB - DISTRIBUTION |
| EMERG | EMERGENCY | TTB | TELEPHONE TERMINAL BOARD |
| FAM/FACP | FIRE ALARM MASTER/FIRE ALARM CONTROL PANEL | TVSS / SPD | TRANSIENT VOLTAGE SURGE SUPPRESSION/SURGE PROTECTION DEVICE |
| FT. | FEET | TYP | TYPICAL |
| GF/B | GROUND FAULT INTERRUPTER/BREAKER | WP | WEATHER PROOF |
| GND, G | GROUND | " | INCH/INCHES |
| HVAC | HEATING, VENTILATION & AIR CONDITIONING | ' | FOOT/FEET |

| GENERAL | |
|---------|---|
| | KEYNOTE |
| | REVISION TAG |
| | EQUIPMENT TAG (EXHAUST FAN 1 SHOWN) |
| | CALLOUT (SHEET E0.00, DETAIL #1) |
| | KITCHEN EQUIPMENT TAG |
| | ELECTRICAL EQUIPMENT AS IDENTIFIED ON DRAWINGS. |
| | UNDERGROUND/ UNDERFLOOR RACEWAY |
| | HOMERUN WITH 2 #12 CONDUCTORS (GROUND NOT SHOWN) |
| | HOMERUN WITH 2 #10 CONDUCTORS (GROUND NOT SHOWN) |
| | HOMERUN WITH 3 #10 CONDUCTORS (GROUND NOT SHOWN) |
| | CONCEALED RACEWAY AND CONDUCTORS. NUMBER OF SLASHES INDICATES NUMBER OF CONDUCTORS. PROVIDE GROUND CONDUCTOR NOT SHOWN. ZERO SLASHES = 2 CONDUCTORS WITH 3RD GROUND CONDUCTOR. PROVIDE #12 CONDUCTORS UNLESS OTHERWISE SHOWN. |
| | LOW VOLTAGE CABLE/ HOMERUN C = CONTROL |
| | FLEX CONNECTION |

| POWER | |
|----------|---|
| | POWER PANEL - RECESSED |
| | POWER PANEL - SURFACE |
| | DUPLEX RECEPTACLE |
| | GROUND FAULT, WEATHERPROOF TYPE |
| | SPLIT WIRED WITH 1/2 SWITCHED, +44 A.F.F UNO |
| | DOUBLE DUPLEX RECEPTACLE |
| | SPECIALTY RECEPTACLE, NEMA SIZE AS NOTED. |
| | FLOOR BOX, FLOOR BOX WITH DATA |
| | JUNCTION BOX |
| | MOTOR |
| | DISCONNECT (F=FUSED, "BLANK"-SWITCH ONLY) |
| | SPECIFIC RECEPTACLE, SEE PNL SCHED. AND MECH FOR CONFIGURATION. MATCH CONFIGURATION PER EQUIPMENT INSTALLED |
| ONE-LINE | |
| | VARIABLE SPEED DRIVE |
| | TVSS |
| | RELAY |
| | BREAKER |
| | GFI BREAKER |
| | GENERATOR |
| | SWITCH |
| | TRANSFORMER |
| | UTILITY METER |
| | GROUND |
| | RELAY |
| | DEAD-FRONT CONNECTION |

| Color Code | |
|---|---|
| Underground facilities shall be marked in accordance with the following designated color code (As per OAR 952-001-0070 (8)) | |
| Color | To Indicate |
| | Electric power lines, cables or conduit, and lighting cables |
| | Gas, oil, steam, petroleum, or gaseous materials |
| ORANGE | Communication, alarm or signal lines, cables or conduits, and fiber |
| BLUE | Potable water |
| GREEN | Sewers, drainage facilities or other drain lines |
| WHITE | Pre-marking of the outer limits of the proposed excavation or marking the centerline and width of propose lineal installations of buried facilities |
| PINK | Temporary survey markings |
| PURPLE | Slurry, irrigation and reclaimed water |

FINES MAY BE IMPOSED FOR MISUSE OF COLORS
Adopted by the American Public Works Association.



GENERAL NOTES

- SEE ON-GOING INLOW RENOVATION PROJECT CURRENTLY IN PROGRESS.
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- DRAWINGS ARE DEVELOPED AS DIGITAL DOCUMENTS. IF CONTRACTOR ELECTS TO PRINT, CONTRACTOR SHALL OBSERVE COPYRIGHT AND DRAWING OWNERSHIP AS WELL AS PRINT TO PROPER SCALE INCLUDING TEXT SIZE READABILITY IS THE RESPONSIBILITY OF THE CONTRACTOR. IF TEXT IS UNREADABLE ON PRINTED VERSION, CONTACT THE AUTHOR. DRAWINGS ARE INTENDED TO BE READ WITH DIGITAL ZOOM FUNCTION.
- EVERY DETAIL IS APPLICABLE TO THE PROJECT AS A WHOLE WHERE SUCH DETAILED CONDITION OCCURS.
- PROVIDE PRIVATE LOCATE PRIOR TO EXCAVATION, AND PART OF THE TRENCH INSTALLATION TO DETERMINE EXACT LOCATION OF EXISTING UTILITIES. ALPHA LOCATES, OR APPROVED. TYPICAL.



1 VICINITY MAP
SCALE: NTS



2 GENERATOR SITE LOCATION
SCALE: NTS

| SHEET INDEX | |
|-------------|----------------------|
| E0.00 | COVERSHEET |
| E0.10 | ONE-LINE |
| E1.00 | DEMOLITION PLAN |
| E2.00 | CAMPUS SITE PLAN |
| E3.00 | DETAILS |
| E3.01 | GENERATOR DATA SHEET |
| P1.00 | PLUMBING PLAN |
| S1 | GENERAL NOTES |
| S2 | PLAN & SECTION |

100% CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
59,920
DIGITALLY SIGNED BY:
Matthew J. Cash
OREGON
JANUARY 18, 2005
MATTHEW J. CASH
EXPIRES: 12/31/2025

FLUENT
ENGINEERING
STEWARDSHIP THROUGH DESIGN™
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
NOT FOR CONSTRUCTION WITH UNLICENSED

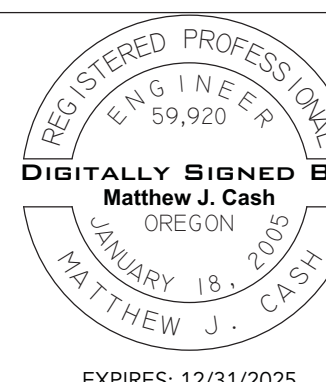
EDU INLOW HALL - GENERATOR DESIGN
ONE UNIVERSITY BLVD.
LA GRANDE OR, 97850

© 2023 FLUENT ENGINEERING INC.
W:\LIBRARY\Fluent_Engineering\Fluent_Engineering\Project\EDU_Inlow_Hall_Commissioning_Generator_Design_23-15\Drawings\Plant_Drawings\E0.00 - COVERSHEET & LEGEND.dwg

| REVISIONS | | |
|-----------|---|------------------|
| SYM. | DATE | DESIGNED/CHECKED |
| | 23-137 | |
| | DESIGN: BC DRAWN: BC/AM CHECKED: MC | |
| | FEB. 13, 2024 | |

COVERSHEET

SHEET INDEX
E0.00



FLUENT
ENGINEERING
STEWARDSHIP THROUGH DESIGN™
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
FLUENTENGINEERING.COM
NOT FOR CONSTRUCTION WITH UNLESS

EDU INLOW HALL - GENERATOR DESIGN
ONE UNIVERSITY BLVD. LA GRANDE OR, 97850

| REVISIONS | | |
|-----------|------|--------------|
| SYM. | DATE | DESIGN/CHECK |

23-137
DESIGN: BC
DRAWN: BC/AM
CHECKED: MC
FEB. 13, 2024

ONE-LINE
SHEET INDEX
E0.10

100% CONSTRUCTION DOCUMENTS

SHEET NOTES

- A. IATS:
LOCATION NEXT TO NEW GENERATOR / GILBERT HALL
600 AMP CAPACITY
15KV CLASS
4160V 3-PHASE CONNECTION
DEAD-BREAK CONNECTIONS
LOOP-FEED ON LOAD WAY
- CONFIGURATION- THREE-WAY, EACH WITH MANUAL DISCONNECTS. PROTECTION ON ALL AVAILABLE WAYS.
- PROTECTION REQUIREMENTS:
STANDARD, ABILITY TO INTERLOCK WITH CLOSED TRANSITION AUTOMATIC TRANSFER SWITCH.
ABILITY TO INTERCONNECT TO FUTURE REMOTE ANNUNCIATOR, OR ABILITY FOR FUTURE SEPARATE ANNUNCIATOR TO INDICATE FAILURES, FAULTS, BATTERY LEVEL, AND STATUS. PROVIDE LOCAL ANNUNCIATOR (NOT FUTURE, INCLUDE).
ABILITY TO START GENERATOR.
ABILITY TO DETECT POWER DISRUPTIONS.
FUTURE DISPATCH INTEGRATION.
MOTOR OPERATORS AS REQUIRED.
- B. GENERATOR REQUIREMENTS:
DISPATCH INTEGRATION
SEQUENCING
DATA INTERCONNECTION PARALLELING VIA SEL SYSTEM
- C. GENERAL/SEL REQUIREMENTS:
FACTORY PROGRAMMED
FACTORY TESTING
FACTORY ON-SITE PROGRAMMING
PROGRAMMING SUBMITTAL FOR REVIEW
SHOP DRAWINGS OF CONFIGURATIONS, CONNECTIONS, AND INTERCONNECTIONS INCLUDING REMOTE ANNUNCIATOR(S)
REPORT OF AS-LEFT CONDITIONS INCLUDING TIME SETTINGS
REPORT OF SIMPLIFIED SETTINGS OF PROTECTION RATING AMPS AND SPEED
SIMPLIFIED SETTINGS ADJUSTABLE LABEL (LABEL OF WAY SETTING SUCH AS A SHEET PRINT-OUT)

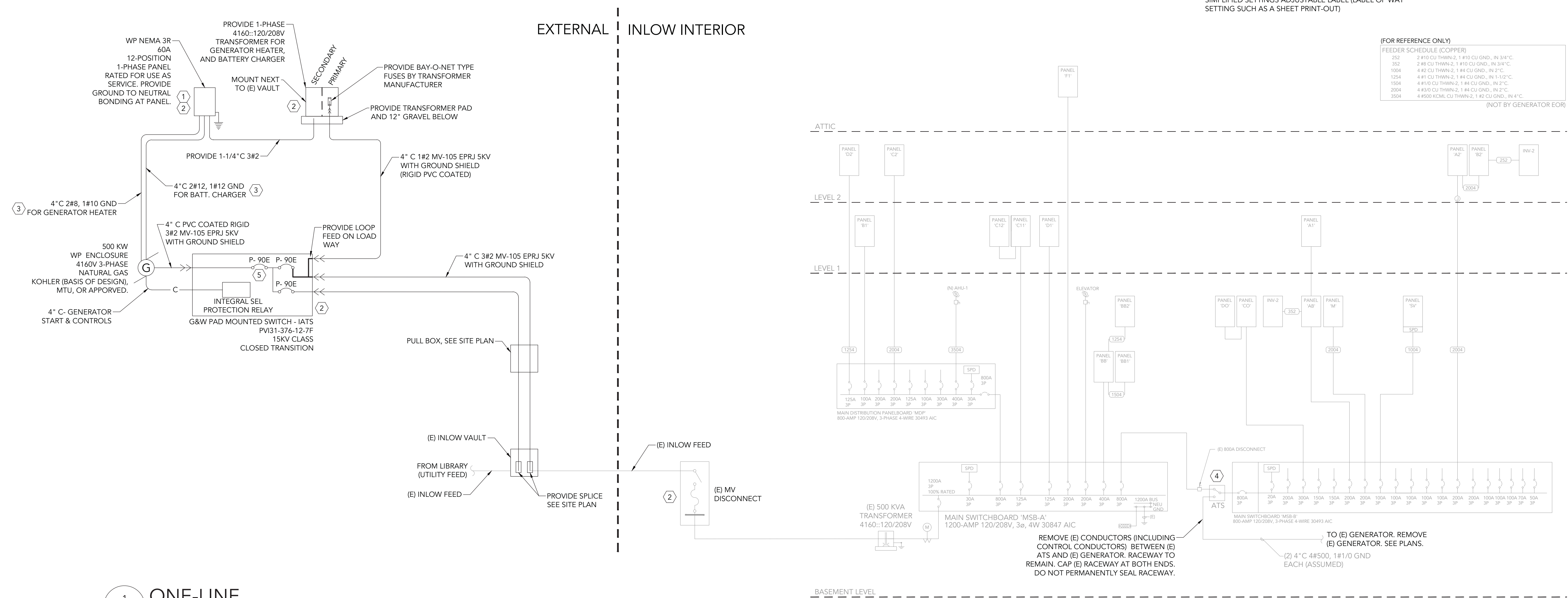
KEYNOTES

1. POPULATE WITH:
• (1) 60/2 MAIN
• (1) 40/2 GENERATOR HEATER
• (1) 20/1 GENERATOR BATTERY CHARGER
• (1) 20/1 PANEL MOUNTED GFI RECEPTACLE
• (6) 20/1 SPARE
2. PROVIDE PHENOLIC WEATHERPROOF SIGN THAT INDICATES THE FOLLOWING. PROVIDE RED SIGN WITH WHITE LETTERING. LETTERS NOT LESS THAN 1/4" TALL. SIGN SHALL BE PERMANENTLY ADHERED TO EQUIPMENT WITH WP ADHESIVE, OR BY MECHANICAL MEANS NOT VOIDING EQUIPMENT LISTING. "WARNING: HIGH VOLTAGE NATURAL GAS POWER GENERATOR ON-SITE MAY START AT ANY TIME. THIS LOAD, FED FROM MULTIPLE SOURCES."
3. OR AS REQUIRED.
4. RE-PROGRAM (E) ATS SUCH THAT ATS DOES NOT TRANSFER TO AN UNAVAILABLE SOURCE UPON NORMAL POWER LOSS.
5. PROGRAM PER GENERATOR MANUFACTURER. INCLUDE AUXILIARY TRIP INPUT FROM GENERATOR. CONNECT TO GENERATOR OUTPUT PER GENERATOR MANUFACTURER. GENERATOR MANUFACTURER SHALL PROVIDE DETAILED TIME-CURRENT-CURVE TRIP/OPEN REQUIREMENTS.

(FOR REFERENCE ONLY)

| FEEDER SCHEDULE (COPPER) | |
|--------------------------|--|
| 252 | 2 #10 CU THWN-2, 1 #10 CU GND., IN 3/4" C. |
| 352 | 2 #8 CU THWN-2, 1 #10 CU GND., IN 3/4" C. |
| 1004 | 4 #2 CU THWN-2, 1 #4 CU GND., IN 2" C. |
| 1254 | 4 #1 CU THWN-2, 1 #4 CU GND., IN 1-1/2" C. |
| 1504 | 4 #1/0 CU THWN-2, 1 #4 CU GND., IN 2" C. |
| 2004 | 4 #3/0 CU THWN-2, 1 #4 CU GND., IN 2" C. |
| 3504 | 4 #500 KCMIL CU THWN-2, 1 #2 CU GND., IN 4" C. |

(NOT BY GENERATOR EOR)



1
E0.10
ONE-LINE
SCALE: NTS

A. (E) SITE AND BUILDING PLANS NOT BY EOR. UNBOLD
(N)/(E) NOTATIONS ARE NOT APPLICABLE. SEE INLOW
RENOVATION PROJECT CURRENTLY IN PROGRESS.

1. REMOVE (E) CONDUCTORS, AND CONTROL CONDUCTORS TO (E) GENERATOR. RACEWAY TO REMAIN. ATS TO REMAIN. WP CAP (E) RACEWAY, DO NOT PERMANENTLY SEAL RACEWAY. RE-PROGRAM ATS AS REQUIRED. SEE ONE-LINE. (E) ATS SHALL NOT START NEW GENERATOR.
2. REMOVE (E) GENERATOR, AND SALVAGE TO OWNER. REMOVE (E) CONDUCTORS AND CONTROL CONDUCTORS TO (E) ATS. RACEWAY TO REMAIN. PROVIDE WP CAP. SEE ONE-LINE. SEE STRUCTURAL FOR (E) PAD, ENCLOSURE REMOVAL/MODIFICATIONS, ETC.



FLUENT
ENGINEERING
STEWARDSHIP THROUGH DESIGN™
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
FLUENTENGINEERING.COM
NOT FOR CONSTRUCTION WHEN UNSIGNED

EOU INLOW HALL - GENERATOR DESIGN

ONE UNIVERSITY BLVD.
LA GRANDE OR, 97850

| REVISIONS | | |
|-----------|------|--------------|
| SYM. | DATE | DESIGN/CHECK |
| | | |
| | | |

3-137

DESIGN: BC
DRAWN: BC/AM
CHECKED: MC

EB. 13, 2024

DEMOLITION
PLAN

SHEET INDEX

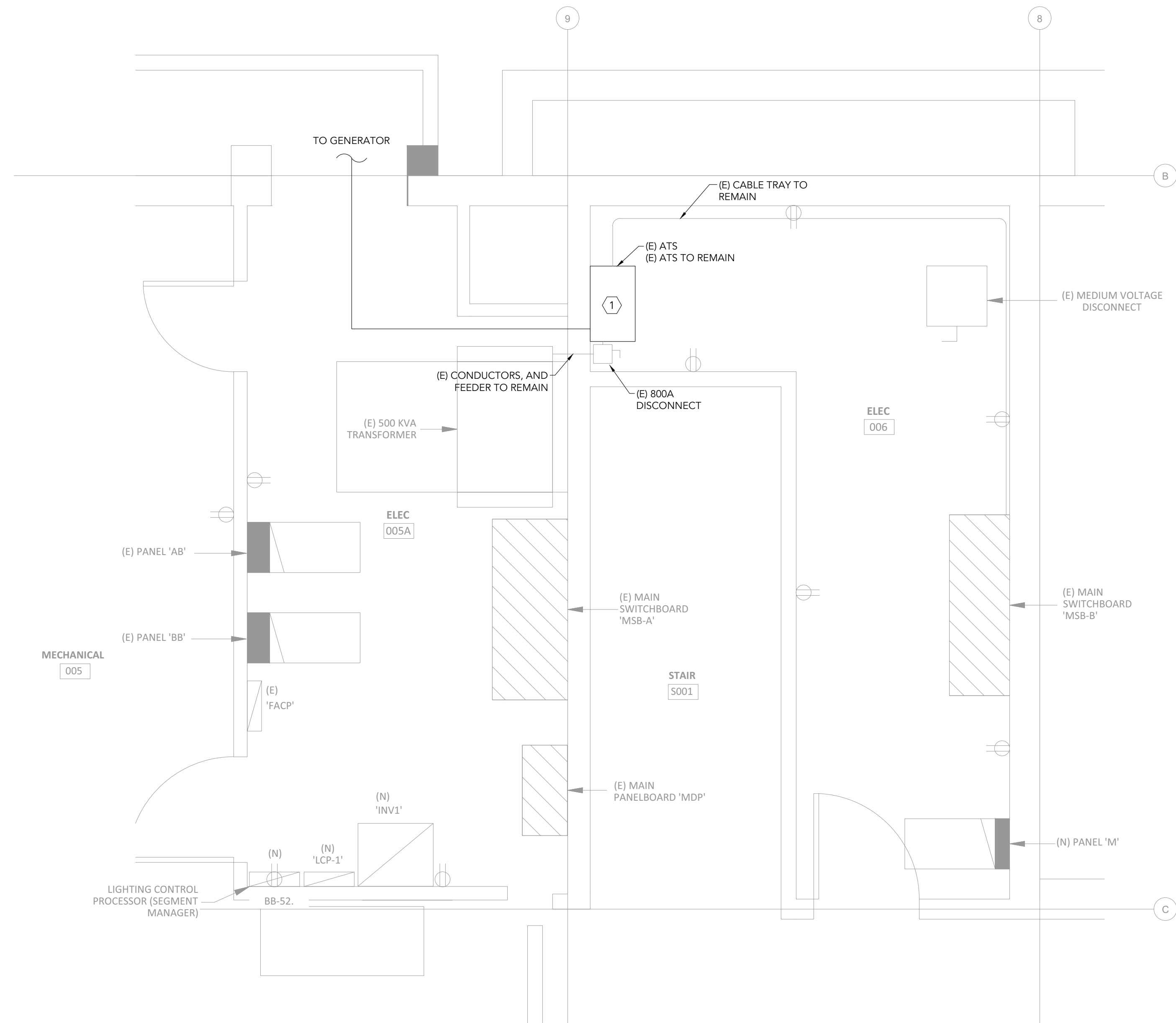
E1.00

100% CONSTRUCTION DOCUMENTS



1
E1.00

SCALE: 1/32" = 1'-0"



2
E1.00

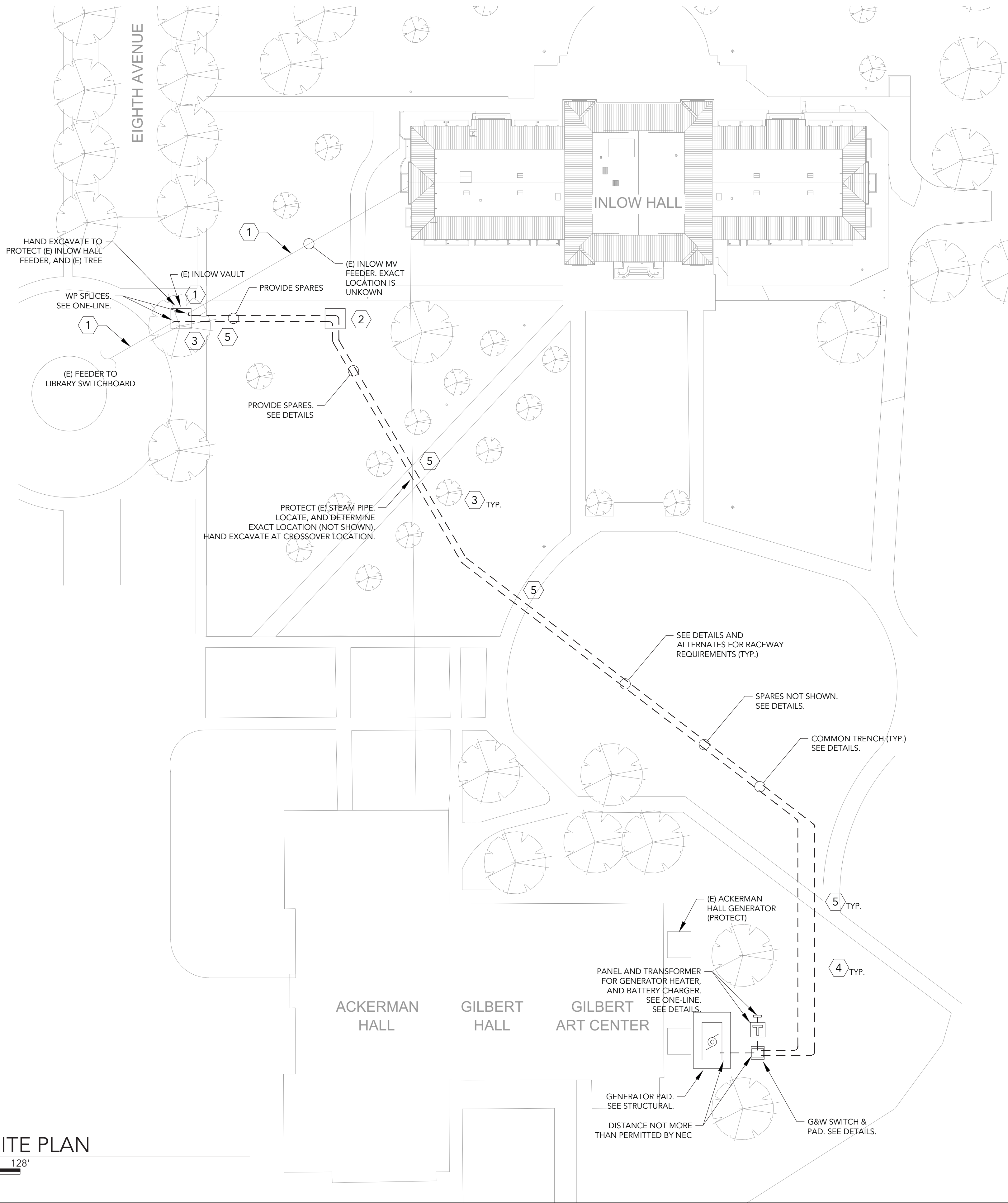
SCALE: 3/8" = 1'-0"



1
E2.00

CAMPUS SITE PLAN

0 32' 64' 128'
SCALE: 1/32" = 1'-0"

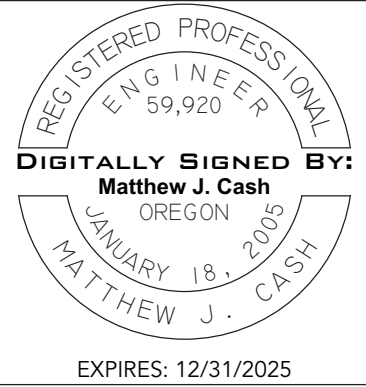


SHEET NOTES

- MATCH GENERATOR COLOR OF LIGHT BROWN FOR EXTERNAL SWITCH, AND TRANSFORMER.
- DO NOT DEVIATE FROM COMMON TRENCH ROUTE/LOCATIONS SHOWN. SPECIFIC ROUTE REQUIRED INCLUDING TRAVERSING BETWEEN TREES SHOWN.
- (E) UTILITIES, (E) STORM NOT SHOWN.
- PROVIDE PRIVATE LOCATE PRIOR TO EXCAVATION, AND PART OF THE TRENCH INSTALLATION TO DETERMINE EXACT LOCATION OF EXISTING UTILITIES. ALPHA LOCATES, OR APPROVED. TYPICAL.

KEYNOTES

- (E) LOCATION AND DEPTH OF THIS FEEDER IS UNKNOWN. FEEDER IS INDICATED ON AS-BUILTS AS CONCRETE ENCASED. PROTECT (E) FEEDER ROUTE. PROVIDE LOCATE, PROVIDE LOCATE. SHOWN FOR REFERENCE ONLY.
- PROVIDE CONCRETE PULL BOX. SEE DETAILS. IF (E) INLOW VAULT CANNOT ACCOMMODATE (2) SPLICES PER PHASE (6 TOTAL), RELOCATE PULL BOX ALONG (E) INLOW FEEDER TO INTERCEPT AND SPLICE AT RELOCATED POSITION.
- PROTECT (E) TREE.
- LANDSCAPING, AND STORM IN THIS AREA NOT SHOWN, AND/OR EXACT LOCATIONS OF (E) IS NOT SHOWN. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH (E) CONDITIONS. BACKGROUND PLAN NOT BY EOR.
- BORE MAY BE REQUIRED TO PROTECT (E) WALKWAY. COORDINATE WITH OWNER.



FLUENT
ENGINEERING
ENGINEERING THROUGH DESIGN
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
FLUENTENGINEERING.COM
NOT FOR CONSTRUCTION WITH UNLESS

EDU INLOW HALL - GENERATOR DESIGN

ONE UNIVERSITY BLVD. LA GRANDE OR, 97850

| REVISIONS | | |
|-----------|------|--------------|
| SYM. | DATE | DESIGN/CHECK |

23-137

DESIGN: BC
DRAWN: BC/AM
CHECKED: MC

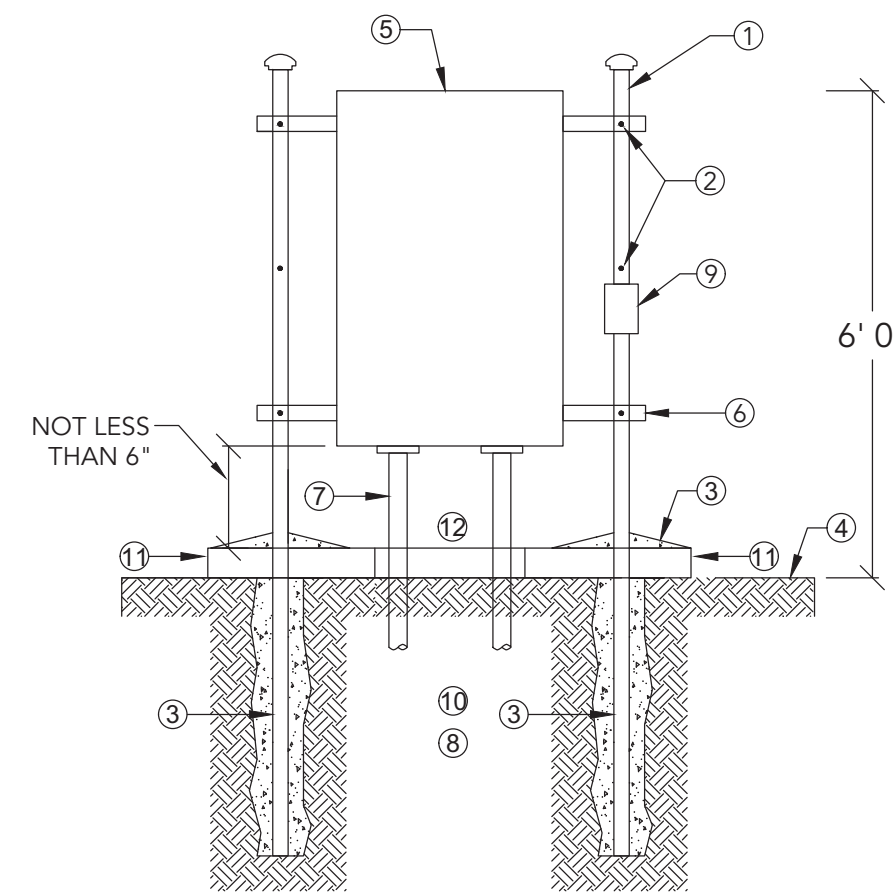
FEB. 13, 2024

CAMPUS
SITE PLAN

SHEET INDEX

E2.00

100% CONSTRUCTION DOCUMENTS

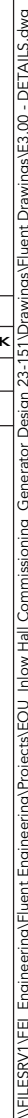


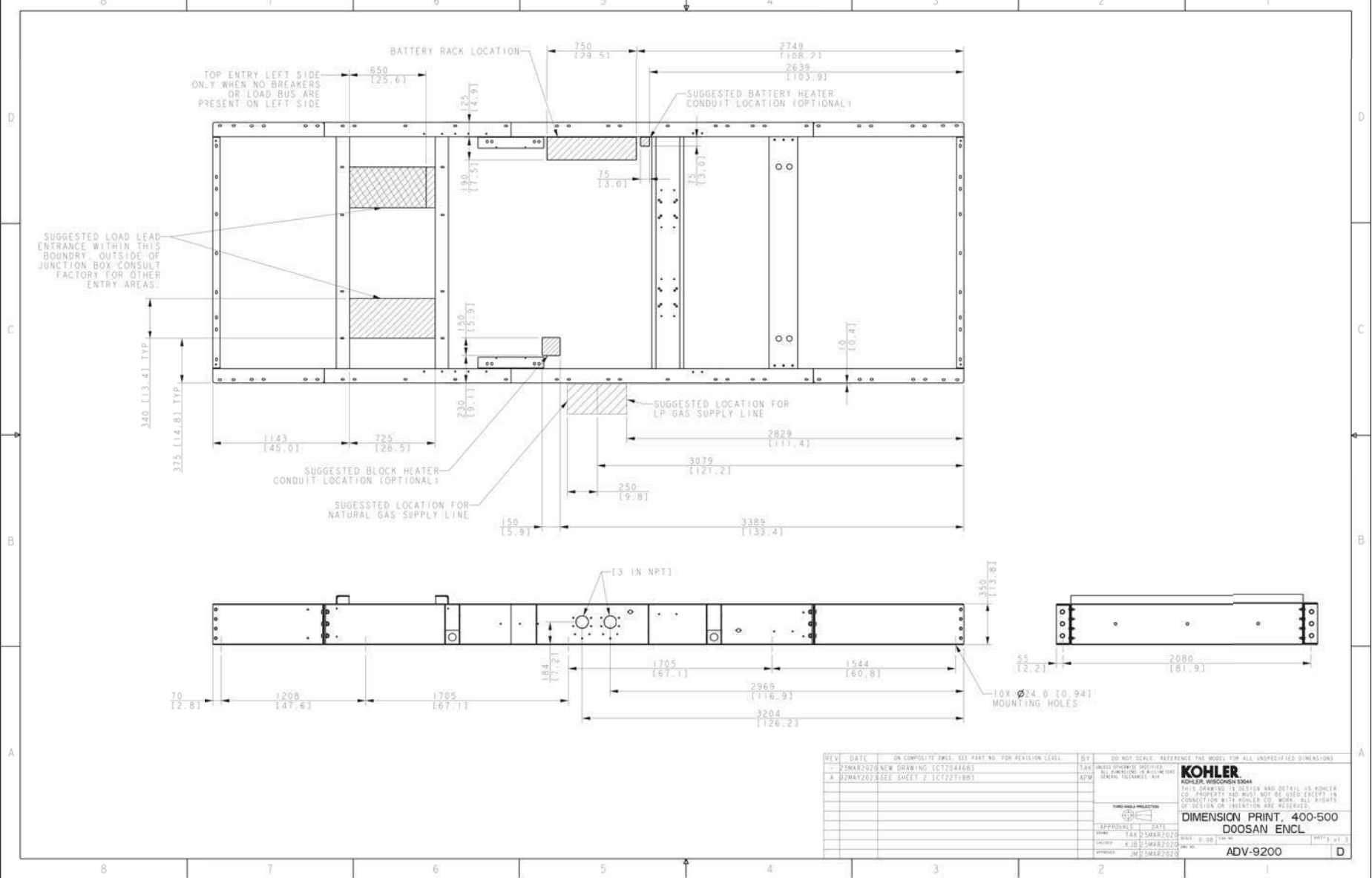
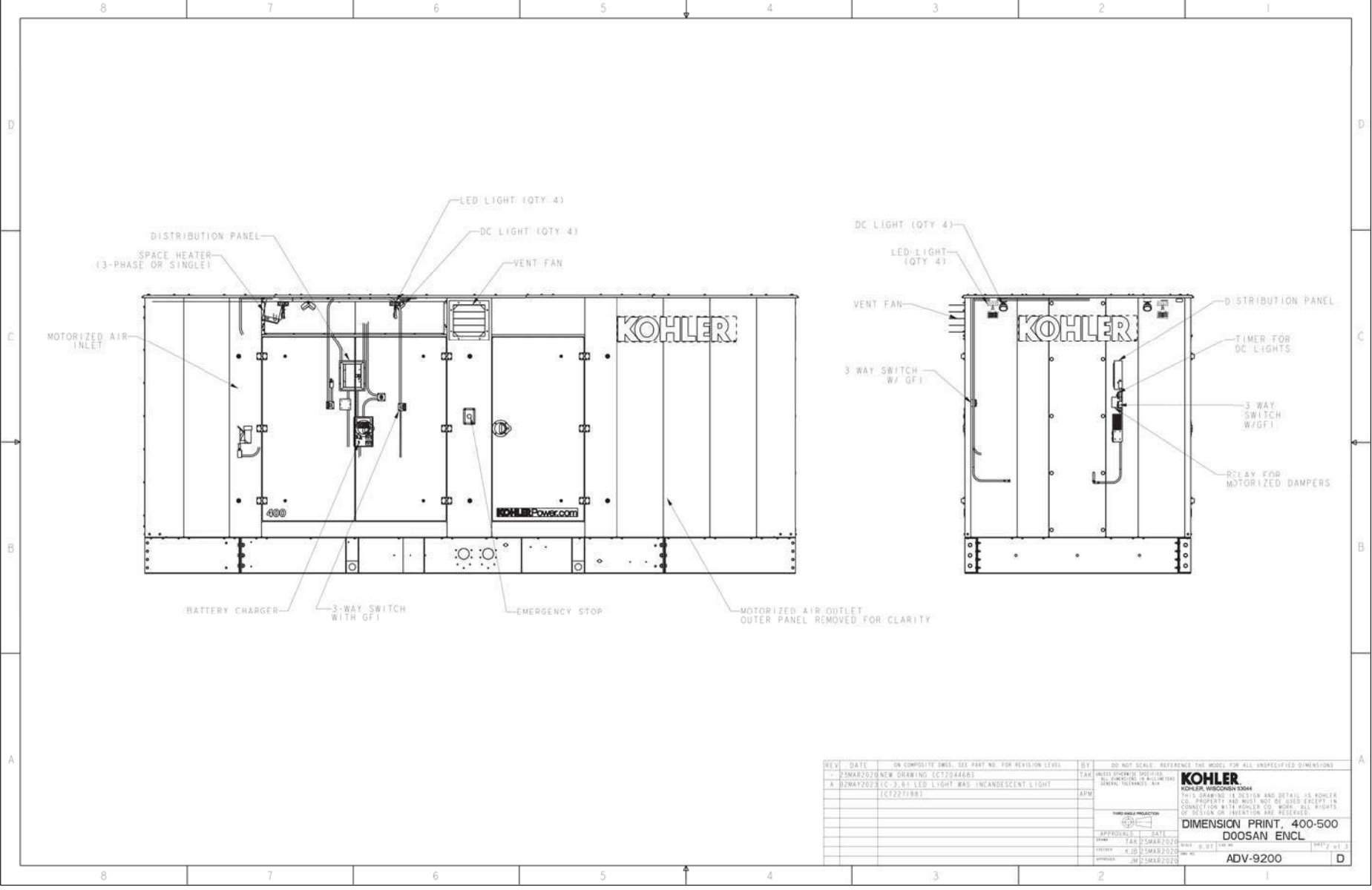
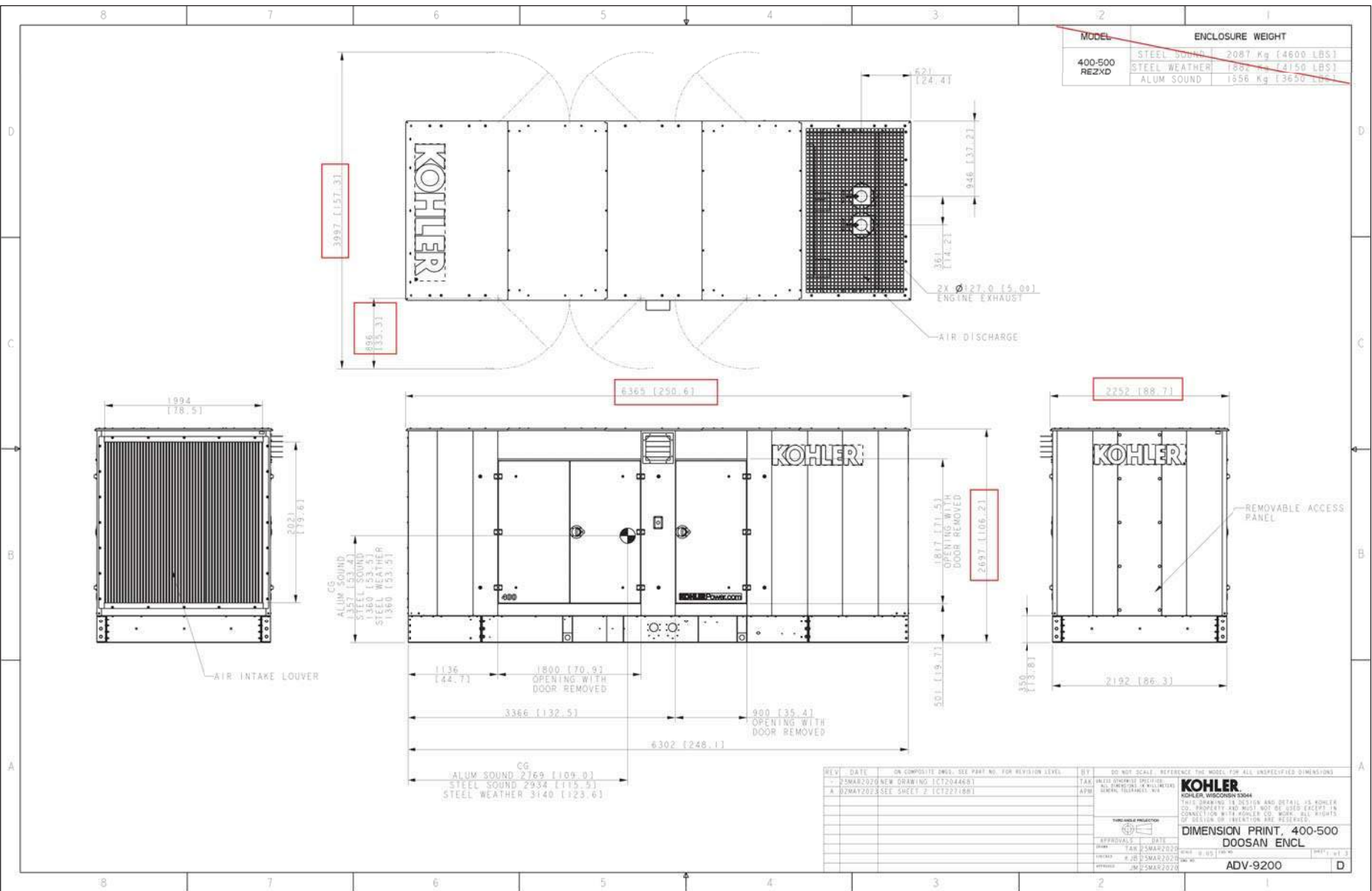
- 
Oldcastle Precast®

Power & Energy

File: 260UETPAD-4851_F

48" x 51" x 5"
Transformer Pad
 EXAMPLE Model: **PAD-4851** (OR APPROVED)

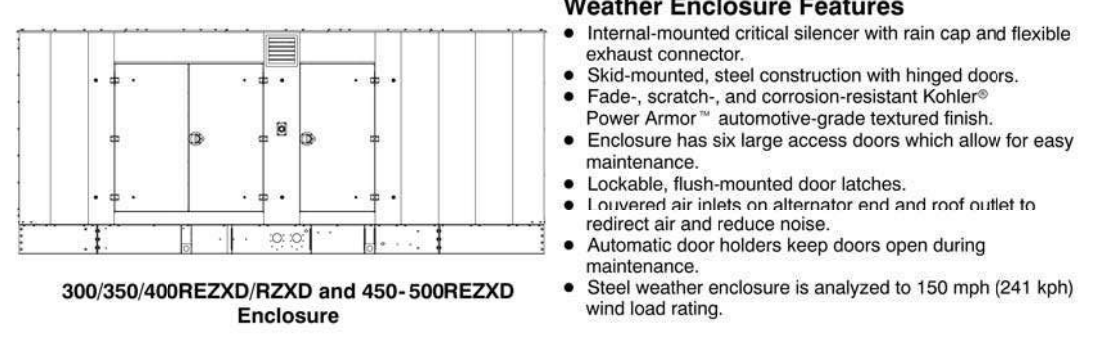




KOHLER Industrial Generator Set Accessories

Weather and Sound Enclosures

Applicable to the following:
300-500REZXD and 300-400RZXD



Weather Enclosure Features

- Internal-mounted critical silencer with rain cap and flexible exhaust connector.
- Skid-mounted, steel construction with hinged doors.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
- Enclosure has six large access doors which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- 1 covered air inlets on alternator end and roof outlet to redirect air and reduce noise.
- Automatic door holders keep doors open during maintenance.
- Steel weather enclosure is analyzed to 150 mph (241 kph) wind load rating.

Sound Enclosure Features

- Includes all of the weather enclosure features with the addition of sound attenuation material and intake baffles.
- Skid-mounted, steel or aluminum construction with hinged doors. Aluminum enclosures are recommended for high humidity and/or high salt/coastal regions.
- Acoustic insulation that meets UL 94 HF-1 flammability classification and repels moisture absorption.
- Steel sound enclosure is analyzed to 150 mph (241 kph) wind load rating.

Available Approvals and Listings

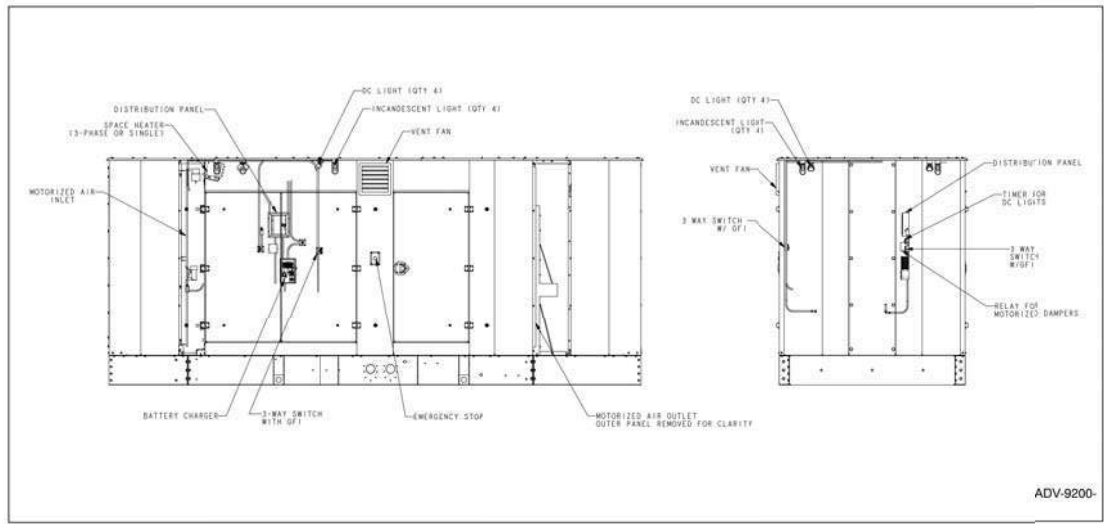
- ☐ UL 2200 Listing
- ☐ CSA Certified
- ☐ cUL Listing
- ☐ IBC Seismic Certification
- ☐ Hurricane Rated Enclosure - Available on sound aluminum, 300-500REZXD models (Impact rated for Large Missile Level E and Wind load rated per Florida Building Code tested to TAS201-94, TAS202-94 and TAS203-94 standards)
- ☐ Aluminum sound enclosure is certified to 196 mph (299 kph) wind load rating for 300-500REZXD models.

NOTE: Some models may have limited third-party approvals; see your local distributor for details.

300-500REZXD and 300-400RZXD Enclosure Features

- Available in steel formed panel, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to skid.
- Power Armor™ automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
- Internal critical exhaust silencer offering maximum component life and operator safety.
- Service access. Multi-personnel doors for easy access to generator set control and servicing of the oil fill and battery.
- Cooling air discharge. Weather protective design featuring a vertical air discharge outlet grille. Redirects cooling air up and above enclosures to reduce noise ambient.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
- Cooling/combustion air intake with a horizontal air inlet. Sized for maximum cooling airflow.
- Additional Sound Enclosure Features
- Available in steel or aluminum formed panel, solid construction.
- Sound-attenuating design. Acoustic insulation UL 94 HF-1 listed for flame resistance with up to 51 mm (2 in.) thickness.
- Cooling air discharge. The sound enclosures include acoustic insulation with urethane film.

300-500REZXD and 300-400RZXD Weather and Sound Enclosure Options



300-500REZXD and 300-400RZXD Weather and Sound Enclosure Options

Basic Electrical Package (BEP)

Distribution Panel/Load Center. Prewired AC power distribution of all factory-installed features including block heater, two GFCI-protected internal 120-volt service receptacles, internal lighting, and commercial grade wall switch. The load center is powered by building source power and protected by a main circuit breaker, rated for 100 amps with capacity and circuit positions for future expansion. AC power distribution installed in accordance with NEC and all wiring within EMT run in wall conduit. Four LED lights located within UL-listed fixtures designed for wet locations.

- ☐ BEP available with single-phase load center 120/240 VAC.
- ☐ BEP available with 3-phase load center 120/208/240 VAC.

Enclosure Heater

Heater, 5 kW Ceiling Mounted. Electrical utility heater prewired to load center inside the enclosure. Rated at 17100 Btu includes adjustable louvers offering down flow and horizontal air turning, built-in thermostat with automatic fan delay controls.

- ☐ Heater available in single phase at 240 VAC.
- ☐ Heater available in three phase at 208 or 240 VAC.

DC Light Package

- ☐ **DC Light Package (DLP).** Prewired DC light package offering an economical alternative light source within the enclosure, as a complement to the BEP or a source of light when AC power is not available. Battery drain limited with fuse protection and controlled through a 0-60 minute, spring-wound, no-hold timer. Available in LED for generator sets between 300-500 kW.

Miscellaneous Package Options

- ☐ **Battery Charger, Mounted.** Mounting, prewiring of DC output and AC input when optional BEP is selected. Battery charger located inside the enclosure and accessible through an access door.

Block Heater, Junction Box. Factory-supplied block heater prewired to a junction box providing a convenient location for the customer wiring of the block heater.

- ☐ Heater available in single phase at 240 VAC.
- ☐ Heater available in three phase at 208 or 240 VAC.

Enclosure Design Options

- ☐ **Aluminum Enclosure** (available with sound enclosure only)
- ☐ **Steel Enclosure**
- ☐ **Panic Bar** for each latching door. Provides additional safety for individuals working on the generator set while in the enclosure.

Motorized Variable Damper and Ventilation

Motorized Air Inlets

- ☐ Aluminum construction
- ☐ Galvanized steel construction

Motorized Air Outlets

- ☐ Aluminum construction
- ☐ Galvanized steel construction
- ☐ **Ventilation Fan, 22.6 cm/min. (800 cfm) Wall Mount.** Direct drive 3-blade 305 mm (12 in.) aluminum propeller fan with automatic shutters, driven by a totally enclosed air-over motor housed within a corrosion-resistant housing. Remote thermostatically controlled over a temperature range of 27°C to 54°C (80°F to 130°F). All components are prewired and installed.
- ☐ **Gravity Air Outlet Louver.** Aluminum louvers closed when unit is not running. After the unit starts, the forced cooling air opens the outlet louvers.

KOHLER

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-455-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

Weather and Sound Enclosure Specifications

| Model | Max. Dimensions, mm (in.) | | | Weight, kg (lb.) † | | | Sound Enclosure, Sound Pressure Level at 69% with Full Load, dB(A) * |
|----------|---------------------------|-------------|-------------|-------------------------|-----------------------|--------------------------|--|
| | Length | Width | Height | Steel Weather Enclosure | Steel Sound Enclosure | Aluminum Sound Enclosure | |
| 300REZXD | 6365(250.6) | 2252 (88.7) | 2695(106.1) | 6643 (14645) | 6847 (15095) | 6416 (14145) | 69 |
| 300RZXD | 6365(250.6) | 2252 (88.7) | 2696(106.1) | 6643 (14645) | 6847 (15095) | 6416 (14145) | 70 |
| 350REZXD | 6365(250.6) | 2252 (88.7) | 2696(106.1) | 6863 (15130) | 7057 (15580) | 6636 (14630) | 69 |
| 350RZXD | 6365(250.6) | 2252 (88.7) | 2696(106.1) | 6863 (15130) | 7057 (15580) | 6636 (14630) | 70 |
| 400REZXD | 6365(250.6) | 2252 (88.7) | 2697(106.2) | 7144 (15769) | 7348 (16200) | 6917 (15260) | 72 |
| 400RZXD | 6365(250.6) | 2252 (88.7) | 2697(106.2) | 7144 (15769) | 7348 (16200) | 6917 (15260) | 72 |
| 450REZXD | 6365(250.6) | 2252 (88.7) | 2697(106.2) | 7244 (15970) | 7448 (16420) | 7017 (15470) | 72 |
| 500REZXD | 6365(250.6) | 2252 (88.7) | 2697(106.2) | 7262 (16010) | 7466 (16460) | 7035 (15510) | 72 |

Note: Refer to the respective ADV drawings for details.
* Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft). Refer to TIB-114 for details.
† Weight includes the generator set (wet), enclosure, and silencer. The generator set weight represents using the largest alternator option.

DISTRIBUTED BY:

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator set distributor for availability.



FLUENT ENGINEERING
ENGINEERING THROUGH DESIGN™
STEWARDSHIP THROUGH DESIGN™
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
FLUENTENGINEERING.COM
NET FOR CONSTRUCTION AND UTILITIES

EQU INLOW HALL - GENERATOR DESIGN

ONE UNIVERSITY BLVD. LA GRANDE OR, 97850

100% CONSTRUCTION DOCUMENTS

| SYMBOL | DATE | DESIGNED/CHECKED |
|--------|------|------------------|
|--------|------|------------------|

23-137
DESIGN: BC
DRAWN: BC/AM
CHECKED: MC
FEB. 13, 2024

GENERATOR
DATA SHEETS

SHEET INDEX
E3.01

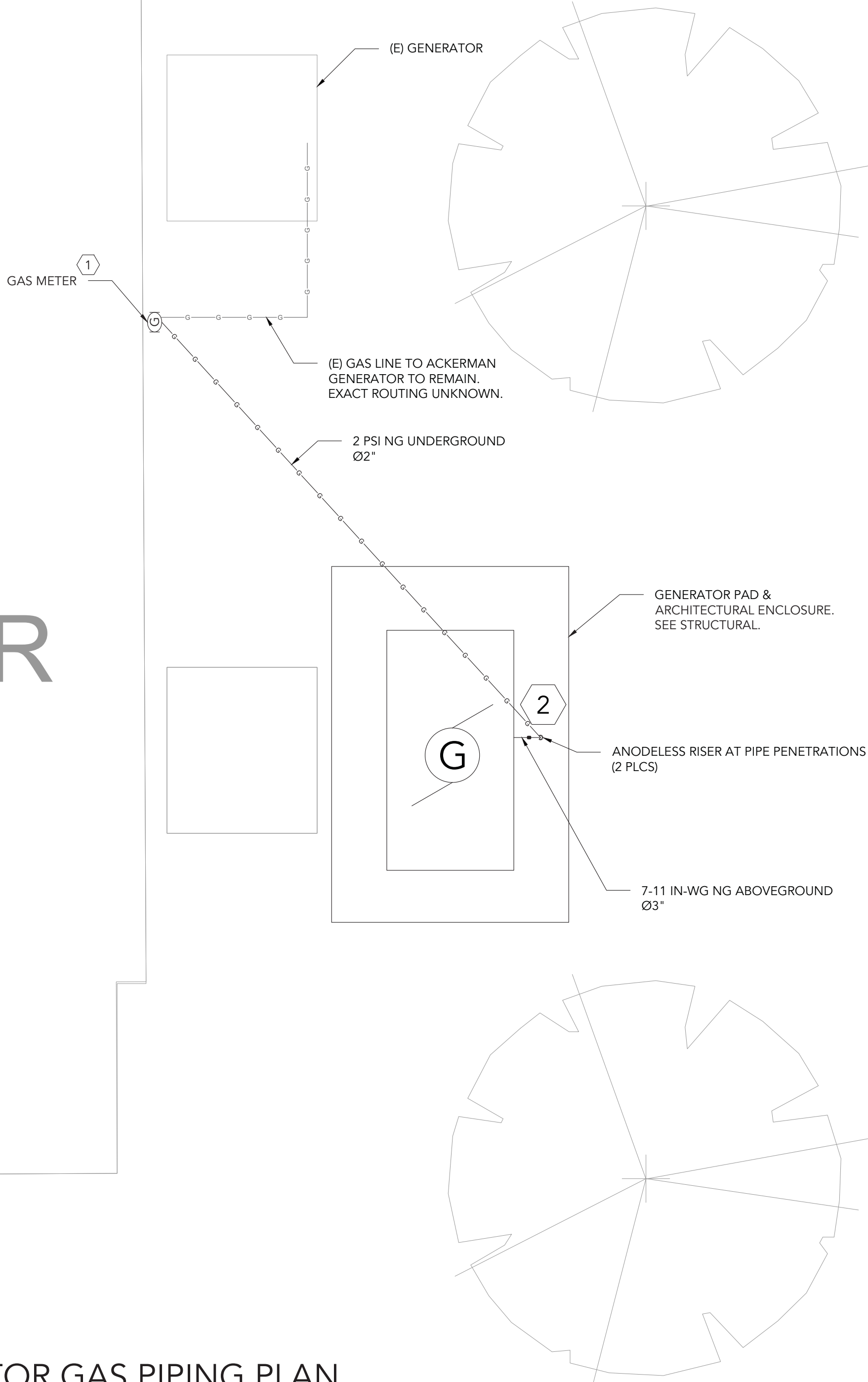
GILBERT ART CENTER



1
P1.00

GENERATOR GAS PIPING PLAN

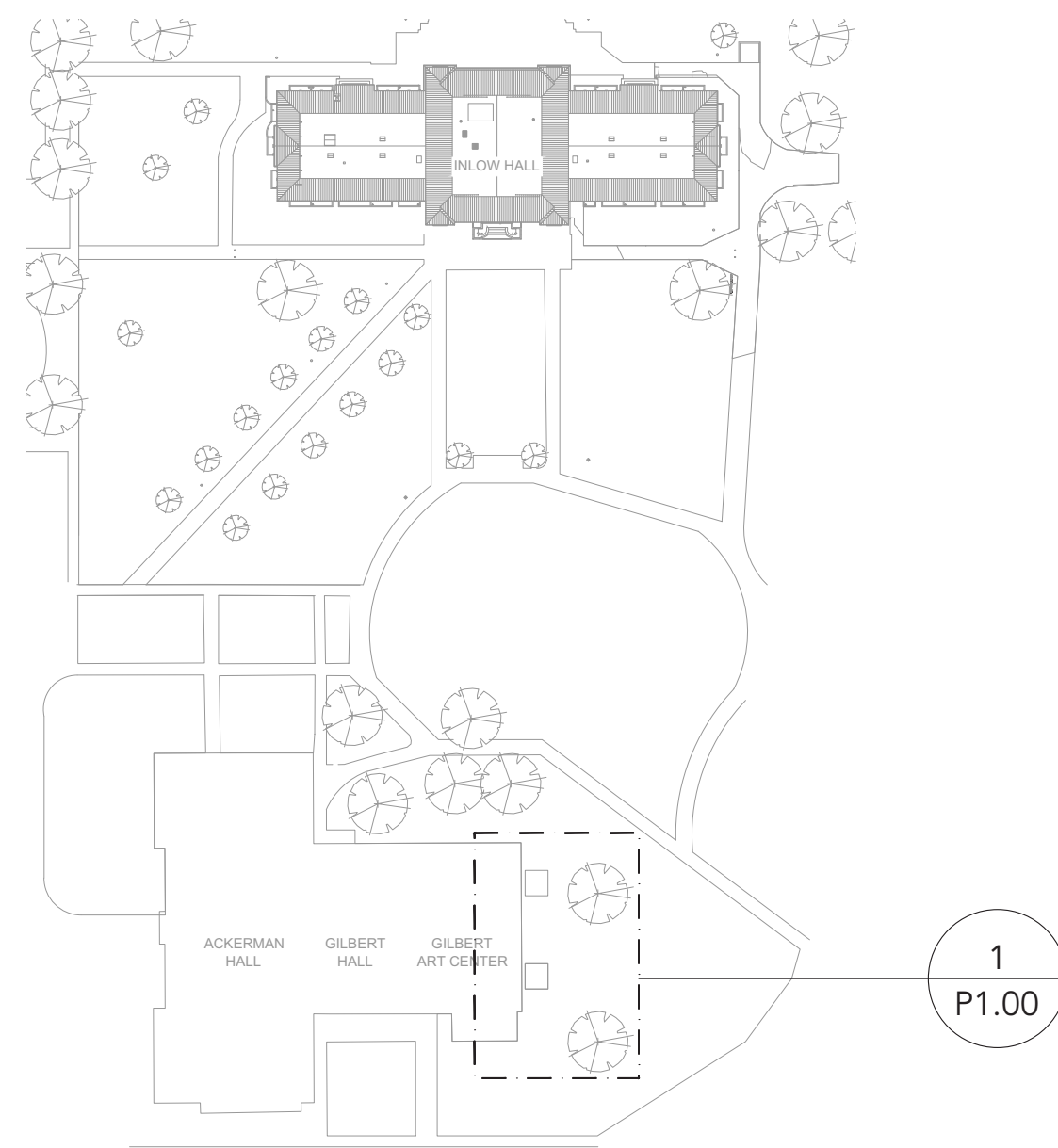
SCALE: 1/8" = 1'-0"



2
P1.00

OVERALL SITE PLAN

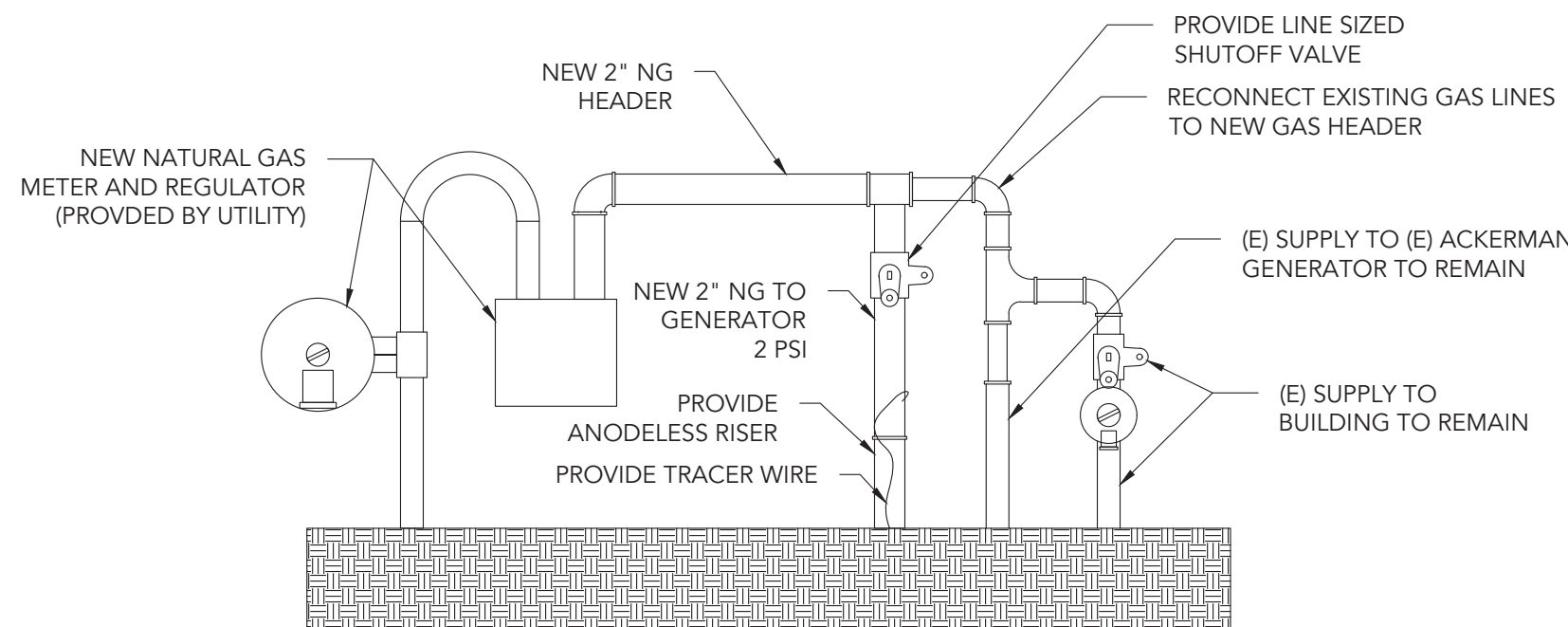
SCALE: NO SCALE



3
P1.00

NEW NATURAL GAS METER PIPING DETAIL

SCALE: NO SCALE



4
P1.00

EXISTING GAS METER PIPING (FOR REFERENCE)

SCALE: NO SCALE



SHEET NOTES

1. PROVIDE NATURAL GAS PIPING FROM GAS METER TO THE GENERATOR.
2. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

KEYNOTES

1. (E) GAS METER TO BE REPLACED WITH NEW BY UTILITY IN APPROXIMATELY THE SAME LOCATION. SEE DETAIL 2 FOR PIPING HEADER CONFIGURATION.

UTILITY CONTACT INFO:
AVISTA CORP
GREG FORD, GAS OPERATIONS MANAGER, LA GRANDE
10201 SOUTH "F" ST.
PO BOX 1048
ISLAND CITY, OR 97850
C 541-441-0767
gregory.ford@avistacorp.com

2. PROVIDE GAS TRAIN AT GENERATOR INCLUDING REGULATOR, DIRT LEG, AND SHUTOFF VALVE.
 - 2.1. REGULATOR SHALL BE LOCATED AND SIZED TO MEET GENERATOR MANUFACTURER REQUIREMENTS.
 - 2.2. PROVIDE FLEXIBLE FUEL LINE CONNECTION TO GENERATOR

PIPING MATERIALS

- A. ABOVE GROUND: STEEL PIPE, SCHEDULE 40, ASTM A53/A53M A.1. PROTECT FROM CORROSION.
- B. BELOW GRADE: POLYETHYLENE PIPE, SDR11, ASTM D2513
- C. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

NATURAL GAS CALCULATIONS

| NATURAL GAS CALCULATIONS | | | |
|--|-----------------|-----------------|-----------------|
| DESCRIPTION | NO. OF FIXT. | BTU/HR INPUT | TOTAL BTU/HR |
| MECHANICAL EQUIPMENT | | | |
| Inlow 500 kW Generator | 1 | 6,072,000 | 6,072,000 |
| Ackerman 50 kW Generator | 1 | 810,000 | 810,000 |
| Misc Loads (Gas Fireplace) | 1 | 200,000 | 200,000 |
| | | | |
| TOTAL DEMAND (BTU) | | | 7,082,000 |
| TOTAL DEMAND (CFH) | | 1,000 | 7,082 |
| SIZING BASED ON 2 PSI SUPPLY PRESSURE WITH 1 PSI PRESSURE DROP | | | |
| EQUIVALENT LENGTH OF PIPE: | | 80 FT | |
| MAIN SUPPLY PIPE SIZE: | | 2" | |
| CALCULATION METHOD: LONGEST LENGTH | | | |
| BASIS OF DESIGN (OREGON): | | | |
| 2022 OREGON MECHANICAL SPECIAL CODE, APPENDIX C FUEL GAS | | | |

100% CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
76293PE
DIGITALLY SIGNED
OREGON
NOV 9, 2021
JEREMY J. WENGER
EXPIRES: 06/30/2024

FLUENT ENGINEERING
STEWARDSHIP THROUGH DESIGN™
2110 STATE STREET
SALEM, OREGON 97301
503-447-5030
INFO@FLUENTENGINEERING.COM
FLUENTENGINEERING.COM
NOT FOR CONSTRUCTION WITH UNLICENSED

EDU INLOW HALL - GENERATOR DESIGN

ONE UNIVERSITY BLVD.

LA GRANDE OR, 97850

| REVISIONS | | |
|-----------|------|--------------|
| SYM. | DATE | DESIGN/CHECK |
| | | |

23-137

DESIGN: BC
DRAWN: BC/AM
CHECKED: MC

FEB. 13, 2024

GAS PIPING PLAN

SHEET INDEX

P1.00

Feb 06, 2024 11:32:20 am G:\JOBS-2023\230928 EOU INLOW HALL GENERATOR PAD\230928_REV 0_2024-02-06.DWG, DCRANE

GENERAL NOTES

CODES AND STANDARDS:

- A. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 OREGON STRUCTURAL SPECIALTY CODE AND 2021 EDITION INTERNATIONAL BUILDING CODE INCLUDING REFERENCE STANDARDS LISTED BELOW:
- AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN SOCIETY OF CIVIL ENGINEERS - (ANSI/ASCE 7-16)
 - AMERICAN CONCRETE INSTITUTE (ACI 301 - 2016, ACI 318 - 2019)

DESIGN LOADS:

- A. WIND DESIGN DATA:
ULTIMATE WIND SPEED = 102 mph
EXPOSURE = "C"
RISK CATEGORY II
- B. SEISMIC DESIGN DATA:
 $S_s = 0.331$ $S_1 = 0.121$
SITE CLASS = D
 $S_{DS} = 0.339$ $S_{D1} = 0.191$
SEISMIC DESIGN CATEGORY C
- SEISMIC DEMAND FOR NONSTRUCTURAL COMPONENTS (ASCE 7 CH. 13)
 $a_p = 1$, $R_o = 2.5$, $\Omega_o = 2.0$
RISK CATEGORY = II
- C. IMPORTANCE FACTORS:
SEISMIC $(I_p) = 1.5$

GENERAL REQUIREMENTS:

- A. IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO OBTAIN APPROPRIATE APPROVALS AND NECESSARY PERMITS FROM CITY, COUNTY, STATE, OR FEDERAL AGENCIES, AS REQUIRED.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION METHODS, TECHNIQUES, SEQUENCING, AND SAFETY REQUIRED TO COMPLETE CONSTRUCTION.
- C. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES SHALL BE APPROVED BY THE ARCHITECT OR ENGINEER OF RECORD.
- D. CONTRACTOR SHALL VERIFY ALL REQUIRED PENETRATIONS ON ARCHITECTURAL, MECHANICAL AND ELECTRICAL PLANS. ALL DIMENSIONS SHALL BE FIELD VERIFIED AS EARLY AS POSSIBLE.
- E. CONTRACTOR SHALL THOROUGHLY REVIEW AND REDLINE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER AND ARCHITECT. SUBMIT SHOP DRAWINGS IN A TIMELY FASHION TO ALLOW 10 BUSINESS DAYS FOR REVIEW BY DESIGN TEAM. ALL MODIFICATIONS OR COMMENTS MADE DURING REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS OR SPECIFICATIONS.

STRUCTURAL INSPECTION AND TESTING:

- A. CONTRACTOR SHALL PROVIDE WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK AS REQUIRED BY OSSC SECTION 1704.2.3.
- B. ALL CONSTRUCTION SHALL BE INSPECTED IN CONFORMANCE WITH THE OREGON STRUCTURAL SPECIALTY CODE.
- C. ALL ITEMS NOTED AS REQUIRING SPECIAL INSPECTION PER THE OREGON STRUCTURAL SPECIALTY CODE IN ACCORDANCE WITH SECTION 1705, SHALL BE PERFORMED BY A QUALIFIED PERSON WHO CAN DEMONSTRATE COMPETENCE FOR THE PARTICULAR TYPE OF CONSTRUCTION BEING INSPECTED. THE SPECIAL INSPECTIONS SHALL BE PERFORMED IN ADDITION TO THE INSPECTIONS REQUIRED BY THE OREGON STRUCTURAL SPECIALTY CODE, THE PLANS AND SPECIFICATIONS, THE ARCHITECT OF RECORD, AND THE BUILDING OFFICIALS.

| REQUIRED SPECIAL INSPECTIONS | | | |
|--|-------------------------|-----------------------|-------------|
| DESCRIPTION OF WORK IBC SECTION 1704 | INSPECTION FREQUENCY | | COMMENTS |
| | CONTINUOUS ² | PERIODIC ³ | |
| PREFAB. CONSTRUCTION (1704.2.5) | | | REF. NOTE 2 |
| CONCRETE (1705.3) | | | |
| REINFORCING PLACEMENT | | X | |
| ANCHOR BOLTS & INSERTS | | X | |
| PREPARATION OF TEST SPECIMENS | X | | |
| CONCRETE PLACEMENT | X | | |
| POST INSTALLED ANCHORS (1705.1.1 & TABLE 1705.3 (4)) | | | |
| MECHANICAL ANCHOR INSTALLATION | | X | REF. NOTE 3 |

1. THE ITEMS MARKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH OSSC SECTION 1705 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR AND BUILDING OFFICIAL. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THEN, IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY AND TO THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.
3. POST INSTALLED ANCHORS REQUIRE PERIODIC INSPECTION (OSSC TABLE 1705.3) UNLESS A MORE STRINGENT REQUIREMENT IS IMPOSED BY THE INDIVIDUAL ANCHOR'S RESEARCH REPORT.
- D. OWNER OR OWNERS REPRESENTATIVE TO RETAIN AN APPROVED SPECIAL INSPECTOR TO OBSERVE AND APPROVE ALL REQUIRED SPECIAL INSPECTION ITEMS.
- E. SPECIAL INSPECTION REPORTS TO BE PROVIDED TO THE BUILDING OFFICIAL & DESIGN PROFESSIONALS IN A TIMELY MANNER AND IN ACCORDANCE WITH OSSC SECTION 1704.2.4.

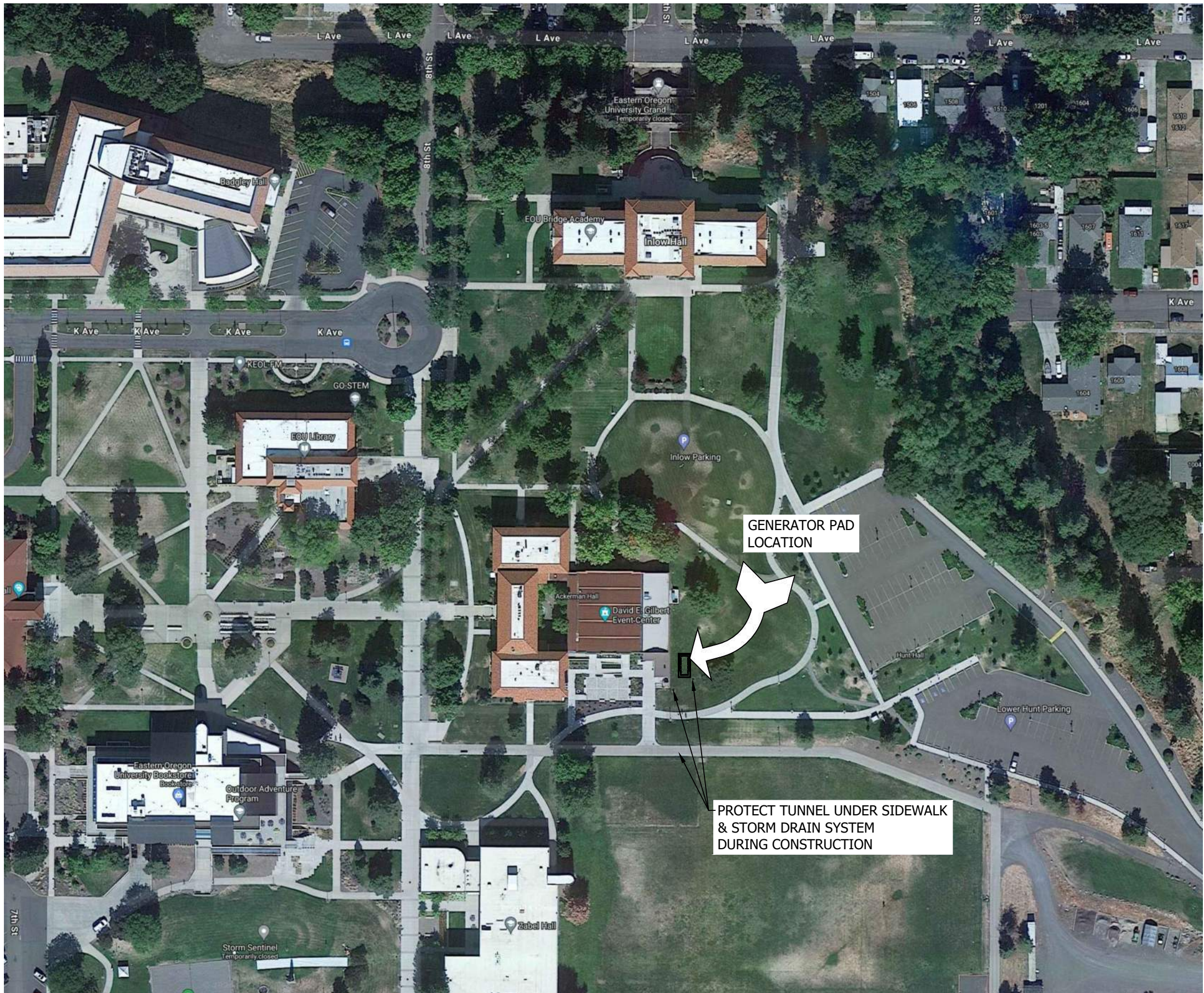
CONCRETE:

- A. ALL CONCRETE WORK SHALL CONFORM TO OSSC CHAPTER 19, "CONCRETE," ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE," ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS." SPECIAL INSPECTIONS: ALL CONCRETE MIXES REQUIRE SPECIAL INSPECTION UNLESS OTHERWISE NOTED.
- C. REINFORCING: ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY NOTED IN PLANS AND DETAILS. WHERE REINFORCING IS NOT INDICATED, PROVIDE REINFORCING AS SHOWN IN SIMILAR DETAILS AND VERIFY PLACEMENT WITH ENGINEER.
- D. CONCRETE EXPOSED TO WEATHER: ALL CONCRETE MIXES EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED WITH AN AIR CONTENT OF 5% ±1%.
- E. CONCRETE CAST AGAINST EXISTING: WHERE CONCRETE IS CAST AGAINST EXISTING OR PREVIOUSLY CURED CONCRETE, ROUGHEN CONTACT SURFACES TO 1/4" AMPLITUDE AND CLEAN SURFACE OF LAITANCE, FOREIGN MATTER, PAINT AND LOOSE PARTICLES.
- F. FLY ASH: PORTLAND CEMENT CONTENT MAY BE REPLACED WITH UP TO 25% FLY ASH CONFORMING TO ASTM C618 (INCLUDING TABLE 2A) TYPE F OR TYPE C, PROVIDED THAT MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.
- G. SLAG: PORTLAND CEMENT CONTENT MAY BE REPLACED WITH UP TO 25% SLAG CEMENT CONFORMING TO ASTM C989, PROVIDED THAT MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.
- H. ADMIXTURES: WATER REDUCING ADMIXTURES CONFORMING TO ASTM C494 MAY BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INCORPORATED IN THE CONCRETE MIX DESIGN SUBMITTAL.
- I. SLUMP: SLUMP REQUIRED FOR PROPER PLACEMENT SHALL BE DETERMINED BY THE CONTRACTOR AND SUPPLIER BASED UPON DELIVERY TIME AND METHOD OF PLACEMENT AND INCLUDED IN THE MIX DESIGN SUBMITTAL INCLUDING INFLUENCE OF ADDITIVES.

| LOCATION | COARSE AGGREGATE SIZE | MAXIMUM WATER/CEMENT RATIO | MINIMUM COMPRESSIVE STRENGTH (F _c) | ADD'L NOTES |
|-------------|-----------------------|----------------------------|--|-------------|
| FOUNDATIONS | 1½" | .46 | 3,000 | |

REINFORCING STEEL:

- A. ALL REINFORCING STEEL SHALL BE BILLET STEEL DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60, EXCEPT USE ASTM A706, GRADE 60 BARS WHERE WELDING IS REQUIRED. (NO. 3 BARS MAY BE GRADE 40). SUBMIT MILL CERTIFICATES FOR ALL BARS REQUIRING WELDING.
- B. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1-16 "MANUAL OF STANDARD PRACTICE" AND CHAPTER 25 OF ACI 318 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- C. ALL CONCRETE SLAB REINFORCING STEEL SHALL BE SUPPORTED AT THE REQUIRED HEIGHTS BY APPROVED BOLSTERS PRIOR TO POURING SLAB CONCRETE.
- D. REINFORCING STEEL LAP SPLICES NOT OTHERWISE INDICATED SHALL BE ACI STANDARD CLASS B SPLICES STAGGERED BETWEEN ADJACENT BARS ONE LAP LENGTH MINIMUM.



NOTE: VERIFY ALL UNDERGROUND UTILITIES PRIOR TO SITE WORK

GENERAL NOTES

EOU INLOW HALL – GENERATOR
ONE UNIVERSITY BLVD.
LA GRANDE, OR 97850
FOR: FLUENT ENGINEERING



DWG. NO.

S1

1 of 2

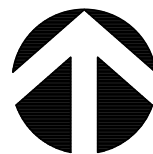
JOB NO. 230928
DRAWN BY: EDC
CHECKED BY: JAC
DATE: 02-06-2024
REVISION:

CONSULTING
STRUCTURAL
ENGINEERS
MSC
ENGINEERS
SINCE 1925
3470 Piedmont Place NE
Salem, OR 97301
503.399.1392
mscengineersinc.com

© 2024 MSC ENGINEERS, INC.

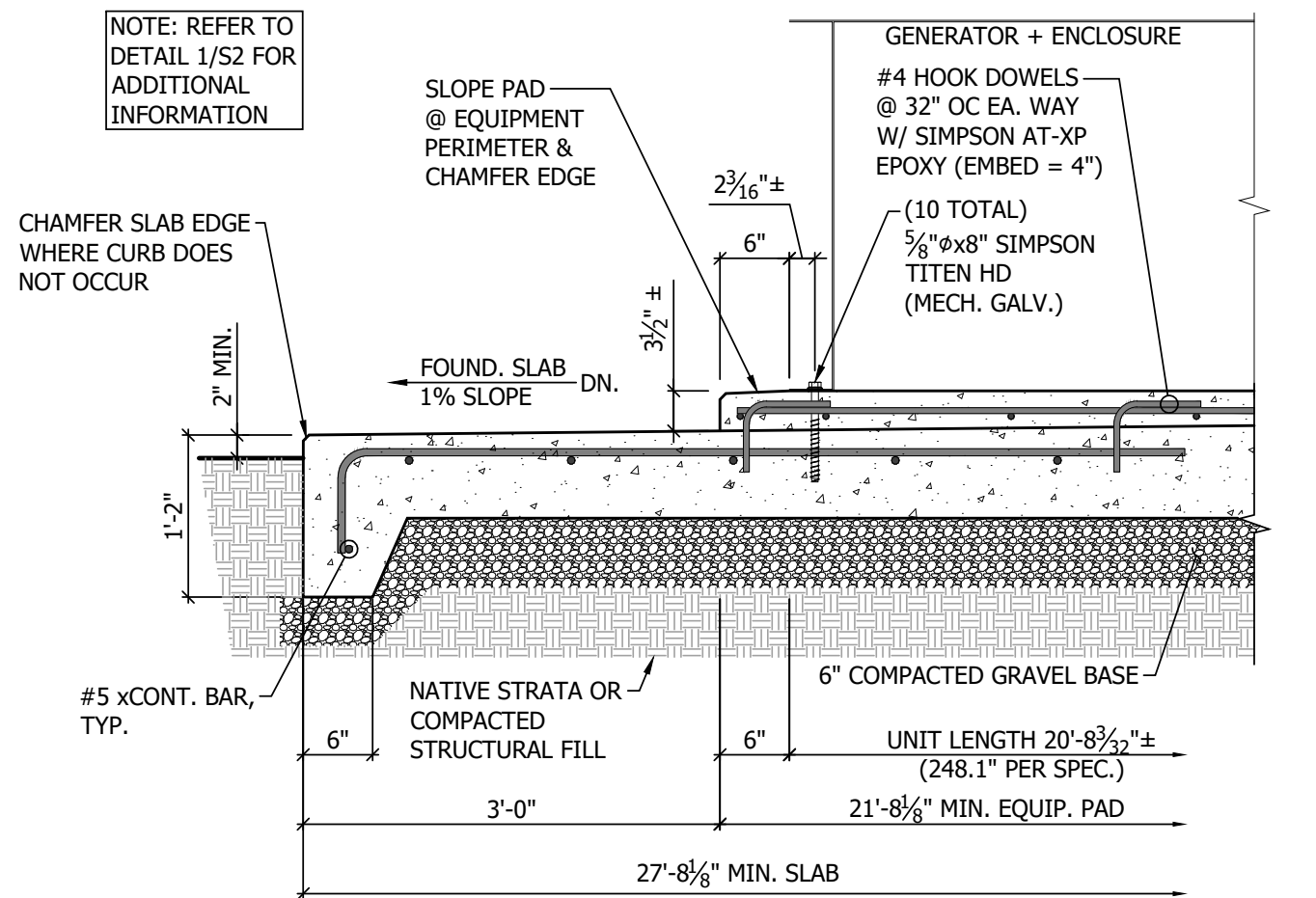
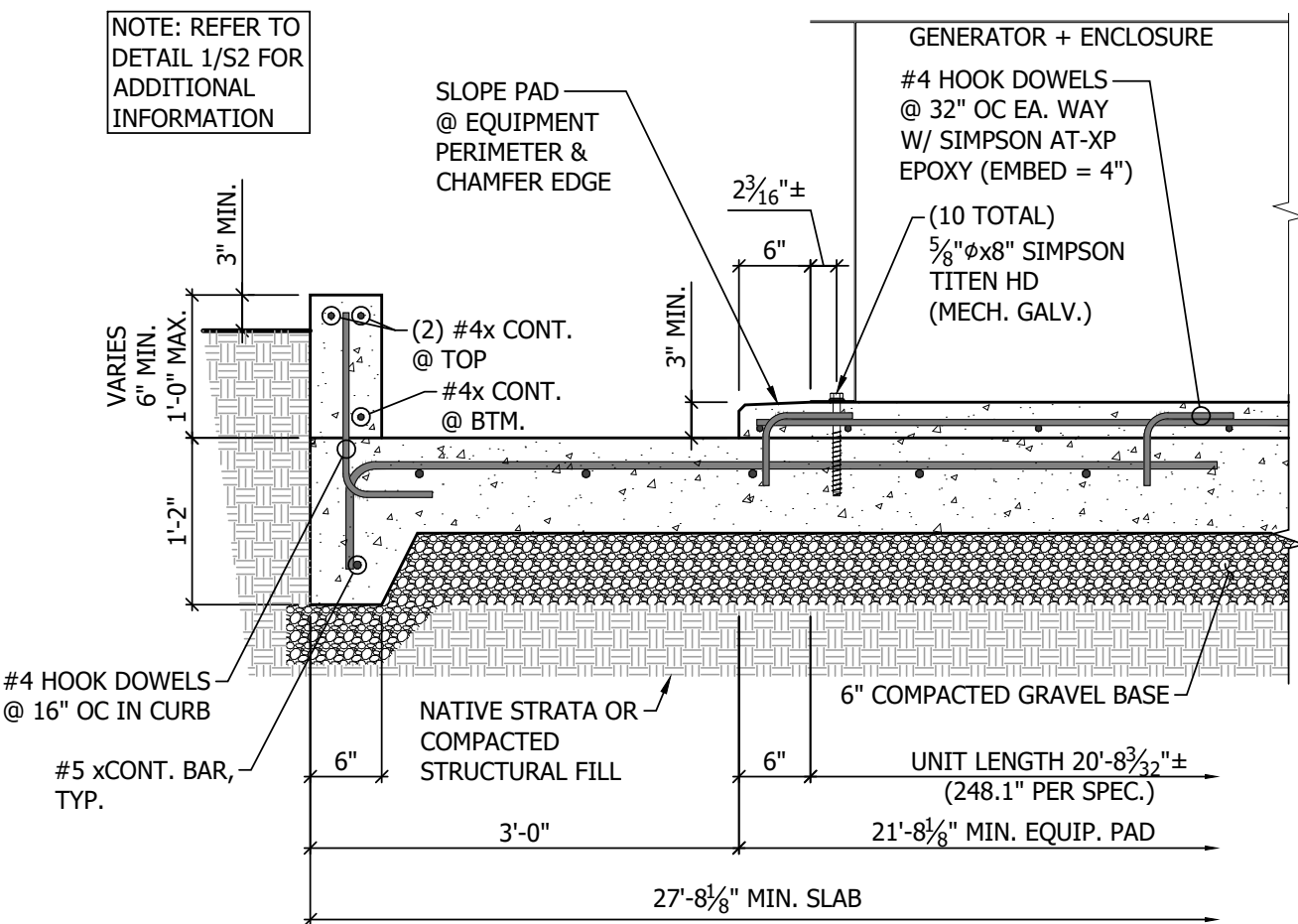
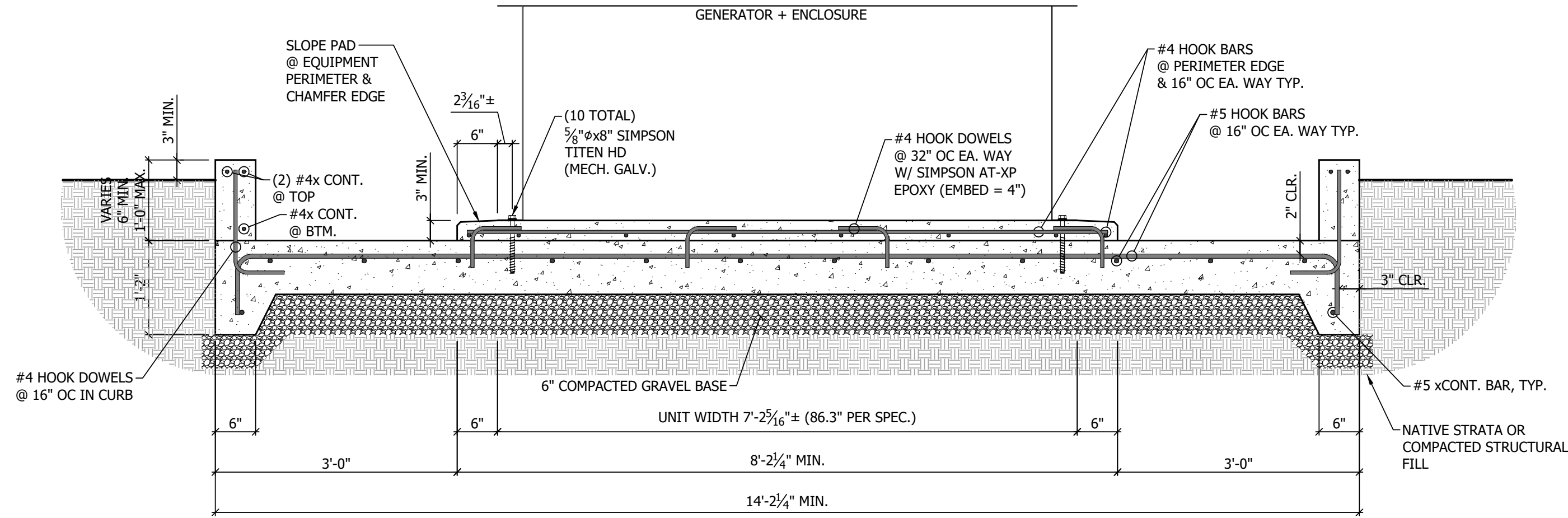
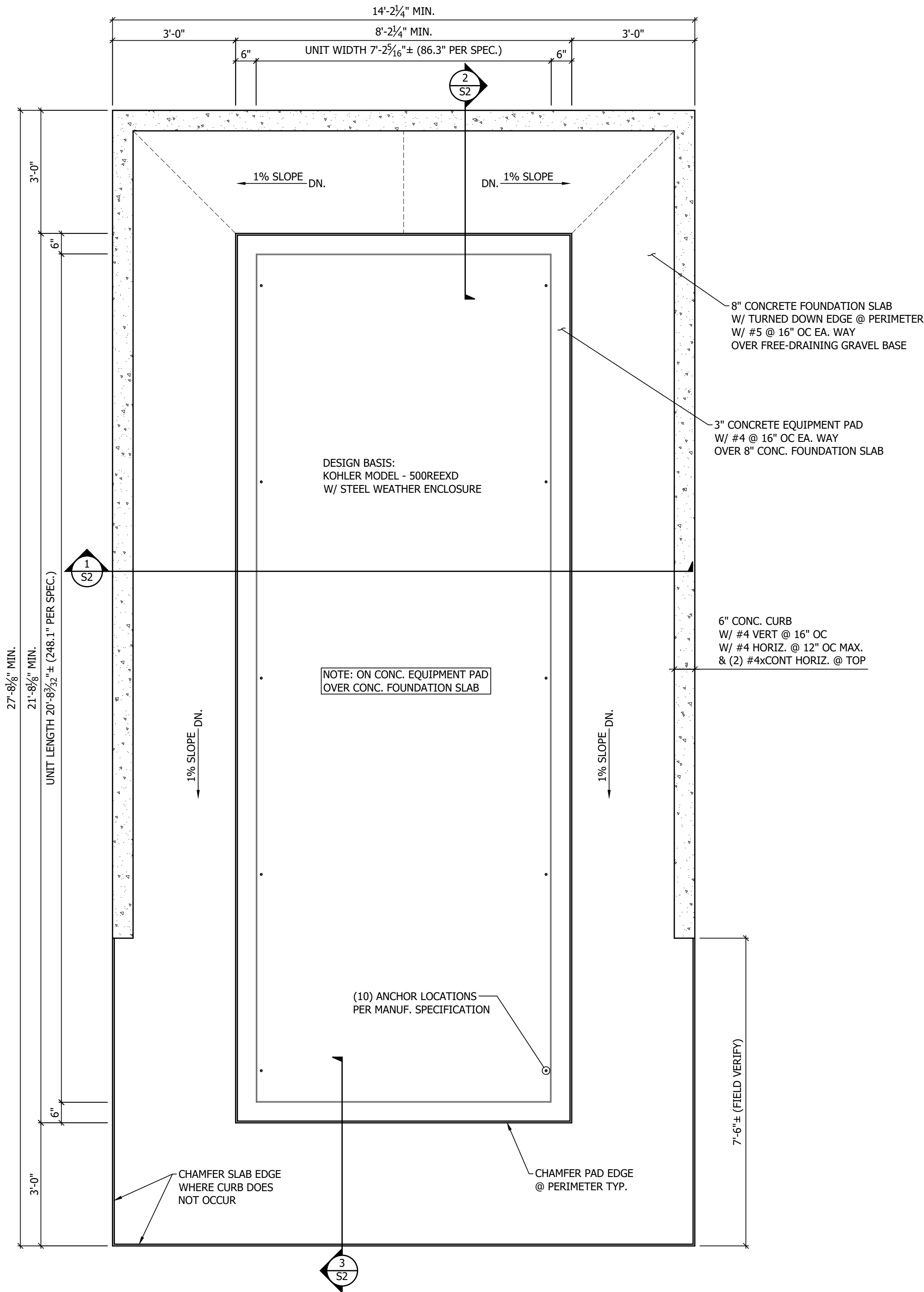
230928

Feb 06, 2024 11:32:21 am G:\JOBS-2023\230928 EOU INLOW HALL GENERATOR PAD\230928_REV 0_2024-02-06.DWG, DCRANE



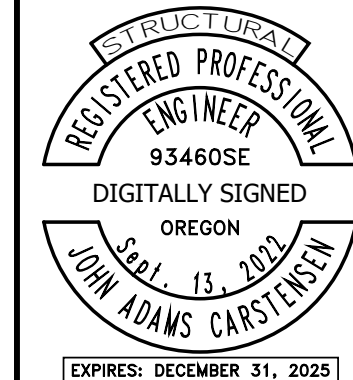
FOUNDATION SLAB PLAN

1/2" = 1'-0"



PLAN & SECTION

EOU INLOW HALL – GENERATOR
ONE UNIVERSITY BLVD.
LA GRANDE, OR 97850
FOR: FLUENT ENGINEERING



DWG. NO.
S2
2 of 2

JOB NO. 230928
DRAWN BY: EDC
CHECKED BY: JAC
DATE: 02-06-2024
REVISION:

MSC
ENGINEERS
SINCE 1925
CONSULTING
STRUCTURAL
ENGINEERS
3470 Pipeline Place NE
Portland, OR 97201
503.399.1392
mscengineersinc.com