HGE ARCHITECTS INC

333 S. 4TH STREET
COOS BAY, OR 97420
P: 541.269.1166
general@hge1.com
www.hge1.com

REGISTERED ARCHITECT
2840
JOSEPH A. SLACK
COOS BAY, OREGON
STATE OF OREGON

PROJECT #19.48.1

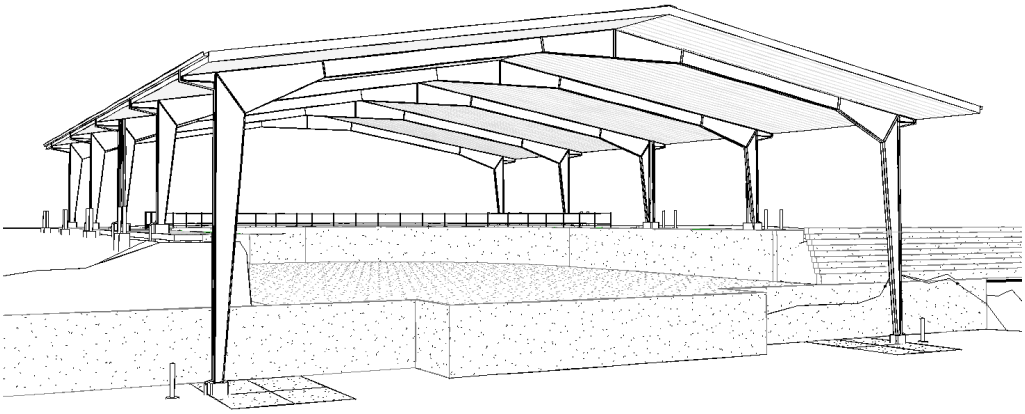
PROJECT MANUAL

FOR

BEAVER HILL PIT ROOF STRUCTURE - REBID

FOR

COOS COUNTY
SOLID WASTE DEPARTMENT



SEPTEMBER 2024

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SECTION 00-0101
PROJECT TITLE PAGE

PROJECT MANUAL

FOR

BEAVER HILL PIT ROOF - REBID

55722 US-101, COOS BAY, OREGON
FOR
COOS COUNTY

SEPTEMBER 2024
PROJECT 19.48

HGE ARCHITECTS, INC.
333 SOUTH 4TH STREET
COOS BAY, OREGON 97420
(541) 269-1166

END OF SECTION

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SECTION 00-0110
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END OF SECTION

SECTION 00-1113
ADVERTISEMENT FOR BIDS

Notice is hereby given that sealed bids for **Coos County Beaver Hill Disposal Site - Roof Structure REBID** project will be received by the office of the Coos County Commissioners, Coos County Owen Building, 225 N. Adams Street, Coquille, Oregon 97423, until **2:00 p.m., Thursday, October 17, 2024**. The bid opening shall be conducted in the Coos County Commissioners Conference Room immediately following the bid closing, at which time the bids will be publicly opened and read aloud.

Work on this Project shall consist of the construction of an approximately 19,800 square foot pre-engineered metal building structure open on all sides with large overhangs. The structure free spans a large solid waste dump pit at the Coos County Beaver Hill Transfer site. Site improvements include existing building demolition, concrete paving, and site restoration as required. Refer to specifications within the Project Manual and the Drawings for complete description of Work.

No bid shall be considered by Coos County unless the bid acknowledges that the provisions required by the ORS 279C.800 to 279C.870 concerning payment of the prevailing rate of wages is included in the Contract.

Construction Documents for this work may be examined at the Office of the Architect, HGE Architects, Inc. 333 South 4th Street, Coos Bay, Oregon, phone: 541- 269-1166, email: general@hge1.com, and at the following locations: Coos County Public Works (1281 West Central Blvd, Coquille OR), various Plan Centers, and on the HGE website at http://www.hge1.com/bidding-area/. General Contractors are encouraged to contact HGE by phone or email and register their interest in submitting a bid and to be included on the plan holders' list.

One set of drawings, specifications and contract documents may be obtained by prime bidders from HGE INC., upon deposit of $50.

A **Mandatory Pre-Bid Walkthrough** will be held on **Thursday, October 3, 2024, 10:30 A.M.** Contractors and subcontractors are encouraged to attend. **General contractors are required to attend to qualify to submit a bid.**

The County reserves the right to reject any and all bids, and to waive any technicalities or informalities in connection therewith. No bidder may withdraw his bid after the hour set for the opening thereof until the lapse of thirty (30) days from the bid opening.

By: Colton Totland, Coos County Counsel

Published:
Daily Journal of Commerce, Portland, Oregon
September 20, 2024
The World Newspaper, Coos Bay, Oregon
September 20, 2024

END OF SECTION

SECTION 00-2113
INSTRUCTIONS TO BIDDERS

SUMMARY

1.01 SEE AIA A701, INSTRUCTIONS TO BIDDERS FOLLOWING THIS DOCUMENT.

END OF SECTION

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AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

19.48.1 Beaver Hill Pit Roof Structure Replacement - REBID
55722 US-101
Coos Bay, OR 97420
Work on this Project shall consist of the construction of an approximately 19,800 square foot pre-engineered metal building structure open on all sides with large overhangs. The structure free spans a large solid waste dump pit at the Coos County Beaver Hill Transfer site. Site improvements include existing building demolition, concrete paving, and site restoration as required. Refer to specifications within the Project Manual and the Drawings for complete description of Work.

THE OWNER:
(Name, legal status, address, and other information)

Coos County Board of Commissioners
225 N. Adams Street
Coquille, OR 97423
Telephone Number: 541-396-7660

THE ARCHITECT:
(Name, legal status, address, and other information)

HGE ARCHITECTS, Inc.
333 South 4th Street
Coos Bay, OR 97420
Telephone Number: 541.269.1166
Fax Number: 541.269.1833

TABLE OF ARTICLES

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- **.1** the Bidder has read and understands the Bidding Documents;
- **.2** the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- **.3** the Bid complies with the Bidding Documents;
- **.4** the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- **.5** the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- **.6** the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

See Advertisement for Bids.

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

Refer to Specification Section 00-2113 Instructions to Bidders.

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

Addenda will be issued by email to all listed on the Plan Holder's List.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

(Insert the form and amount of bid security.)

Refer to Specification Section 00-2113 Instructions to Bidders.

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning 30 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:
(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

Refer to Specification Section 00-2113 Instructions to Bidders

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:
(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

Bid security shall be retained until the Owner has awarded the contract or rejected all Bids.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids
Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)
§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION
§ 6.1 Contractor's Qualification Statement
Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Owner's Financial Capability
A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals
§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

.1 a designation of the Work to be performed with the Bidder's own forces;

.2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and

.3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND
§ 7.1 Bond Requirements
§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.
(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds
§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS
§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 Building Information Modeling Exhibit, if completed:

.5 Drawings
Refer to Drawings dated August 2024 for complete Sheet Index.
(Table deleted)

.6 Specifications

Refer to Project Manual dated August 2024 Section 00-0110 Table of Contents for complete list of Specifications.

(Table deleted)

.7 Addenda:

Number	Date	Pages

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[**N/A**] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

[**N/A**] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents listed below:
(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

SECTION 00-2210
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

GENERAL

1.01 THE FOLLOWING SUPPLEMENTS SHALL MODIFY, CHANGE, DELETE FROM OR ADD TO THE AIA DOCUMENT A701-2018 INSTRUCTIONS TO BIDDERS. WHERE ANY ARTICLE OF THE INSTRUCTIONS TO BIDDERS IS MODIFIED OR ANY PARAGRAPH, SUBPARAGRAPH, OR CLAUSE THEREOF IS MODIFIED OR DELETED BY THESE SUPPLEMENTS, THE UNALTERED PROVISIONS OF THAT ARTICLE, PARAGRAPH, SUBPARAGRAPH, OR CLAUSE SHALL REMAIN IN EFFECT.

A. Article 1 Definitions add to as follows:
   1. The word Owner is Coos County.
   2. The word Architect is HGE Architects, Inc.

B. Article 2 Bidders Representations Subparagraph 2.1.3, add the following: If a pre-bid walkthrough is held, contractors and sub-contractor attendees are encouraged to familiarize themselves with the bidding and contract documents prior to the walkthrough.

C. Article 3 Bidding Documents Subparagraph 3.1.1, add the following:
   1. One set of drawings, specifications and contract documents may be obtained by prime bidders from HGE, INC., upon refundable deposit of amount indicated on the advertisement for bids. Deposit made will be refunded upon return of the complete documents obtained upon return thereof in good condition within seven (7) days after opening of bids. Non-bidders deposit will be refunded if documents are returned in good condition no later than bid opening date. PDF digital copies of these documents are also available to Bidders via HGE INC.'s website. General Contractors are encouraged to contact HGE INC. office by phone or email, and register their interest in submitting a bid and to be included on the architect's plan holders list. Addendums and other critical information will be forwarded to all persons on the architect's plan holders list.

D. Article 4 Bidding Procedure Subparagraph 4.1.1, add the following:
   1. One copy of the Bid Form and other required bidding documents shall be submitted with all blank spaces in the form fully filled.
   2. PREPARATION OF FIRST-TIER SUBCONTRACTOR DISCLOSURE
      a. Per ORS 279C.370 the Bidder shall submit First-Tier Subcontractor Disclosure Form not later than 2 hours following the Bid Closing, or the bid will be rejected.
      b. To determine disclosure requirements, the Agency recommends that you disclose subcontract information for any subcontractor and supplier as follows:
         1) Determine the lowest possible contract price. That price will be the base bid amount less all alternate deductive bid amounts (exclusive of any options that can only be exercised after contract award).
         2) Provide the required disclosure information for any first-tier subcontractor whose potential contract services (i.e., subcontractor's base bid amount plus all alternate additive bid amounts, exclusive of any options that can only be exercised after contract award) are greater than or equal to: (i) 5% of that lowest contract price, but at least $15,000, or (ii) $350,000 regardless of the percentage. Total all possible work for each subcontractor in making this determination (e.g., if a subcontractor will provide $15,000 worth of services on the base bid and $40,000 on an additive alternate, then the potential amount of 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 services and the $40,000 services).
         3) Submission. A Bidder shall submit the disclosure form required by this rule within two (2) working hours of Bid Closing in the manner specified by the ITB.

4) Responsiveness. Compliance with the disclosure and submittal requirements of ORS 279C.370 and this rule is a matter of Responsiveness. Bids which are submitted by Bid Closing, but for which the separate disclosure submittal has not been made by the specified deadline, are not Responsive and shall not be considered for Contract award.
5) Substitution. Substitution of affected first-tier subcontractors shall be made only in accordance with ORS 279C.585. Agencies do not have a statutory role or duty to review, approve, or resolve disputes concerning such substitutions. However, Agencies are not precluded from making related inquiries or investigating complaints in order to enforce Contract provisions that require compliance generally with laws, rules and regulations.
6) Effective Date. This rule shall apply to Public Improvement Contract first advertised on or after August 1, 2003. The above instructions have been amended to include modifications approved by the 2005 legislature.

E. Article 4 Bidding Procedure, add Subparagraph 4.1.7:
1. Additional forms and other documents to be submitted with the Bid Form for Bid to be considered complete:
a. Bid Security as required below.

F. Article 4 Bidding Procedure Subparagraph 4.2.2, add the following:
1. Bid security in the form of Bid Bond issued by a Bonding Company acceptable to the Owner, cashier's check or certified check in an amount equal to 10% of the total bid, made payable to the Owner shall be required.

G. Article 4 Bidding Procedure Subparagraph 4.2.3, add the following:
1. All Bidders will leave their bids open for a period of thirty (30) days after the date of bid opening. No bid may be withdrawn during such period of time. Owner may accept any Bid in accordance with the Instructions to Bidders within such thirty (30) day period.

H. Article 5 Consideration of Bids add Subparagraph 5.3.3:
1. If the Contractor is to be awarded, Owner will provide written Notice of Intent to Award to all Bidders of the Owner's intent to award the Contract. Owner's award shall not be final until the later of the following:
a. Seven (7) days after the date of the Notice of Intent; or
b. The Owner provides a written response to all timely-filed protests that denies the protest and affirms the award.

I. Article 5 Consideration of Bids add Subparagraph 5.3.4:
1. Goods or services manufactured or produced in the State of Oregon to receive preference, all factors being equal.
2. If a Contract is awarded, the County shall award the Contract to the Offeror whose Quote or Proposal will best serve the interests of the County, taking into account price as well as considerations including, but not limited to, experience, expertise, product functionality, suitability for a particular purpose and Contractor responsibility.

J. Article 6 Post Bid Information delete Subparagraph 6.1:
1. Contractor's Qualification Statement.

K. Article 7 Performance Bond and Labor and Material Payment Bond Subparagraph 7.2.2:
1. A Performance Bond and Labor and Material Payment Bond shall be required. Contractor shall provide separate Performance Bond and Labor and Material Payment Bond made payable to the Owner issued by a Corporation legally licensed to transact business in the State of Oregon. Corporation issuing such a bond must comply with applicable Oregon Statutes for public work and be satisfactory to the Owner. The bonds are to be in the amount of 100% of the contract sum to assure the Owner of full and prompt performance of the Contract.

L. Article 8 Form of Agreement Between Owner and Contractor Subparagraph 8.1.1 add the following:

1. The Contractor shall within ten (10) days after notification in writing of the Owner's Notice to award a Contract, execute and return to the Owner the Form of Agreement, the Bonds and all applicable Certificates of Insurance.

END OF SECTION

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HGE ARCHITECTS
333 S. 4TH STREET
COOS BAY, OREGON 97420
P: 541.269.1166
www.hge1.com

SUBSTITUTION REQUEST

(During the Bidding Phase)

Project: _____ Substitution Request Number: _____

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

Re: _____ Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with AIA Form 701-2018 Instructions to Bidders, Paragraph 3.3 Substitutions.
☐ Substitution approved as noted - Make submittals in accordance with AIA Form 701-2018 Instructions to Bidders, Paragraph 3.3 Substitutions.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

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SECTION 00-4100
BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

Owner: **COOS COUNTY SOLID WASTE DEPARTMENT**

225 N Adams Street

Coquille, Oregon 97423

1.02 FOR: BEAVER HILL PIT ROOF STRUCTURE

1.03 DATE: _____ (BIDDER TO ENTER DATE)

1.04 SUBMITTED BY:

NAME OF FIRM *(PLEASE PRINT)*: _____

1.05 GENERAL

A. The Bidder declares that they have carefully examined the Contract Documents for the construction of the proposed improvements; that the Bidder has personally inspected the contemplated construction area, that the Bidder has satisfied themselves as to the quantities of materials, items of equipment, possible difficulties, and conditions of work involved.

B. By signing this Proposal, the Bidder certifies that the provisions required by ORS 279C.800 to 279C.870 relating to prevailing wage rates shall be included in this Contract, are understood by the Bidder, and will be complied with during the Work.

C. By signing this Proposal, the Bidder certifies that the provisions required by the Davis-Bacon Act concerning payment rate of wages shall be included in this Contract, are understood by the Bidder, and will be complied with during the Work.

D. The bidder further declares that they are registered with the Construction Contractor's Board as required by ORS 701.35 to 701.55, and possess such additional licenses and certifications as required by law for the performance of the work proposed herein.

E. The subcontractor(s) performing work as described in ORS 701.005(2) will be registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 before the subcontractor(s) commence work under the Contract.

F. Pursuant to ORS 279A.120, Bidder hereby certifies the Bidder _____is / _____is not (**check one**) a Resident Bidder as defined by ORS 279.029.

G. Bidder certifies that the provisions required by ORS 279C.836, unless exempt under Sections (4), (7), (8), or (9), before starting work on this Contract, or any subcontract hereunder, Contractor and all subcontractors shall have on Ifile with the Construction Contractor's Board a public works bond with corporate surety authorized to do business in the State of Oregon in the amount of $30,000.

H. The Bidder agrees that if this Proposal is accepted, the Bidder will, within ten (10) calendar days after receiving contract forms, execute the Agreement between Owner and Contractor as specified, and deliver to the Owner the Performance and Labor and Payment Bonds required herein.

1.06 BIDS:

A. The undersigned bidder, in submitting his bid, authorizes the Owner to evaluate the bid and make a single award per Bid Schedule, on the basis of the bid.

B. After having examined all of the contract documents as prepared by HGE Architects, Inc., we do hereby propose to furnish labor and materials to complete the work required by said documents for the following fixed sum *(fill in lump sum amount for each bid unit, in written words in space provided, and in numerals within parenthesis)*:

C. **BASIC BID:**

_____DOLLARS

AND _____ CENTS ($_____) COMPLETE.

D. **ALTERNATE BID # 1 - ROOF DRAIN PIPING:**

ADD TO BASIC BID:

_____DOLLARS

AND _____ CENTS ($_____) COMPLETE.

E. **ALTERNATE BID #2 - Guard Rail:**

ADD TO BASIC BID:

_____DOLLARS

AND _____ CENTS ($_____) COMPLETE.

Bidder further agrees to be bound by the entire Contract Documents, including:

Issued Addenda
General Conditions - AIA 201 and Supplementary Conditions
Contract for Construction: Owner-Contractor Agreement - AIA 101
Performance and Payment Bonds
Specifications
Details/Drawings
Issued Change Orders, Construction Change Directives, and Architect's Supplemental Instructions

1.07 BID SECURITY

A. Bid security in the form of a certified check of Bid Bond in the amount of 10% of the bid amount is enclosed per ORS 279C.385. The undersigned agrees that Bid Security will be left in escrow with the Owner and that the amount thereof is the measure of liquidated damages which Owner will sustain by failure of the undersigned to deliver and execute the Contract or provide Performance and Payment Bonds and may become the property of the Owner at Owner's option. If this bid is not accepted within thirty (30) days of the time set for the opening of bids or if the undersigned executes and timely delivers said contract and the Performance and Payment Bonds, the Bid Security will be returned.

1.08 COMPLETION DATE

A. It is understood that time is of the essence in the execution of this Contract in order to avoid undue hardship upon the Owner. It is the desire of the Owner to issue a Notice to Proceed upon successful review of the lower qualified bidder and have the project completed within **One Hundred Eighty (180)** calendar days.

B. The Undersigned agrees that he will have the work Substantially Complete on or before _____ calendar days after Notice to Proceed *(Contractor to fill in number of days he/she will require to perform the Work and this will be the agreed upon construction time period).*

C. The Contractor agrees that said Work shall be prosecuted regularly, diligently, at such rate of progress as will insure Substantial Completion thereof within the time specified. It is expressly understood and agreed, by the Contractor and the Owner, that the time for the completion of the Work described herein is reasonable taking into consideration the average climatic range and ususal industrial conditions prevailing in this locality.

1.09 OWNER RIGHTS

A. The Owner reserves the right to reject any or all bids and to waive all informalities.

1.10 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

1. Addendum # _____ Dated _____.
2. Addendum # _____ Dated _____.
3. Addendum # _____ Dated _____.
4. Addendum # _____ Dated _____.
5. Addendum # _____ Dated _____.

1.11 BIDDER DATA AND SIGNATURE(S)

A. Name of Firm *(please print):*_____

B. Mailing Address:_____

C. Physical Address *(if different):*_____

D. Construction Contractor Board Registration Number:_____

E. Telephone Number:_____

F. Fax Number:_____

G. Email Address:_____

H. Signature *(if bid is by a partnership, one of the partners must sign):*

_____

I. Name and Official Capacity of Signatory *(please print):*

_____

J. If Corporation, Attest *(Secretary of Corporation):*

_____

K. SEAL (if Corporation):

END OF SECTION

FIRST-TIER SUBCONTRACTOR DISCLOSURE

PROJECT NAME: Beaver Hill Pit Roof Structure - REBID

BID #: 19.48.1

BID CLOSING: Date: 10/17/24 Time: 2:00 pm

This form must be submitted at the location specified in the Invitation to Bid on the advertised bid closing date and within two working hours after the advertised bid closing time.

List below the name of each subcontractor that will be furnishing labor or will be furnishing labor and materials and that is required to be disclosed, the category of work that the subcontractor will be performing and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED.)

NAME	DOLLAR VALUE	CATEGORY OF WORK
(1)	$	
(2)	$	
(3)	$	
(4)	$	
(5)	$	
(6)	$	
(7)	$	
(8)	$	
(9)	$	

Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award.

Form submitted by (bidder name): _____

Contact name: _____ Phone no.: ( )

ORS 279C.370 First-tier subcontractor disclosure. (1)(a) Within two working hours after the date and time of the deadline when bids are due to a contracting agency for a public improvement contract, a bidder shall submit to the contracting agency a disclosure of the first-tier subcontractors that:

(A) Will be furnishing labor or will be furnishing labor and materials in connection with the public improvement contract; and

(B) Will have a contract value that is equal to or greater than five percent of the total project bid or $15,000, whichever is greater, or $350,000 regardless of the percentage of the total project bid.

(b) For each contract to which this subsection applies, the contracting agency shall designate a deadline for submission of bids that has a date on a Tuesday, Wednesday or Thursday and a time between 2 p.m. and 5 p.m., except that this paragraph does not apply to public contracts for maintenance or construction of highways, bridges or other transportation facilities.

(c) This subsection applies only to public improvement contracts **("projects")** with a value, estimated by the contracting agency, of more than **$100,000**.

(d) This subsection does not apply to public improvement contracts that have been exempted from competitive bidding requirements under ORS 279C.335 (2).

(2) The disclosure of first-tier subcontractors under subsection (1) of this section must include the name of each subcontractor, the category of work that each subcontractor will perform and the dollar value of each subcontract. The information shall be disclosed in substantially the following [above] form:

(3) A contracting agency shall accept the subcontractor disclosure. The contracting agency shall consider the bid of any contractor that does not submit a subcontractor disclosure to the contracting agency to be a non-responsive bid and may not award the contract to the contractor. A contracting agency is not required to determine the accuracy or the completeness of the subcontractor disclosure.

(4) After the bids are opened, the subcontractor disclosures must be made available for public inspection.

(5) A contractor may substitute a first-tier subcontractor under the provisions of ORS 279C.585.

(6) A subcontractor may file a complaint under ORS 279C.590 based on the disclosure requirements of subsection (1) of this section.

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SECTION 00-7200
GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS ATTACHED FOLLOWING THIS PAGE.

RELATED REQUIREMENTS

2.01 SECTION 00-7300 - SUPPLEMENTARY CONDITIONS.

END OF SECTION

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AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

19.48.1 Beaver Hill Pit Roof Structure Replacement - REBID
55722 US-101
Coos Bay, OR 97420

THE OWNER:
(Name, legal status and address)

Coos County Board of Commissioners
225 N Adams Street
Coquille, OR 97423

THE ARCHITECT:
(Name, legal status and address)

HGE ARCHITECTS, Inc.
333 South 4th Street
Coos Bay, OR 97420

TABLE OF ARTICLES

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

INDEX
(Topics and numbers in bold are Section headings.)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These

obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum 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, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 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 Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 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.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, 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.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 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.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued 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's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional,

whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work,

provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 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 3.18.1 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.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the

Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals 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, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- **.1** Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- **.2** Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants 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 Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect 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.

§ 9.9.3 Unless otherwise agreed upon, 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a 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.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities

proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 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.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that 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 Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. 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. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal 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 Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 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 Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- **.1** cease operations as directed by the Owner in the notice;
- **.2** take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- **.3** except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

SECTION 00-7300
SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

A. These Supplementary Conditions amend and supplement the General Conditions, AIA Document A201-2017 General Conditions of the Contract for Construction defined in Document 00 7200 and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

B. The terms used in these Supplementary Conditions that are defined in the General Conditions have the meanings assigned to them in the General Conditions.

1.02 MODIFICATIONS TO GENERAL CONDITIONS

A. ARTICLE 1. GENERAL PROVISIONS
   1. 1.1.1: Revise the first sentance as set forth below:
      a. The Contract Documents consist of the Conditions of the Contract (General, Supplementary and other Conditions), Contract Forms as bound or referenced, the Drawings, the Specifications, the Details, all Addenda issued prior to execution of the contract and all modifications issued after execution of the Contract.
   2. 1.2 CORRELATIONS AND INTENT OF THE CONTRACT CODUCMENTS
      a. 1.2.1 Add the following:
         1) If work is required in a manner to make it impossible to produce first class work, or should discrepancies appear among contract documents, request interpretation before proceeding with work. If Contractor fails to make such request, no excuse will thereafter be entertained for failure to carry out work in satisfactory manner.
      b. 1.2.3: Add the following:
         1) Reference to technical society, organization, or body is made in specifications in accordance with the following abbreviations:
            (a) ACIAmerican Concrete Institute
            (b) AIAAmerican Institute of Architects
            (c) AIEEAmerican Institute of Electrical Engineers
            (d) AISCAmerican Institute of Steel Construction
            (e) ASAAmerican Standard Association
            (f) APAAmerican Plywood Association
            (g) ASTMAmerican Society of Testing Materials
            (h) ASMEAmerican Society of Mechanical Engineers
            (i) AWIArchitectural Woodwork Institute
            (j) AWSCAmerican Welding Society Code
            (k) CSCommercial Standard
            (l) FSFederal Specifications
            (m) MILMilitary Specifications
            (n) NBFUNational Board of Fire Underwriters
            (o) NBSNational Board of Standards
            (p) NECNational Electric Code
            (q) NEMANational Electrical Manufacturer's Assn.
            (r) NFPANational Fire Protection Association
            (s) OSHA Occupational Safety and Health Act
            (t) UBCUniform Building Code
            (u) IBCInternational Building Code
            (v) ULUnderwriters Laboratory
            (w) WCLIBWest Coast Lumber Inspection Bureau

B. ARTICLE 2 OWNER
   1. 2.1.1 Add the following:

a. The Owner is defined as Coos County.

2. 2.2.5 Substitute the following:
   a. The Owner through the Architect will furnish to the Contractor Four (4) complete sets of drawings and specifications without charge for use on project. These include sets submitted to Agency having jurisdiction for plans review and building permit. Additional copies may be purchased by Contractor at cost of reproduction.

C. ARTICLE 3 CONTRACTOR
   1. 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES
      a. 3.3.1 Add the following:
         1) The Contractor will supervise and direct the work and will review with all subcontractors methods and materials to be used to verify their compliance with all safety standards and laws and be responsible for compliance with same, to insure safe, hazard free conditions for all persons visiting or working on the entire project.
   2. 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS
      a. 3.7.1 Add the following:
         1) The Owner shall pay for the Building Permit fees. The Contractor shall pay all other permit and plan review fees related to his work and his subcontractors, i.e. city connection fees, plumbing, mechanical and electrical. Owner shall pay any system development fees required.
         2) Demolition permit shall be obtained by Contractor. Actual permit fee shall be paid by Owner.
         3) Asbestos abatement: Contractor shall obtain and pay for all permits, fees, and licenses necessary to execute and complete the Work.
            (a) Contractor shall obtain permits and notify the following agencies at least ten(10) days prior to beginning of Work:
                Oregon Department of Environmental Quality
                Financial Services - Revenue Section
                700 NE Multnomah Street, Suite 600
                Portland, Oregon 97232-4100
            (b) Contractor shall maintain the notification to comply with the regulations set forth by DEQ throughout the construction period. Amended permits shall be submitted to DEQ to indicate the following changes to the initial permit.
                (1) Project category and required fee. Contractor shall pay all fees associated with notifications amendments to comply with changes in scope, etc.
                (2) Daily hours onsite (clearance air monitoring is included).
                (3) Start and stop dates.
                (4) Work practices and removal procedures.
                (5) Disposal procedures.
                (6) Disposal site.
            (c) Contractor shall immediately submit copies of amended DEQ notifications to the Owner. Failure to submit amended notifications may result in project stoppage until required amendments are submitted.
   3. 3.11 DOCUMENTS AND SAMPLES AT THE SITE, Add the following
      a. Upon completion of the project transfer all information from the record set of drawings to a clean set of prints and deliver to the Architect. Drawing additions are to be added in contrasting ink and are to be accurate, neat and finished in appearance and show accurate horizontal and vertical dimensions for location of underground work. Drawings must be acceptable to Architect before certification of final payment will be made.
   4. 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
      a. 3.12.5 Add the following:
         1) See Section 01-3000 - Administrative Requirements for submittal information, requirements, and procedures.

5. 3.15 CLEANING UP
    a. 3.15.1 Add the following:
        1) Upon completion of any portion of the work, promptly remove temporary facilities generated by that portion of the work, including surplus materials, equipment, and machinery if so directed by the Architect or the Owner. Upon completion of the Work, completely remove temporary facilities. Remove stains, spots and smears from all surfaces. Remove all labels. Leave the premises in a "broom clean" condition.

D. ARTICLE 4 ARCHITECT
1. 4.1.1 Add the following:
    a. The Architect is defined as HGE ARCHITECTS, INC.

E. ARTICLE 5 SUBCONTRACTORS
1. 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK
    a. 5.2.1 Add the following:
        1) The list of subcontractors shall be submitted no later than five (5) days after the bid opening.

F. ARTICLE 7 CHANGES IN THE WORK
1. 7.2 CHANGE ORDERS
    a. 7.2.2 Add the following:
        1) The cost to the Owner resulting from extra work shall be determined by an agreed price which shall include a percentage for overhead and profit as listed below; or shall be the actual cost of the additional direct labor, materials, and subcontract work involved, plus a percentage for overhead and profit as listed below.
            (a) The percentage shall not exceed 10% to cover both profit and overhead.
        2) The credit to the Owner resulting from a deduction of work shall be determined by an agreed price, or the actual cost of direct labor, materials, and subcontract work involved.
        3) Cost and credits shall be submitted by the Contractor to the Architect in a complete breakdown form, showing cost, overhead and profit.
        4) Cost shall be limited to the following: Cost of products, including taxes and cost of delivery; cost of labor, including social security, old age, and unemployment insurance, and fringe benefits under collective bargaining agreements; Workmen’s Compensation Insurance; bond premiums; and rental value of power tools and equipment. Overhead shall include the following: Supervision, superintendence, wages of time keepers, watchmen, and clerks, hand tools, incidentals, general office expense, and all other proven expenses not included in “cost”.

G. ARTICLE 8 TIME
1. 8.2 PROGRESS AND COMPLETION
    a. 8.2.4 Add the following:
        1) The Contractor agrees:
        2) To proceed upon receipt of the executed Contract and the Notice to Proceed.
        3) It is hereby understood and mutually agreed, by and between the contractor and the Owner, that the date of beginning and the time for completion of each phase of the work to be done are ESSENTIAL CONDITIONS of this contract.
        4) The Contractor agrees that said work shall be prosecuted regularly, diligently, at such rate of progress as will insure substantial completion thereof within the time specified. It is expressly understood and agree, by and between the Contractor and the Owner that the time for the completion of the work described herein is reasonable taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

5) The said amount is fixed and agreed upon by; and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain.

H. ARTICLE 9 PAYMENTS AND COMPLETION
   1. APPLICATIONS FOR PAYMENT
      a. 9.3.1 Add the following:
         1) Payment request form shall be submitted on AIA G702 Application for Payment supplimented with AIA G703 Continuation Sheet. Forms will be furnished by Architect if requested by Contractor. Contractor may use their own spreadsheet type format, however line items must exactly match AIA line items.
   2. PROGRESS PAYMENTS
      a. 9.6.1 Amend as follows:
         1) After the Architect has issued a certificate for payment the Owner will pay the Contractor ninety-five (95%) percent of the value of material and labor worked into the building or stored on the site before the first day of the month less the aggregate of previous payments.
         2) Payment will be made on or before the fifteenth (15th) day of the month following the date of the application for payment.
         3) Upon Substantial Completion of the contract the sum sufficient to increase total payment to ninety-five (95%) percent of the contract amount is due. Thirty (30) days thereafter, provided the work then be fully completed and accepted by Architects, balance under the contract is due.

I. ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY
   1. 10.2 SAFETY OF PERSONS AND PROPERTY
      a. 10.2.2 Add the following:
         1) Contractors shall comply with all provisions of OAR 437 Division 155 (Hazard Communication). Contractor shall provide Owner, through the Architect, a copy of MSDS (Material Safety Data Sheets) for all chemicals brought onto the site, and shall maintain an inventory on the job site of such chemicals. Such inventory shall be accessible to those who desire access.

J. ARTICLE 11 INSURANCE AND BONDS
   1. 11.1 CONTRACTOR'S INSURANCE AND BONDS
      a. 11.1.1 Add the following:
         1) Contractor shall not commence work under this Contract until it has furnished County with satisfactory proof of the coverage of insurance as specified below:
            (a) Workers' compensation coverage as required by law with a Waiver of Subrogation in favor of Coos County and to include employer's liability with limits of not less than $1,000,000 per occurrence; or, alternatively, Contractor shall provide documentation establishing that Contractor is exempt from workers' compensation coverage pursuant to ORS Chapter 656.
            (b) General commercial liability coverage for damages as a result of death or bodily injury (including personal injury) to any person's destruction or damage to any property with limits of not less than $1,000,000 each occurrence, $2,000,000 policy aggregate. Such coverage shall include, but is not limited to the following: commercial general liability coverage, products liability including completed operations, premises operations including X (explosion), C (collapse), U (underground), broad form property damage including fire fighting expense which is also known as "loggers' broad form," personal injury. All coverage shall be on an occurrence basis and not on a claim made basis.

(c) Automobile liability insurance as a result of death or bodily injury to any persons, or destruction of or damage to any property arising out of the ownership, maintenance or use of any owned, non-owned or hired motor vehicle with limits of not less than $1,000,000 per occurrence. All coverage shall be on an occurrence basis and not on a claim made basis.

(d) Excess/Umbrella Liability coverage as follows:

(1) If this is a contract for a public improvement, or personal services contracts with architects, engineers, and land surveyors, then contractor shall maintain an excess/umbrella liability policy of not less than $1,000,000 each occurrence and aggregate that will provide excess limits of liability over the commercial general liability, automobile liability, employer's liability and professional liability.

(2) For contracts other than public improvements or personal services contracts with architects, engineers, and land surveyors, an excess/umbrella liability policy is not required, but may be used in conjunction with a general commercial liability policy to satisfy the primary insurance limit requirements.

(3) All excess/umbrella liability coverage shall be on an occurrence basis and not on a claim made basis.

2) The following inclusions to CONTRACTOR'S certificate of insurance shall be made:

(a) Waiver of transfer of rights of recovery against others to Coos County. The preferred form is "CG 240405/09."

(b) It is agreed that this insurance is primary to and non-contributory with any insurance maintained by Coos County.

(c) The general liability coverage and automobile liability, if required, shall include endorsements for additional insured, naming "Coos County, its elected officials, employees, agents, and volunteers" as an additional insured. The additional insured endorsement shall be attached to the certificate of insurance.

(d) The additional insured shall contain a severability of interest provision in favor of Coos County and a Waiver of Subrogation in favor of Coos County.

(e) All required coverage shall be written with companies that have at least an Am Best rating of B+ VII.

(f) The insurance shall provide a 30 day notice of cancellation or material change.

(g) For public improvement contracts or architectural, land surveying, or engineering personal services contracts, CONTRACTOR shall carry the required insurance for at least three years after acceptance of completed project.

2. 11.3.1Add the following:
   a. The Contractor is advised that the Owner does not carry "Builder's Risk" Insurance and the Contractor is required to obtain this insurance.
3. 11.4 PERFORMANCE AND PAYMENT BOND
4. 11.4.1 Substitute the following:
   a. The Contractor shall furnish a Performance Bond in an amount equal to one hundred (100%) percent of the contract sum as security for the faithful performance of this contract and also a Labor and Material Payment Bond in an amount not less than one hundred (100%) percent of the contract sum as security for the payment of all persons performing labor on the project under this contract. Bond shall be written by a company licensed in the State of Oregon and satisfactory to the Owner.

K. ARTICLE 13 MISCELLANOUS PROVISIONS
   1. 13.1 GOVERNING LAW, Add the following:
      a. General Contractor and each subcontractor to comply with all Federal, State laws pertaining to Social Security, Unemployment Insurance, Tax Regulations. Make prompt payment to designated agencies.

b. Contractor agrees to abide by all Federal and State regulations pertaining to the employment of minority and ethnic groups including all required affirmative action, and further agrees to hold owner harmless on account of all duties and responsibilities imposed on Contractor by the terms of any State or Federal Statute, regulation, or other governmental directive.

2. 13.8 Add the following:
   a. All labor subject to the provisions of ORS 279C.520 and 279C.830 which is performed under this contract shall be paid not less than the prevailing rate of wage for an hour's work in the same trade or occupation in the locality where such labor is performed.

L. ADD ARTICLE 16 SUPPLEMENTAL PUBLIC CONTRACTING STATUTES

1. Contractor, subcontractor(s) and all persons doing or contracting to do any work shall comply with all provisions of Oregon Public Contracting Laws and regulations, as further specified below.
2. Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor.
   a. ORS 279C.580(3)(a) requires the prime contractor to include a clause in each subcontract requiring contractor to pay the first-tier subcontractor for satisfactory performance under its subcontract within ten (10) days out of such amounts as are paid to the prime contractor by the public contracting agency; and
   b. ORS 279C.580(3)(b) requires the prime contractor to include a clause in each subcontract requiring contractor to pay an interest penalty to the first-tier subcontractor if payment is not made within thirty (30) days after receipt of payment from the public contracting agency.
   c. ORS 279C.580(4) requires the prime contractor to include in every subcontract a requirement that the payment and interest penalty clauses required by ORS 279C.580(3)(a) and (b) be included in every contract between a subcontractor and a lower-tier subcontractor or supplier.
3. Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract, and shall be responsible that all sums due the State Unemployment Compensation Fund from Contractor or any Subcontractor in connection with the performance of the contract shall promptly be paid.
4. Contractor shall not permit any lien or claim to be filed or prosecuted against the public contracting agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted.
5. A notice of claim on contractor’s payment bond shall be submitted only in accordance with ORS 279C.600 and 279C.605.
6. Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
7. Contractor shall demonstrate to the Public Contracting Agency that an employee drug-testing program is in place within ten (10) days of receiving a Notice of Award.
8. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the public contracting agency may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the public contracting agency is unable to determine the validity of any claim for labor or material furnished, the public contracting agency may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

9. If the Contractor or a first-tier Subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract for a public improvement within thirty (30) days after receipt of payment from the public contracting agency or contractor, the contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the ten (10) day period that payment is due under ORS 279C.580(4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to Contractor or first-tier Subcontractor on the amount due shall equal three times the discount rate on ninety (90) day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve District that includes Oregon on the date that is thirty (30) days after the date when payment was received from the public contracting agency or from the Contractor, but the rate of interest shall not exceed thirty (30) percent. The amount of interest may not be waived.
10. If the Contractor or a Subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract, the person may file a complaint with the Construction Contractor's Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.
11. Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, or all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.
12. Contractor shall employ no person 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, and in such cases, except in cases of contracts for personal services designated under ORS 279A.055. Contractor shall pay the employee at least time and one-half pay for all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work is five (5) consecutive days, Monday through Friday; or 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 (4) consecutive days, Monday through Friday, and for all work performed on Saturday and on any legal holidays as specified in ORS 279C.540.
13. The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commence of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and the days per week that the employees be required to work.
14. The provisions of ORS 279C. 800 to ORS 279C.870 relating to the prevailing wage rates will be complied with.
15. Unless exempt under ORS 279C.836(4), (7), (8) or (9), before starting work on this contract, or any subcontract hereunder, contractor and all subcontractors must have on file with the Construction Contractors Board a public works bond with a corporate surety authorized to do business in the state of Oregon in the amount of $30,000. The bond must provide that the contractor or subcontractor will pay claims ordered by the Bureau of Labor and Industries to workers performing labor upon public works projects. The bond must be a continuing obligation, and the surety's liability for the aggregate of claims that may be payable from the bond may not exceed the penal sum of the bond. The bond must remain in effect continuously until depleted by claims paid under any applicable prevailing wage rate laws, unless the surety sooner cancels the bond. Contractor further certifies that contractor will include in every subcontract or provision requiring a subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836(4), (7), (8) or (9).
    a. Unless exempt under ORS 279C.836(4), (7), (8) or (9), before permitting a subcontractor to start work on this public works project, the contractor shall verify that the subcontractor has filed a public works bond as required under this section or has elected not to file a public works bond under an exemption.

b. Unless public contracting agency has been notified of any applicable exemptions under ORS 279C.836(4), (7), (8) or (9), the public works bond requirement above is in addition to any other bond contractors or subcontractors may be required to obtain under this contract.

16. Unless exempt, Contractor or contractor's surety and every subcontractor or subcontractor's surety shall file certified payroll statements with the public contracting agency in writing, pursuant to ORS 279C.845.
    a. If a contractor is required to file certified statements under ORS 279C.845, the public contracting agency shall retain twenty-five percent (25%) of any amount earned by the contractor on the public works project until the contractor has filed with the public agency certified statement as required by ORS.279C.845. The public contracting agency shall pay the contractor the amount retained within fourteen (14) days after the contractor files the required certified statements, regardless of whether a subcontractor has failed to file certified statements required by statute. The public contracting agency is not required to verify the truth of the contents of certified statements filed by the contractor under this section and ORS 279C.845.
    b. The contractor shall retain twenty-five percent (25%) of any amount earned by a first-tier subcontractor on this public works contract until the subcontractor has filed with the public agency certified statements as required by ORS 279C.845. The contractor shall verify that the first-tier subcontractor has filed the certified statements before the contractor may pay the subcontractor any amount retained. The contractor shall pay the first-tier subcontractor the amount retained within fourteen (14) days after the subcontractor files the certified statements as required by ORS 279C.845. Neither the public agency nor the contractor is required to verify the truth of the contents of certified statements filed by a first-tier subcontractor.
17. All employers, including Contractor, that employ subject workers who work under this contract 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.
18. All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid.
19. The contract may be canceled at the election of public contracting agency for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.
20. Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors.
21. Contractor certifies its compliance with the Oregon tax laws, in accordance with ORS 305.385.
22. In the performance of this contract, the Contractor shall use, to the maximum extent economically feasible, recycled paper, materials, and supplies.
23. Contractor certifies that all subcontractors performing construction work under this contract will be licensed with the Construction Contractors Board or licensed by the state Landscaper Contractors Board in accordance with 701.035 to 701.055 before the subcontractors commence work under this contract.
24. In compliance with the provisions of ORS 279C.525, the following is a list of federal, state and local agencies, of which the Owner has knowledge, that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of the contract:
    a. FEDERAL AGENCIES
        1) Agriculture, Department of
        2) Forest Service
        3) Soil Conservation Service
        4) Defense, Department of
        5) Army Corps of Engineers
        6) Environmental Protection Agency
        7) Interior, Department of

8) Bureau of Sport Fisheries and Wildlife
9) Bureau of Outdoor Recreation
10) Bureau of Land Management
11) Bureau of Indian Affairs
12) Bureau of Reclamation
13) Labor, Department of
14) Occupational Safety and Health Administration
15) Transportation, Department of
16) Coast Guard
17) Federal Highway Administration

b. STATE AGENCIES:
1) Agriculture, Department of
2) Environmental quality, Department of
3) Fish and Wildlife, Department of
4) Forestry, Department of
5) Geology and Mineral Industries, Department of
6) Human Resources, Department of
7) Land Conservation and Development Commission
8) Soil and Water Conservation Commission
9) State Engineer
10) State Land Board
11) Water Resources Board

c. LOCAL AGENCIES:
1) City Council
2) County Court
3) County Commissioners, Board of
4) Port Districts
5) Metropolitan Service Districts
6) County Service Districts
7) Sanitary Districts
8) Water Districts
9) Fire Protection Districts

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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DRAFT

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«Coos County Board of Commissioners»«»
«225 N. Adams Street
Coquille, OR 97423»
«Telephone Number: 541-396-7660»
«»

and the Contractor:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

«19.48.1 Beaver Hill Pit Roof Structure Replacement - REBID»
«55722 US-101
Coos Bay, OR 97420»
«Work on this Project shall consist of the construction of an approximately 19,800 square foot pre-engineered metal building structure open on all sides with large overhangs. The structure free spans a large solid waste dump pit at the Coos County Beaver Hill Transfer site. Site improvements include existing building demolition, concrete paving, and site restoration as required. Refer to specifications within the Project Manual and the Drawings for complete description of Work. »

The Architect:
(Name, legal status, address and other information)

«HGE ARCHITECTS, Inc.»«»
«333 South 4th Street
Coos Bay, OR 97420»
«Telephone Number: 541.269.1166»
«Fax Number: 541.269.1833»

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum 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, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

« »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« »

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »

« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

«Paul Slater»
«1281 West Central Blvd
Coquille, OR 97423»
«Telephone Number: 541-396-7664»
«»
«»
«Email Address: pslater@co.coos.or.us»

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 Building information modeling exhibit, dated as indicated below:
(Insert the date of the building information modeling exhibit incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
«Board of Commissioners»	« »« »
(Printed name and title)	*(Printed name and title)*

SECTION 00-7346
PREVAILING WAGE RATES

PART 1 GENERAL

1.01 REQUIREMENTS

A. The“Prevailing Wage Rates for Public Works Contracts in Oregon” dated July 5, 2024 including any issued corrections or amendments that follow are herein added to the Contract Documents by reference.

B. BOLI Prevailing Wage Rate information is available upon request, or electronically at www.oregon.gov/boli.

C. Work under this Contract will be subject to the provisions of ORS 279C.800 to 279C.870, relating to BOLI Prevailing Wage Rates in effect at the time the project was advertised for bids.

D. Provisions described in this Section or in Exhibit A of the Public Contracting Code Requirement for Public Improvements Contracts over $50,000, located at the end of the Supplemental General Conditions, will apply regardless of the price of any individual Contract, so long as the combined price of all Contracts award on the project is $50,000 or more.

E. If total Contract amount does not exceed $50,000, Contractor is not required to pay prevailing wage rates.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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STRATADESIGN
PORTLAND, OREGON · WOODLAND, WASHINGTON
STRATA-DESIGN.COM | 360-450-7574

August 28, 2024 Project 20-0206.1

Mr. Joe Slack, Architect, HGE Architects, Inc.
333 South 4th Street
Coos Bay, Oregon 97420

Sent Via Email to: joeslack@hge1.com

RE: Pit Roof Structure Building Replacement
Coos County Solid Waste Disposal Transfer Station
55722 Highway 101, Coos Bay, Oregon

Introduction

Please reference our previous report regarding the proposed Transfer Station pile foundations[1]. Following that report, we understand that spread footings foundations are now the preferred system due to cost considerations. This document explains the updated foundation design for the spread footings configuration and location shown on Figure 1 (excerpted from the plans)[2]. Figure 2 shows a schematic of the planned footing location relative to the existing Pit Wall. We understand that the footings have been sized for 1,500 psf allowable bearing capacity. We also understand that the footing depths and distance from the pit wall provide a zero lateral load onto the pit wall based roughly on the Boussinesq pressure zone which will form adjacent/beneath the footings.

When superimposing the footings locations on the borings information from the original geotechnical report[1], the footings on Grids A, B, C and E are underlain by stiff near surface soils and rock. The footings locations on Grid D are underlain by variable consistency (described as loose to medium dense) sand to depths of 13 to 17 feet.

Figure 2 indicates the potential location of the pit wall footing relative to the proposed new footings. The precise location and configuration of the toe of the pit wall footing is unknown. The likely excavation and backfill zone for the pit wall is shown on the figure. The proposed new footings will likely span across the native soils into the backfill soils.

Discussion and Recommendations

The footings are relatively lightly loaded and thus the underlying native soils and rock generally provide an adequate foundation for the overall structure. The encroachment of the proposed new footings into the wall backfill are a concern as we do not have information regarding the location and adequacy of the backfill. Further, the soils underlying the footing locations along Grid D are also of concern. Our proposed mitigation approach for both consists of constructing a pad of compacted granular structural fill extending a minimum of 2 feet vertical beneath the base of each footing. The rock pad should extend a minimum of 6 inches beyond all sides of the concrete footings. The structural fill should meet the specifications provided in ODOT SS 00330.14 – Selected Granular Backfill. The gravel should be compacted to a minimum 95 percent of maximum dry density as defined by ASTM D698.

---

[1] Formal Report entitled: "Geotechnical Report, Waste Pit Roof Replacement, Beaver Hill Facility, 55722 US 101, Coos Bay, OR 97420. Prepared for Mr. Joe Slack, Architect, HGE Architects, Inc. Prepared by Strata-Design, Sealed by Rick Thrall PE GE. October 21, 2020.

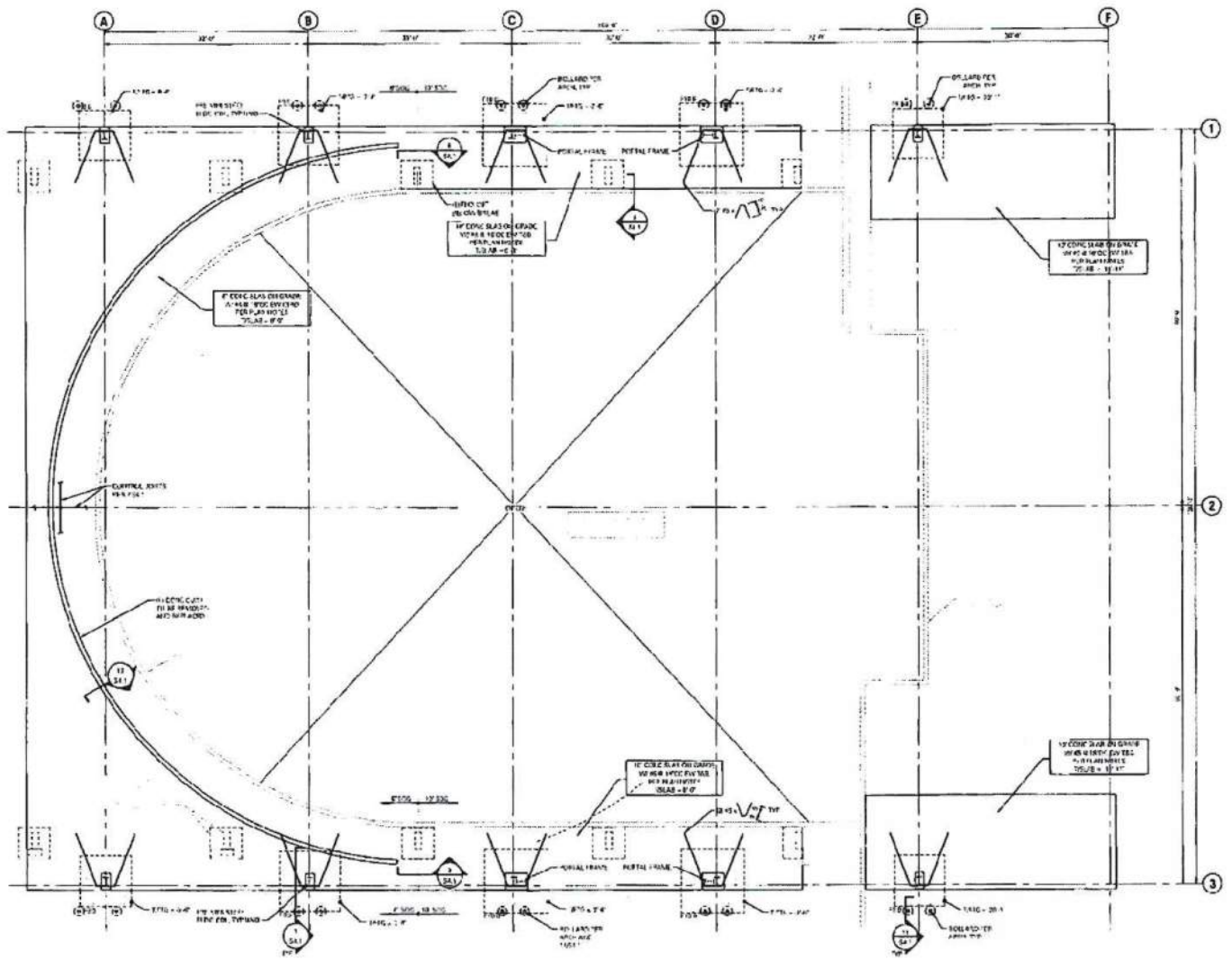
[2] Plans: "Beaver Hill Pit Roof Structure Building Replacement" Prepared for Coos County. Prepared by HGE Architects. No Stamp, Architect. August 2024.

All other geotechnical recommendations in the original report[1] (excluding for pile design and construction) should be followed as presented.

STRATA personnel should be present and observe the exposed native soils at the base of each footing excavation to confirm the ground conditions. This should be carried out prior to backfilling with compacted gravel. Our field personnel may provide guidance which might be needed if the exposed soil conditions are outside of the above indicated areas of concern.

Respectfully Submitted,
Strata Design LLC

Exp: 6/30/26
Name: Rick Thrall PE GE
Title: Geotechnical Engineer



FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA AND ABBREVIATIONS AND LEGEND PER S1.1 - S1.2
2. SEE S1.1 FOR PRESSURE AND FIT REQUIREMENTS FOR ANCHOR BOLT PLACEMENTS
3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING PRIOR TO POURING CONCRETE: ALL SLEEVES PROVIDED BY FOR CONDUIT, PIPING, DUCTS, CHASES, SLOPES, BLOCKOUTS FOR PLUMBING, SPRINKLERS, MECHANICAL DUCTS, CHASES AND PITS, TERMINATION, ELECTRICAL, PLUMBING, MECHANICAL AND OTHER DRAWINGS. REVIEW DETAILS AND DIMENSIONS FOR ANCHORS AND ARCHITECTURAL DRAWINGS
4. TYP. FOR ALL FOOTINGS WHERE DIMENSIONS OF SIDE ACTUAL SOIL CONDITIONS DIFFER FROM THOSE SHOWN ON STRUCTURAL DRAWINGS, PROVIDE ADJUSTMENTS AS DIRECTED BY ENGINEER. SEE S1.1 FOR ADDITIONAL NOTES
5. ALL FOOTINGS AND SLABS TO BEAR ON COMPACTED FILL MINIMUM 95% MAXIMUM DENSITY PER STRUCTURAL FILL REQUIREMENTS FOR SLAB ON GRADE, STRUCTURAL FILL, DRAINAGE SYSTEM, AND OTHER REQUIREMENTS AS PER GEOTECHNICAL REPORT AS NOTED IN S1.1 FOR ADDITIONAL GENERAL NOTES
6. SEE ARCHITECTURAL JOINT PLAN
7. MATERIALS FROM ALL CONCRETE SLAB AND WALL SPECIFICATIONS PER ARCHITECT. CONTRACTOR TO VERIFY & NOTIFY ENGINEER, ARCHITECT OF DISCREPANCIES BEFORE PROCEEDING WITH WORK. REVIEW ARCHITECTURAL DRAWINGS
8. TYPICAL DETAILS USED

1/S3.1	TYPICAL CONCRETE SECTIONS
2/S3.1	STANDARD HOOK AND BAR LENGTHS

SPREAD FOOTING SCHEDULE

MARK	SIZE	VERTICAL REINFORCING	HORIZONTAL REINFORCING	REMARKS
F15	15'-0"	8-#8	3-#5	
F12	12'-0"	6-#8	3-#5	
F9	9'-0"	4-#8	3-#5	

HGE ARCHITECTS
333 S 4TH STREET
COOS BAY, OR 97420
P: 541.269.1166
www.hge1.com

DCI engineers
541 SW Waddell St, Ste 200
Bend, OR 97702
P: 541.330.2348
CIVIL / STRUCTURAL

DC PROJECT NO.: 2401-0004.01

BEAVER HILL PIT ROOF STRUCTURE BUILDING REPLACEMENT

COOS COUNTY SOLID WASTE DISPOSAL TRANSFER STATION
55722 HIGHWAY 101, COOS BAY, OREGON

CONSTRUCTION

REVISIONS
DATE DESCRIPTION

DATE AUG 2024

OBJECT TITLE
STRUCTURAL GROUND LEVEL FOUNDATION PLAN

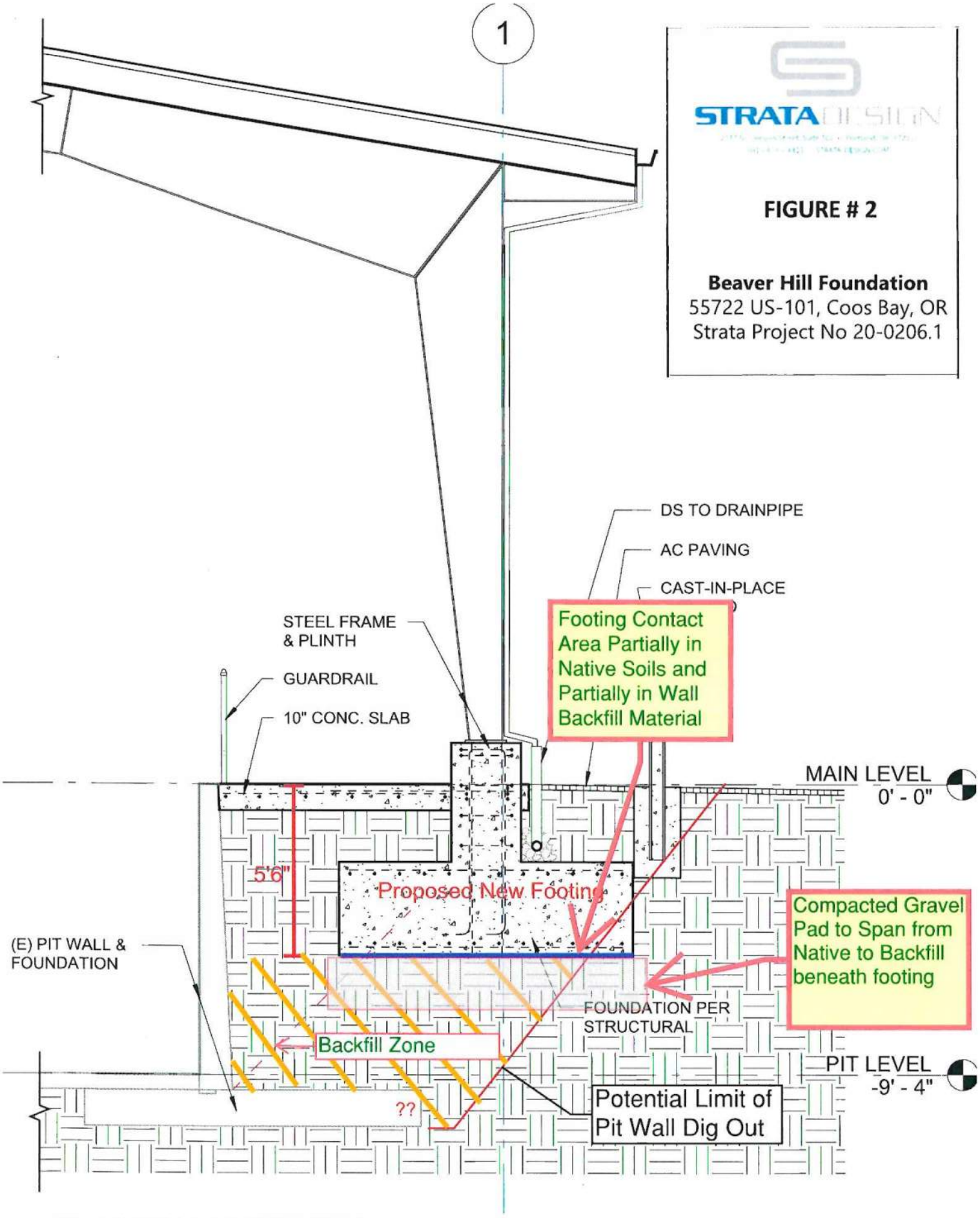
S2.1

PROGRESS PRINT (NOT FOR CONSTRUCTION)

GROUND LEVEL FOUNDATION PLAN

Beaver Hill Structure Footings
55722 US-101, Coos Bay, OR
Strata Project No 20-0206.1

FIGURE # 1



FOOTING AT GRIDLINE C

1/4" = 1' - 0"

STRATA DESIGN

FIGURE # 2

Beaver Hill Foundation
55722 US-101, Coos Bay, OR
Strata Project No 20-0206.1

GEOTECHNICAL REPORT

WASTE PIT ROOF REPLACEMENT
BEAVER HILL FACILITY
55722 US-101
COOS BAY, OR 97420

PREPARED FOR:

MR. JOE SLACK, ARCHITECT, HGE ARCHITECTS, INC.
333 SOUTH 4TH STREET
COOS BAY, OREGON 97420

PREPARED BY:
RICK THRALL, PE, GE, GEOTECHNICAL ENGINEER
STRATA-DESIGN

OCTOBER 21, 2020

STRATA PROJECT NO. 20-0206

STRATADESIGN
2117 NE OREGON STREET, SUITE 502
PORTLAND, OREGON 97232
971.400.0269 MAIN
STRATA-DESIGN.COM

WASTE PIT ROOF REPLACEMENT
BEAVER HILL FACILITY
55722 US-101
COOS BAY, OR 97420

Prepared by:
Strata-Design LLC

Rick Thrall, PE, GE
Senior Geotechnical Engineer
Expires 6/30/2022

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FIGURES

1.0 GENERAL

1.1 Purpose and Scope

This report summarizes the results of Strata-Design's (STRATA) geotechnical report for replacing the roof structure at the above-indicated site (Figure 1). Our work was completed in accordance with our proposal dated May 5, 2020, which was executed by you on May 11, 2020. Our planned work under this proposal consisted of determining surface and subsurface conditions and giving geotechnical design parameters for the foundations for the new roof.

1.2 Project Understanding

Our understanding of the site and planned improvements is based on our various discussions with Coos County personnel, our explorations made on June 22, 2020, appropriate published geologic maps and well logs of the area, and discussions and materials received from the project team.[1,2,3] The site is located within a relatively remote location along Highway 101, about halfway between Coos Bay and Bandon, Oregon. Figure 2 shows the general layout of the existing roof and site topography. The general site conditions are shown on Photos 1 to 5. Present conditions consist of an approximate 9-foot-4-inches-deep dump pit which is open at the east end. The pit is supported by a reinforced concrete wall which is surrounded by an asphalt-paved drive-up dump area which is presently at elevation 534± feet. The existing roof supports are currently flush with the asphalt and adjacent to the pit. The existing footing configuration is unknown.

As shown in Figure 2, the pit opens up onto a lower-elevation area (elevation 518± feet) to the east. As shown in the photos, the steep slope between the upper section and lower section appears to be informally supported by concrete retaining walls, various stacked concrete blocks, and sloped ground. We understand that the proposed improvements include replacing the roof and roof foundations. No improvements to the pit or slopes are planned. Thus, we focused on the roof supports only and did not evaluate the pit retaining wall or the retained slope to the east as part of this project scope.

The purpose of our work is to establish baseline geotechnical recommendations for structure foundations. We understand that the plan is to place the structure approximately in its present location and configuration. Our design will be as if we are constructing the roof foundations on a "clean" site. The new foundation/roof column placements should be planned to avoid or at least be offset from the existing columns and footings. Since we do not know the configuration of the existing foundation elements, or the presence of potential unknown buried elements, interference between the new construction and existing construction will need to be evaluated as potential conflicts are revealed during the construction phase. The present plan should be to

[1] Architectural drawings entitled "Beaver Hill Pit Roof Structure," and dated March 2020. Preliminary design prepared by HGE Architects, project 19.48. Prepared for Coos County (sent to us via email by Paul Slater, Assistant Roadmaster, Coos County, on April 1, 2020).
[2] Structural drawings entitled "Beaver Hill Roof Structure," and dated September 2020. Preliminary design prepared by DCI Engineers. Prepared for HGE Architects (sent to us via email by Joe Slack, HGE, on September 26, 2020).
[3] Structural calculations entitled "Preliminary Structural Calculations for Column Reactions, Beaver Transfer Station," and dated August 12, 2020. Prepared by DCI Engineers (sent to us via email by Kyle Kraxberger, PE, SE, Associate, DCI on September 10, 2020). Prepared for HGE Architects.

leave as much of the existing buried foundation elements in place as possible, as the ground surrounding the proposed new foundation elements should be undisturbed.

2.0 SOILS AND GROUNDWATER

2.1 Geology

The site is located within a coastal plain and terrace region along the Coquille River between the Pacific Ocean and the Central Coast Range. Terrace deposits at the surface, consisting of loosely compacted sand with gravel, mantle many of the marine benches at various elevations in western Coos County due to uplift and folding. The low marine terrace deposits range in thickness from 10 to 50 feet, deposited during recessions of the sea.[4]

Underlying the terrace deposits is the coal-rich formation known as the Coaledo Formation, composed primarily of sandstone and siltstone.[5] The north-plunging coal basin that extends from Grigsby Rock to Coos Bay is divided into lower, middle, and upper members and is up to 6,000 feet thick in some areas. Beaver Hill, northeast of the site, was once a thriving coal mine with extraction from the lower member of the Coaledo Formation. The formation lies unconformably over the Roseburg, Lookingglass, and Flournoy Formations and commonly dips 60 to 70 degrees.[6]

2.2 Seismic Setting

The Oregon coast is subject to seismic events stemming from three possible sources: the Cascadia Subduction Zone (CSZ), intraslab faults within the Juan de Fuca Plate, and crustal faults in the North American Plate. Maximum magnitude for a CSZ event is expected to be in the range of moment magnitude (MW) 9.0. Intraslab events have occurred on a frequent basis in the Puget Sound, contributing to small-magnitude ground motions in western Oregon.
There are no mapped Quaternary (active in the last 1.6 million years) faults that pass directly through the site. Quaternary crustal faults within 10 miles of the site are: the South Slough syncline and South Slough thrust and reverse faults about 1-1/4 miles to the northeast, the Pioneer anticline about 2-1/4 miles to the southwest, the East South Slough faults about 7-1/4 mile to the northeast, and the Coquille anticline about 9-1/2 miles to the southwest. Slip rates for these faults are very low. The faults are considered to have been inactive over the last 10,000 years.

[4] Baldwin, E. M., Beaulieu, J. D. (1973). "Geology and Mineral Resources of Coos County, Oregon," Oregon Department of Geology and Mineral Industries, Bulletin 80.
[5] Allen, J. E., Baldwin, E. M. (1944). "Geology and Coal Resources of the Coos Bay Quadrangle," Oregon Department of Geology and Mineral Industries, Bulletin 27.
[6] Baldwin, E. M. (1966). "Some Revisions of the Geology of the Coos Bay Area, Oregon," Oregon Department of Geology and Mineral Industries, Vol. 28, No. 11.

2.3 Subsurface Explorations

A total of six (6) borings (B-1 to B-6) were drilled at the approximate locations shown on Figure 2. The borings were drilled and sampled continuously (using Geoprobe methods, Photos 6 to 8) to depths of between about 9 to 27 feet. The borings were terminated in the underlying siltstone which we know to extend well beyond the depth of any foundation units that might be installed, based on previous borings made on the site. The summary logs are included in Appendix A. The boring locations were chosen to represent conditions near supports for the replacement roof structure in the elevated section of the site and at the open-end lower section to the east of the existing structure. Our borings supplement previous borings made on the site and installed by Sweet Edwards/EMCON (1991) and monitoring wells installed by Bergeson-Boese (1997). The boring results were logged by a member of our geotechnical staff on July 22, 2020.

Figures 3a and 3b show profiles made through the borings along the north and south sides of the structure. In general, the soils consist of loose-to-medium-dense mixed sand, silt, and clayey silt soils up to 17 feet thick over dense sandstone. The loose-to-medium-dense soils thicken to the north and east. The sandstone is underlain by hard siltstone in all borings. The siltstone dips toward the east and was encountered at depths of between 20 to 26 feet in the elevated portions of the site 8 feet on the lower bench to the east.

2.4 Groundwater

Groundwater was not encountered in our explorations. However, groundwater was encountered in previous wells P-3 and MW-7, located about 120 feet to the southwest of the facility. The groundwater depth is 10 and 12 feet below ground surface (bgs) and the surface elevation appears to be at about el. 524 feet, putting the groundwater at el. 514 feet. Farther to the east, MW-7 groundwater is at 7.5 feet bgs with a surface elevation of about 502 feet, putting the groundwater at el. 495 feet. The roof is located about halfway between the two wells, so if we split the difference the groundwater elevation at the roof site is estimated at about el. 505 feet, or 13 to 14 feet below the ground at the lower open end of the pit and about 20 feet deep in the elevated portion of the site.

3.0 GEOTECHNICAL CONSIDERATIONS

3.1 Roof Foundation Options

As indicated, the roof site is underlain by hard soils and rock materials at a shallow depth. We determined early on in discussions with the design team that pile caps supported on micropiles would likely be the most efficient and cost-effective support method due to high lateral loads. We also determined that, due to the anticipated high lateral forces, batter piles should also be considered. Figure 4 shows the preliminary layout and conceptual design for the footings.[2] As shown, the proposed supports are generally located adjacent to the existing support footings. Three kinds of preliminary footing arrangements were considered:

1. Pile groups located in grids B, C, and D – Consists of six (6) 2-foot-thick, 6-foot-by-6-foot-square reinforced concrete pile caps supported on 2 vertical piles and 2 batter piles (4-pile group)

2. Pile groups located in grid E – Consists of two (2) 6-foot-by-6-foot-square pile caps supported on 2 vertical piles and 1 batter pile (3-pile group)
3. Six 6-foot-by-6-foot-square standard spread footings in grids A, F, and G

Figure 5 summarizes the loadings on each of the grid footings.[4] As suspected, lateral forces generated by wind loadings are substantial. The largest vertical compression loads and lateral loads for the 4-pile group are indicated in grid B. The largest uplift loads for the 3-pile group are shown in grid E.

Detailed soil profiles and parameters were developed adjacent to the existing support locations for vertical and lateral load analysis. The interpreted soil profiles are presented in Figures 3a and 3b. Based on our previous discussions, we recommend that the structure be supported on grouped micropiles socketed into the underlying sandstone and siltstone bedrock as shown on Figure 6. Soil parameters were assigned to each of the soil and rock zones as indicated on the figure, based on our drilling observations, experience with similar materials, previous geotechnical studies conducted on the site, and typical values for similar materials. No direct laboratory measurements related to strength or mass deformation properties were taken.

We determined that the piles should be socketed some distance into the underlying siltstone bedrock to develop suitable compression and uplift resistance based on a grout-to-ground adhesion value of 4,000 psf in the assumed 9.6-inch-diameter bore[7]. This is within the middle of typically assumed grout/sandstone/siltstone adhesion values. Note that assumed adhesion values are typically estimated and likely conservative since installed piles are rarely, if ever, pulled to failure.

Note from Figure 6 that the base of the adjacent pit appears to be founded at or very near the level of the sandstone. Further, we have defined the top of the micropile "root" starting below the base of the adjacent pit floor, thus isolating any roof loads from impinging laterally onto the existing pit wall.

3.2 Pile Group Analysis

A series of analyses was carried out using Geo5® – Pile Group Software Package. The "springs method" for micropiles was used, assuming a fixed end condition at the pile cap. The loadings used were from the summary in Figure 5, derived from loadings given by DCI[3]. The design loads were applied as calculated in Figure 5. As indicated in the software, the forces on the foundation elements were based on the design loads. The calculated pile cap displacements were from factored or service loads calculated by dividing the design load by 1.4. The soil parameters used are shown in Figure 6 and were estimated as discussed in section 3.1 above. Our goal was to, as much as possible, maintain the preliminary layout in Figure 4 and adjust the micropile elements and configuration so that calculated vertical movements are limited to less than ¼ inch and horizontal movements to less than 1 inch. A summary of analyses for both the 3-pile and 4-pile groups is included in Appendix B, including verification checks for the planned installations.

[7] FHWA-SA-97-070 Table 5-2.

3.2.1 Pile Groups Located in Grids B, C, and D

Figure 7 shows a generalized layout of the grids' B, C, and D pile caps. As shown on Figure 4 the preliminary design consisted of 2 vertical and 2 battered micropiles with nominal 6-inch outer diameter steel casings. Based on our analysis, we adjusted the batter angle to 30-degree angle from horizontal. We further changed the steel pile to standard-use micropile casing, 80,000 psi yield strength, with a 9.6-inch outer diameter (OD) and a 0.6-inch web installed to a depth of about 20 feet below the depth of the ground surface to achieve a calculated maximum 1-inch lateral deflection. The infill grout is 3,000 psi concrete. The plan would be to install an interior standard T40N 40mm hollow injection bar (yield strength is 96 kips) into each casing to a depth of 40 feet measured along the axis of the micropile. A larger-diameter hollow bar may be needed to fit the required 9.6-inch± bit diameter. A grout-to-ground adhesion value of 4,000 was used in the analysis which is well within the range of estimated parameters for siltstone,[7] assuming gravity grout methods only. Larger adhesion values may be obtained with secondary grouting.

Figure 8 shows the calculated pile cap settlement is on the order of less than ¼ inch. The calculated horizontal displacement is on the order of 1 inch. This assumes a certain contribution of the pile cap bearing on the soil equal to 2,000 psf. There is also a lateral contribution from the 4-foot-deep-by-6-foot-wide pile cap, assuming a passive equivalent fluid pressure of 250 pounds per cubic foot. The 40-foot depth of root embedment and bore diameter is required to meet the compression load requirements. Figure 11 shows that for uplift, the tension loading requirements are well within the yield strength of the T40N hollow bar.

Various micropile structural verification checks are summarized in Appendix B. Even with that, we assume that the structural engineer will check the final micropile configuration for appropriate bending and shear resistance to the loadings indicated in Figures 8 and 11. More detailed shear and bending moment diagrams can be supplied if required.

3.2.2 Pile Groups Located in Grid E

Similarly, Figure 9 shows a generalized layout of the resulting grid E pile cap. Figure 4 shows the preliminary design consisting of 2 vertical and 1 battered micropiles. As before, the piles are battered at a 30-degree angle from horizontal. All piles consist of standard-use micropile casing, 80,000 psi yield strength, with a 9.6-inch outer diameter (OD) and a 0.6-inch web installed to a depth of about 20 feet below the depth of the ground surface. The infill grout is 3,000 psi concrete. As with the 4 pile groups the plan would be to install an interior standard T40N 40mm hollow injection bar (yield strength is 96 kps) into each casing to a depth of 40 feet measured along the axis of the micropile. A larger-diameter hollow bar may be needed to fit the required 9.6-inch± bit diameter. A grout-to-ground adhesion value of 4,000 was used in the analysis, which is well within the range of estimated parameters for siltstone.[7] As before, various micropile structural verification checks are summarized in Appendix B. We assume, however, that the structural engineer will check bending and shear.

3.2.3 Shallow Spread Footings (Grids A, F, and G)

Shallow spread footings consisting of 6-foot square reinforced concrete pads are planned. As shown on Figure 5, there are significant compression and uplift loads on the footings, grids A and F. We understand that plans are to stabilize these footings with structural methods rather than relying on piles or soil bearing capacity. Thus, we have not completed a full footing analysis for bearing capacity and settlement using loadings at the grid A and F locations.

Where utilizing shallow spread footings for the column foundations, the footing should be founded on competent, non-disturbed native soil subgrade. An allowable bearing capacity of 2,000 psf may be utilized for grids A and F. An allowable bearing capacity of 3,000 may be used for grid G, assuming the footings are founded on the shallow dense sandstone. These bearing pressures are a net bearing pressure, applied to the total of dead and long-term live loads. The allowable pressure used for design may be increased by a factor of 1.5 when considering seismic or wind loads.

3.3 Foundation Construction Considerations

3.3.1 Potential Interference from Old Foundations

As indicated in the design layout, the micropile groups should be installed without interference with the existing structure. Thus, all footings should be spaced a minimum distance of 7 feet from any structure (including the pit wall) so that the full passive resistance can be developed. This assumes a maximum depth of 4 feet for any pile cap. In the case of existing buried footings, the existing concrete and steel structures should be removed if within the influence zone of the footings and pile groups. For any removed or excavated sections, loose materials should be removed, and competent angular gravel (structural fill) compacted back in so that a competent soil structure surrounding the new pile caps is preserved in all directions. Backfill going in after pile cap construction should be placed in a consistent compacted condition so that lateral and base friction loads can be transferred into the surrounding soils.

3.3.2 Drilling Considerations

The surface portions of the proposed micropile locations have variable-depth loose sand. In the area of B-4, loose "beach sand" seems to extend to a depth of 17 feet. Casing installation will be likely required to the base of the sand/top of sandstone as drilling proceeds. Groundwater is expected at about 20 feet. Open-hole drilling might be possible in the siltstone. However, if below the water table, bore installation and subsequent grouting with a hollow bar and sacrificial drill bit would likely be required to maintain a clean open hole. Note that a minimum 20 feet length of casing below the base of the pile cap is recommended for the micropiles.

3.3.3 Micropile Proof Testing

We recommend proof testing of 50 percent of the vertical micropiles. The specific test piles should be determined in the field at the discretion of the engineer. Tensile "pull" testing capacities may be considered as an equivalent indication of the compressive strength of the micropile since we are relying on adhesion and

end bearing is considered insignificant in micropile design. Consistent with the nominal testing schedule listed in standard FHWA[8] procedures, testing should proceed following with these specifications:

Micropiles shall be proof-test loaded in tension to 1.5 times the compressive design load. Proof loads shall be maintained for a minimum of 10 minutes and tests shall record and plot pile displacement at intervals of 0, 1, 2, 3, 4, 5, 6, and 10 minutes. Where displacement between the 1- and 10-minute interval exceeds 0.04 inches, the load shall be maintained for an additional 50 minutes, and displacements then recorded at 20-, 40-, 50-, and 60-minute intervals. The production pile shall be considered acceptable when the measured displacement does not exceed 0.04 inches during the initial test, or 0.08 inches during the 60-minute test.

3.4 Foundation Recommendations

3.4.1 Shallow Spread Footings

Where utilizing shallow spread footings for the column foundations, the footing should be founded on competent, non-disturbed native soil subgrade. An allowable bearing capacity of 2,000 psf may be utilized for grids A and F. An allowable bearing capacity of 3,000 may be used for grid G, assuming the footings are founded on the shallow dense sandstone. These bearing pressures are a net bearing pressure, applied to the total of dead and long-term live loads. The allowable pressure used for design may be increased by a factor of 1.5 when considering seismic or wind loads.

It is necessary that foundations bear on competent native soil subgrade which has been field-verified by the geotechnical engineer during construction. If soft, loose, or otherwise unsuitable soils are encountered, over-excavation and granular backfill may be recommended to mitigate those soils. The resulting over-excavation should be brought back to grade with imported granular material, following recommendations below in section 4.3**, Structural Fill**.

Footings near slopes (particularly in the area of grid F) should be deepened to provide an adequate footing to slope setback. We recommend a minimum of 7 feet of distance between footing and slope face, as measured horizontally from the nearest edge of the footing to the daylight slope face.

3.5 Seismic Design Considerations

For seismic design, we have assumed that a fundamental period of less than 0.5 seconds and a damping ratio of 5 percent are appropriate to characterize the planned structure. Based on on-site explorations and geologic mapping, we recommend using soil Site Class D to evaluate the seismic design of the structure.

Site coefficients and spectral acceleration parameters for structural design are provided below in Table 1.

[8] FHWA-IF-99-015

TABLE 1 – SEISMIC DESIGN PARAMETERS

2019 IBC CODE-BASED RESPONSE SPECTRUM MCER GROUND MOTION - 5% DAMPING 1% IN 50 YEARS PROBABILITY OF COLLAPSE			
LAT	43.206	LON	-124.156
S_S		2.07G	
S_1		0.935G	
MAPPED MAXIMUM CONSIDERED EARTHQUAKE SPECTRAL RESPONSE ACCELERATION PARAMETER (SITE CLASS D)			
F_A		1.0	
F_V		SEE ASCE 7-16 SECTION 11.4.8*	
S_{MS}		2.07G	
S_{M1}		SEE ASCE 7-16 SECTION 11.4.8*	
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER			
S_{DS}		1.38G	
S_{D1}		SEE ASCE 7-16 SECTION 11.4.8*	

* Factors dependent on structural design.

3.5.1 Liquefaction Hazard Analysis

Subsurface conditions encountered consist of loose, becoming dense, sand and clayey silt in the upper 5 to 10 feet of the soil column. Below that, dense and hard-consistency rock-like materials are present. Groundwater was not encountered and is not expected to occur within the soil materials. In accordance with ODOT's guidance for liquefaction analysis,[9] these subsurface conditions are likely not susceptible to liquefaction and are, therefore, not further analyzed.

4.0 CONSTRUCTION RECOMMENDATIONS

Specifications referenced in this report refer to the 2018 Oregon Standard Specifications for Construction.[10] We assume that these specifications will serve, in part, as the project specifications for items contained within, as well as for those not included in, this report.

4.1 Site Preparation

Site preparation will include demolition of the existing structure and pavement, removal of asphalt and gravel fill, and stripping of topsoil. The base of any excavation to receive structural fill should be cleaned of loose materials and compacted to a firm condition. Site preparation should be completed in accordance with ODOT SS 00320 – Clearing and Grubbing. Care should be taken to protect the subgrade during grubbing and clearing activities.

[9] Oregon Department of Transportation Geotechnical Design Manual, 2018.
[10] Oregon Standard Specifications for Construction, Oregon Department of Transportation (ODOT), 2018.

4.1.1 Wet-Weather/Wet-Soil Considerations

Due to the paved condition of the site, and the fact that micropile installation can be an all-weather operation, no special wet-weather recommendations are offered for the pile installation. Excavation for the pile caps and footing may need to go deeper to accommodate a working gravel surface for concrete placement in wet conditions. Excavations should be kept drained. Re-use of excavated materials into the pile cap excavations is not recommended.

4.2 Excavation

Subsurface conditions at the project site show predominately fine-to-coarse-grained soil to the potential maximum depth of excavation of about 4 feet. Excavations in the soils may be readily accomplished with conventional earthwork equipment. Due to the loose sandy nature of the surface soils encountered and the gravel beneath the asphalt (AC), some sloughing may be expected in vertical cuts. Undermining of gravel and sand due to sloughing can be expected around the margins of most excavations.

4.3 Structural Fill

Structural fills should be placed over subgrade which has been prepared in conformance with the **Site Preparation** (4.1) and **Wet-Weather/Wet-Soil Considerations** (4.1.1) sections of this report. Structural fill should meet the specifications provided in the 2008 Oregon Standard Specifications for Construction, Oregon Department of Transportation (ODOT SS), Section 00330 – Earthwork. The backfill for the base and sides of the pile cap excavations, or repairs of digouts due to removal of the old footings, should meet the specifications provided in ODOT SS 00330.14 – Selected Granular Backfill.

Selected granular backfill should be placed in lifts with a maximum uncompacted thickness of 8 to 12 inches and be compacted to not less than 92 percent of the maximum dry density as determined by ASTM D1557. During the wet season or when wet subgrade conditions exist, the initial lift should be approximately 18 inches in uncompacted thickness and should be compacted by rolling with a smooth-drum roller without using vibratory action.

Where selected granular backfill is placed over soft-soil subgrades, we recommend a geotextile be placed as a barrier between the subgrade and selected granular backfill. The geotextile should meet specifications provided in ODOT SS 2320.10 – Geosynthetics, Acceptance, and in Table 02320-1 for soil separation. The geotextile should be installed in conformance with ODOT SS 0350.00 – Geosynthetic Installation.

5.0 GEOTECHNICAL SERVICES DURING CONSTRUCTION

Satisfactory earthwork and micropile performance depend to a large degree on the quality of construction. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions requires experience; therefore, qualified personnel should visit the site with sufficient frequency to detect whether subsurface conditions change

significantly from those anticipated. Observation of the micropile installation and proof testing will be critical to the success of the project.

6.0 LIMITATIONS

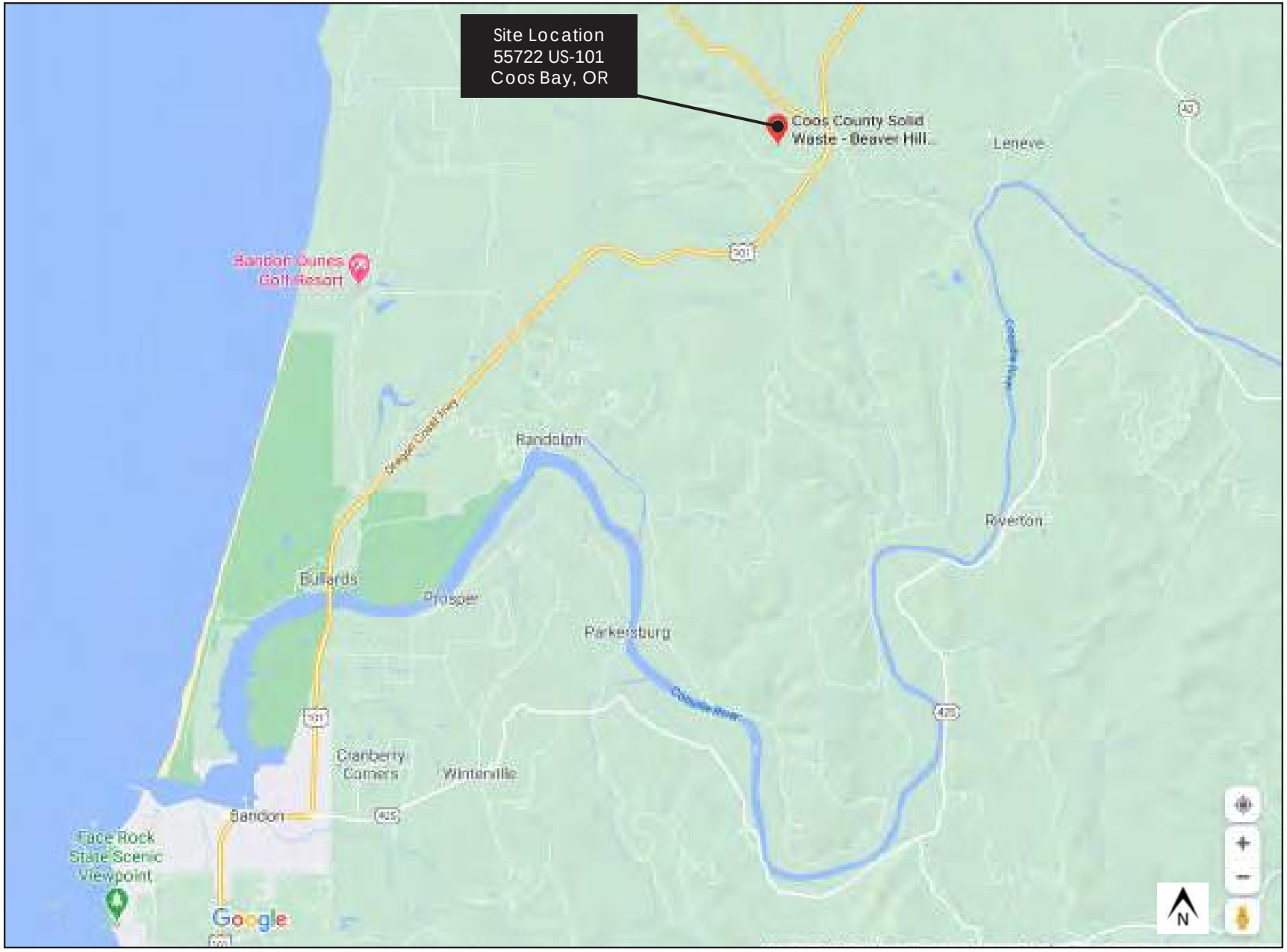
This report has been prepared for the exclusive use of the addressee, and their architects and engineers, for aiding in the design and construction of the proposed development, and is not to be relied upon by other parties. It is not to be photographed, photocopied, or similarly reproduced, in total or in part, without express written consent of the client and STRATA. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations.

The opinions, comments, and conclusions presented in this report are based upon information derived from our literature review, field explorations, laboratory testing, and engineering analyses. It is possible that soil, rock, or groundwater conditions could vary between or beyond the points explored. If soil, rock, or groundwater conditions are encountered during construction that differ from those described herein, the client is responsible for ensuring that STRATA is notified immediately so that we may reevaluate the recommendations of this report.

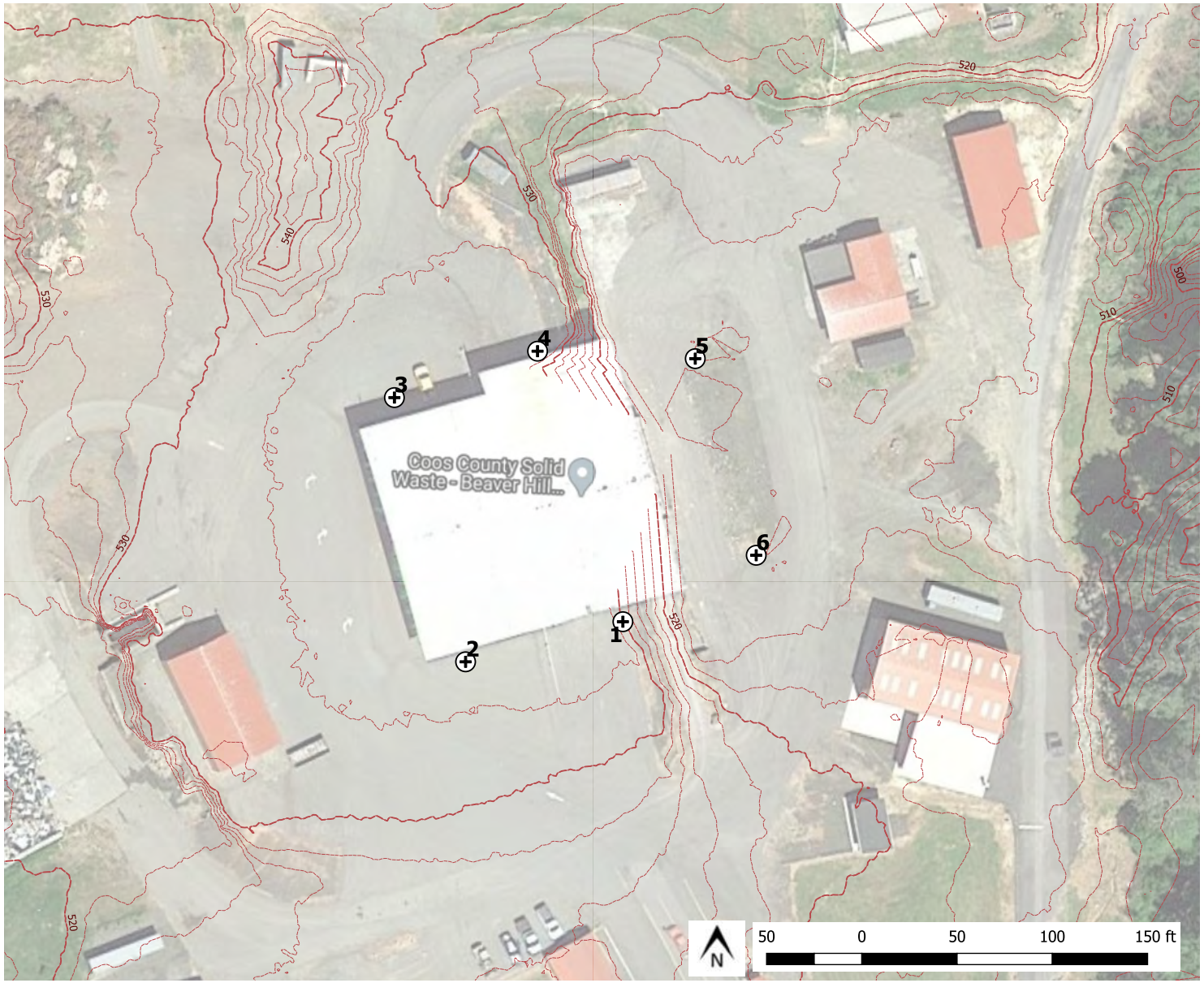
Unanticipated fill, soil, and rock conditions, and seasonal soil moisture and groundwater variations, are commonly encountered and cannot be fully determined by merely taking soil samples or completing explorations such as soil borings or test pits. Such variations may result in changes to our recommendations and may require additional funds for expenses to attain a properly constructed project; therefore, we recommend a contingency fund to accommodate such potential extra costs.

The scope of work for this subsurface exploration and geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

If there is a substantial lapse of time between the submission of this report and the start of work at the site, if conditions have changed due to natural causes or construction operations at or adjacent to the site, or if the basic project scheme is significantly modified from that assumed, this report should be reviewed to determine the applicability of the conclusions and recommendations presented herein. Land use, site conditions (both on and off site), or other factors may change over time and could materially affect our findings; therefore, this report should not be relied upon after three years from its issue, or in the event that the site conditions change.



STRATA DESIGN	Project: 20-0206	**SITE LOCATION MAP** Beaver Hill Structure, Coos Bay	**Figure 1**
	October 2020		



TOPOGRAPHIC SURVEY

55722 US-101
COOS BAY, OREGON

2- and 10-foot Contour Intervals

Job #20-0206

STRATA DESIGN

Legend

- Boring Locataions
- 10-ft Contours
- 2-ft Contours

Contours derived from 2008/9 LiDAR (OR DOGAMI)

Figure 3

STRATA DESIGN	Project: 20-0206	**SITE PLAN MAP** Beaver Hill Structure, Coos Bay	**Figure 2**
	October 2020		

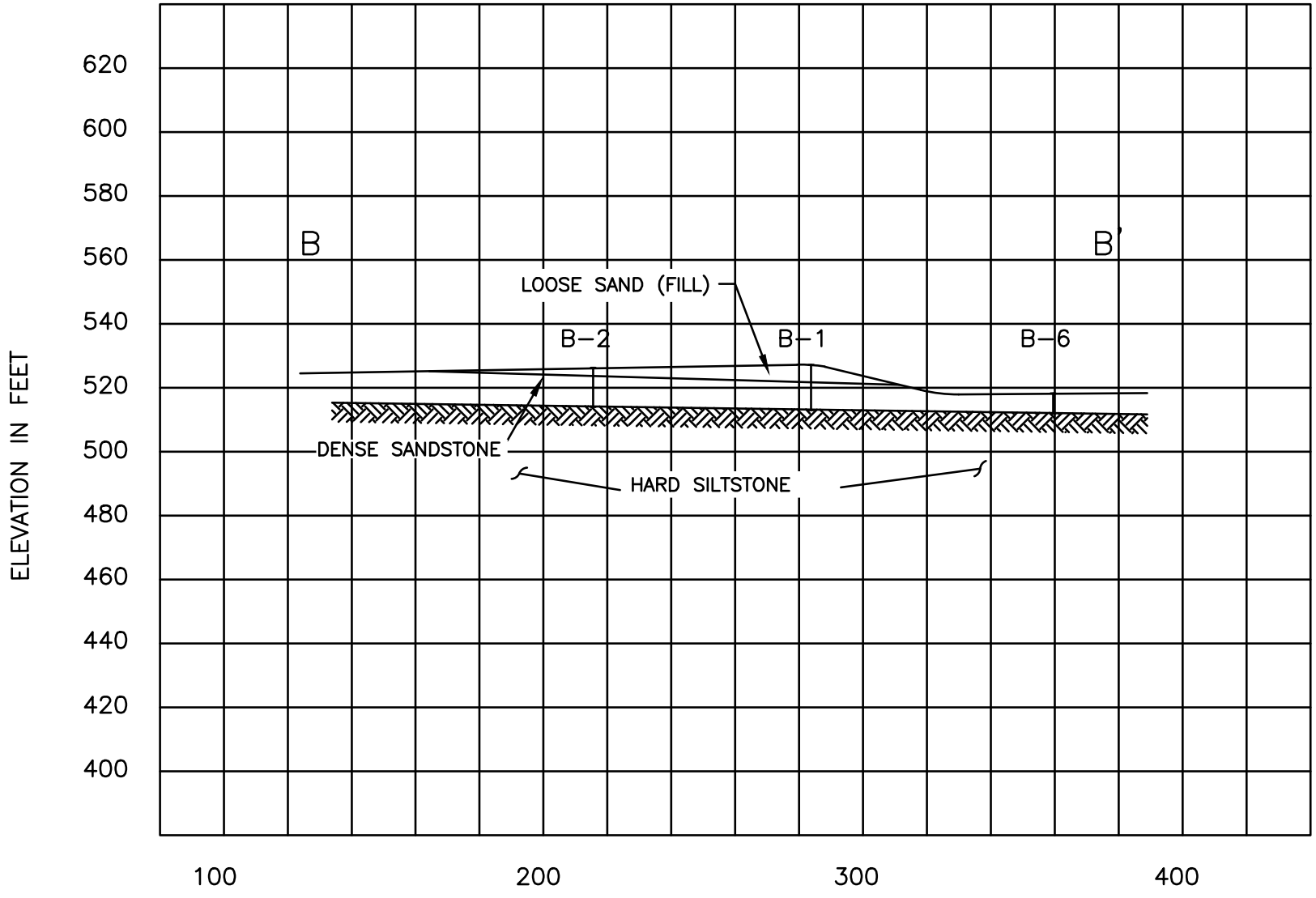


FIGURE 3A: BEAVER HILL STRUCTURE – SOUTH CROSS–SECTION

STRATA DESIGN	Project: 20-0206 September 2020	**CROSS SECTION-CROSS SECTION B-B'** Beaver Hill Structure, Coos Bay	**Figure 3a**

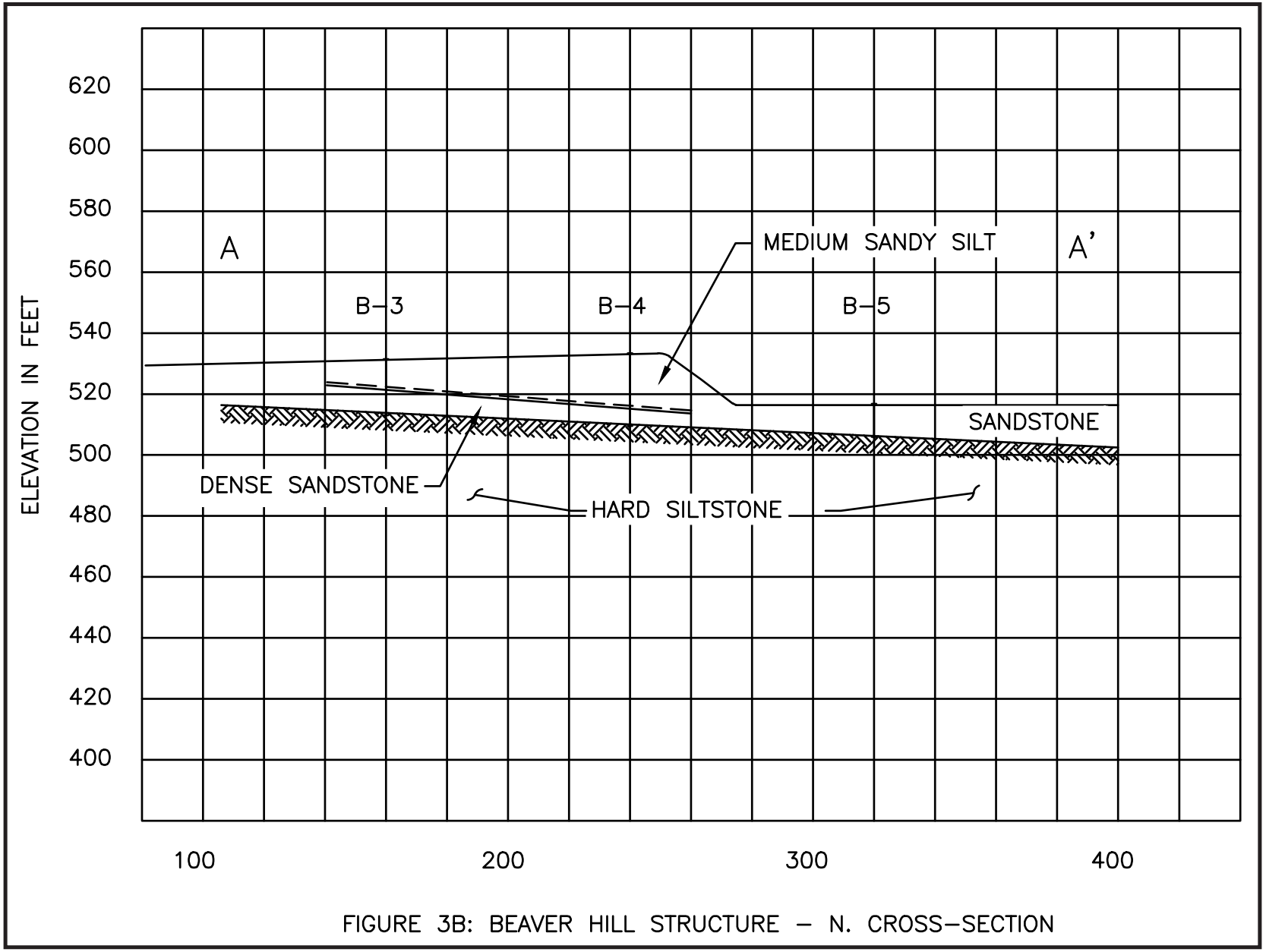
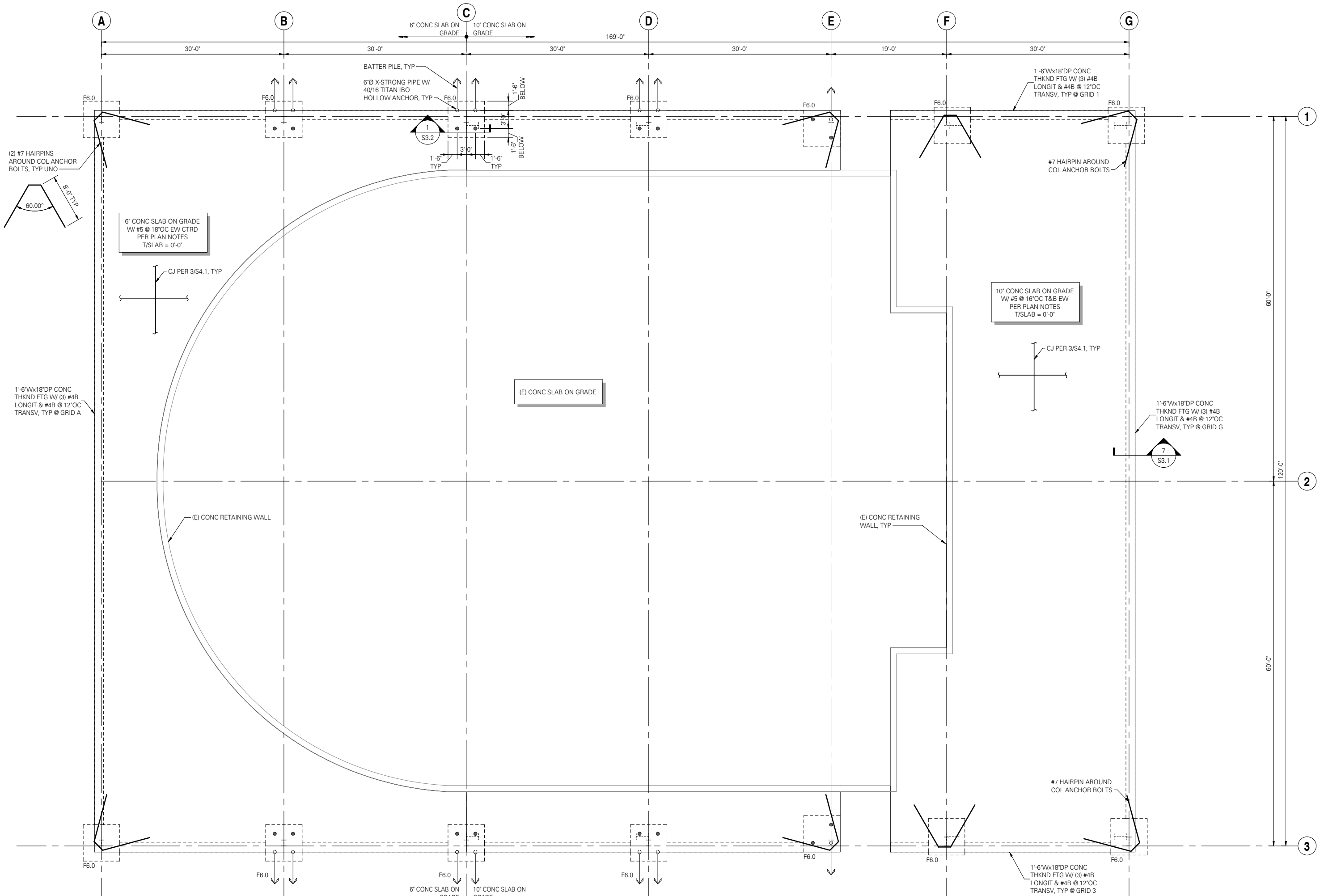


FIGURE 3B: BEAVER HILL STRUCTURE – N. CROSS–SECTION

STRATA DESIGN	Project: 20-0206 October 2020	**FIGURE 3B - CROSS SECTION-CROSS SECTION A-A'** Beaver Hill Structure, Coos Bay	**Figure 3b**



FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.1 AND S1.2.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING WITH OTHERS PRIOR TO POURING CONCRETE: ALL DOOR OPENINGS IN FOUNDATION WALLS, AND DRAINS AND SLOPES. ALL DUCTS, CHASES AND PIPES PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.
4. TOP OF SLAB (T/SLAB) ELEVATION ASSUMED 0'-0". FOR ACTUAL T/SLAB ELEVATION REFER TO CIVIL AND ARCHITECTURAL DRAWINGS. PROVIDE 6 MIL VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES. PROVIDE FREE-DRAINING GRANULAR FILL PER GEOTECH REPORT.
5. TYPICAL TOP OF INTERIOR (T/INTERIOR) FOOTING ELEVATION = X'-X", UNO. TYPICAL TOP OF EXTERIOR (T/EXTERIOR) FOOTING ELEVATIONS = X'-X", UNO.
6. ALL FOOTINGS AND SLABS TO BEAR ON COMPETENT NATIVE SOIL AND/OR STRUCTURAL FILL. SUBGRADE PREPARATION, STRUCTURAL FILL, FOOTING DRAINS, AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES.
7. CJ INDICATES CONTROL JOINT PER PLAN.
8. ● INDICATES VERTICAL MONOPILE
   ← ◌ INDICATES BATTERED MONOPILE
9. TYPICAL DETAILS PER:
   - 2/S3.1 STANDARD HOOKS AND BAR BENDS
   - 4/S3.1 TYPICAL DEPRESSED SLAB DETAIL
   - 5/S3.1 TYPICAL LAP SPLICE SCHEDULE
   - 9/S3.1 TYPICAL STAIR ON GRADE
   - 10/S3.1 TYPICAL STEPPED FOOTING
   - [03202A] TYPICAL STEP AT SLAB ON GRADE

PILE CAP SCHEDULE

TYPE	SIZE			REINFORCING	COMMENTS
	LENGTH	WIDTH	DEPTH		
F6.0	6'-0"	6'-0"	2'-0"	(6)#6 T&B EW	

FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

HGE ARCHITECTS
323 S. 4TH STREET
COOS BAY, OR 97420
P: 541.269.1166
general@hge1.com
www.hge1.com

DCI engineers
921 SW Washington Street, Suite 560
Portland, Oregon 97205
P: (503) 242-2446 www.dci-engineers.com
CIVIL / STRUCTURAL

PRELIMINARY NOT FOR CONSTRUCTION

PROGRESS PRINT (NOT FOR CONSTRUCTION)

PROJECT NO.: 20031-0084
BEAVER HILL PIT ROOF STRUCTURE
COOS COUNTY
55722 HIGHWAY 101, COOS BAY, OREGON

PRELIMINARY DESIGN
REVISIONS:
DATE DESCRIPTION

DATE: SEPT 2020
SHEET TITLE:
STRUCTURAL FOUNDATION PLAN

S2.1

STRATA DESIGN

Project:
20-0206

October 2020

BEAVER HILL FOUNDATION PLAN

Beaver Hill Structure, Coos Bay

Figure 4

Grid*	Dead Load (in Kips, + is down)		Live Load (in Kips, + is out from structure)		Wind Load (in Kips)		Total Loads (in Kips, Vy+ is up, Hx + is outward from structure)			
	Vy	Hx	Vy	Hx	Vy+-	Hx+-	Vy+ (plus wind load)	Hx+ (plus wind load)	Vy+ (minus wind load)	Hx+ (minus wind load)
A	10.85	15.4	18.1	25.75	34	40	45	55	-27	0
B	21.7	30.8	36.2	51.5	68	91.2	90	122	-54	-2
C	21.7	20.6	36.2	34.4	63	70.7	85	91	-49	-4
D	21.7	20.6	36.2	34.4	63	70.7	85	91	-49	-4
E	17.3	13.1	28.9	21.8	34	40	51	53	-22	-1
F	17.3	13.1	28.9	21.8	56.5	37.3	74	50	-45	-1
G	10.85	6.55	18.1	15.1	28.25	3.15	39	10	-21	8

*Reference Report Figure 4 for Grid Location

STRATA DESIGN

Project: 20-0206

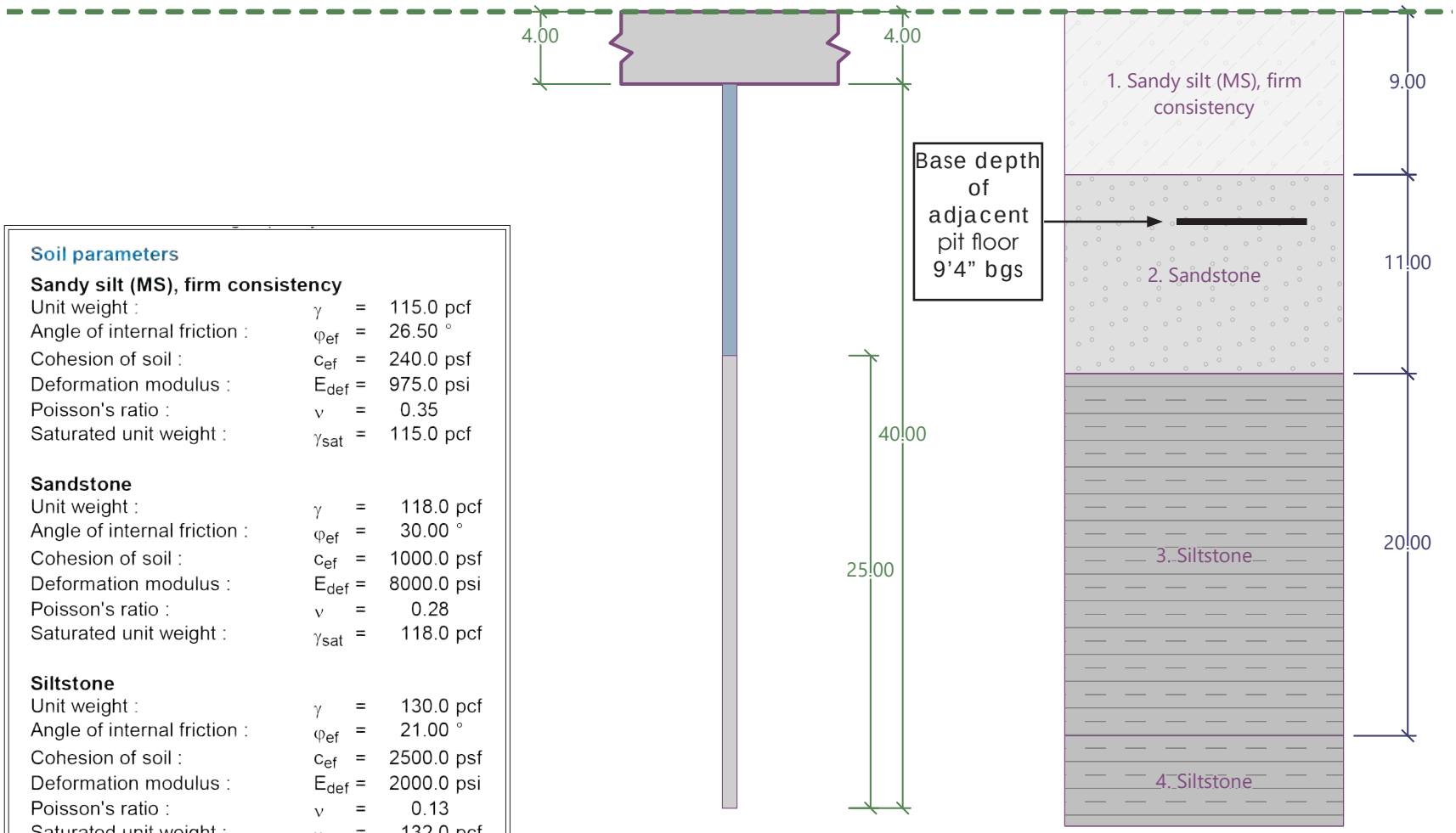
October 2020

SUMMARYOF LOADS BY GRID

Beaver Hill Structure, Coos Bay

Figure 5

Name : **Stage : 1**



Soil parameters

Sandy silt (MS), firm consistency

Unit weight :	γ	=	115.0 pcf
Angle of internal friction :	φ_{ef}	=	26.50 °
Cohesion of soil :	c_{ef}	=	240.0 psf
Deformation modulus :	E_{def}	=	975.0 psi
Poisson's ratio :	ν	=	0.35
Saturated unit weight :	γ_{sat}	=	115.0 pcf

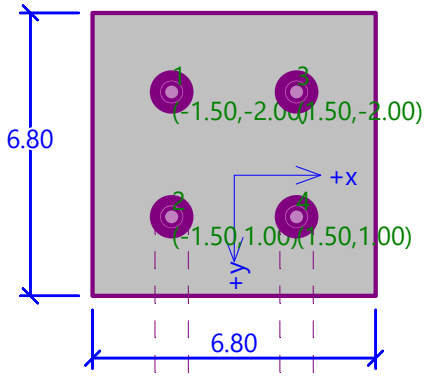
Sandstone

Unit weight :	γ	=	118.0 pcf
Angle of internal friction :	φ_{ef}	=	30.00 °
Cohesion of soil :	c_{ef}	=	1000.0 psf
Deformation modulus :	E_{def}	=	8000.0 psi
Poisson's ratio :	ν	=	0.28
Saturated unit weight :	γ_{sat}	=	118.0 pcf

Siltstone

Unit weight :	γ	=	130.0 pcf
Angle of internal friction :	φ_{ef}	=	21.00 °
Cohesion of soil :	c_{ef}	=	2500.0 psf
Deformation modulus :	E_{def}	=	2000.0 psi
Poisson's ratio :	ν	=	0.13
Saturated unit weight :	γ_{sat}	=	132.0 pcf

Name : **Stage : 1**



Micropile Group Analysis

Construction

Pile diameter d = 0.80 ft
Cap overlap o = 1.50 ft

Coordinates of piles

No.	x [ft]	y [ft]
1	-1.50	-2.00
2	-1.50	1.00
3	1.50	-2.00
4	1.50	1.00

Cross-section : circular tube 9.6
Diameter = 9.60 in
Web thickness = 0.60 in

Geometry

Thickness of pile cap	t	=	4.00 ft
Length of piles	l	=	40.00 ft
Diameter of root	d_r	=	0.80 ft
Root length	l_r	=	25.00 ft
Resistance of foundation soil	R	=	2000.0 psf

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

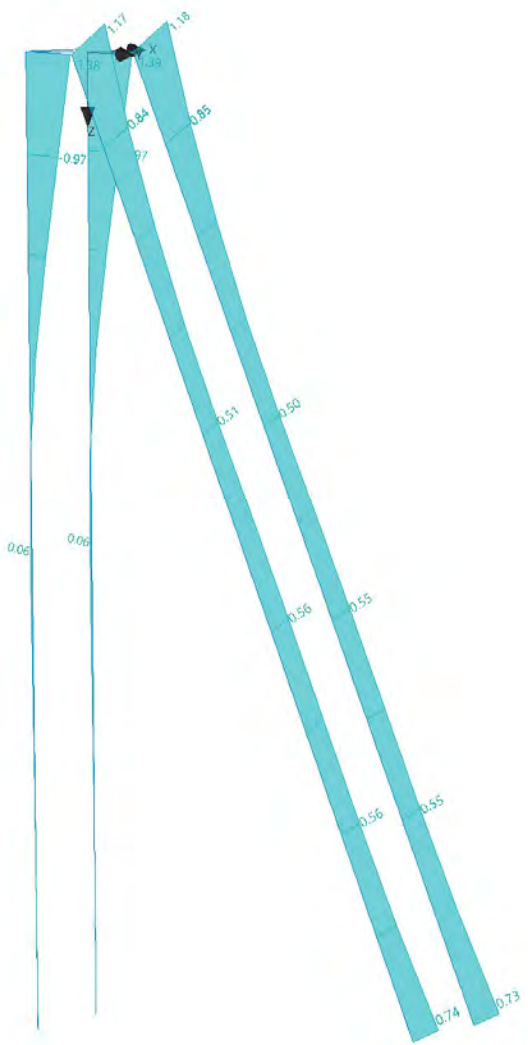
Concrete : Concrete ACI

Compressive strength	f_c'	=	3000.0 psi
Elasticity modulus	E_{cm}	=	3122.0 ksi
Shear modulus	G	=	1311.2 ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y	=	80000.0 psi
Ultimate tensile strength	f_u	=	100000.0 psi
Elasticity modulus	E	=	29000.0 ksi
Shear modulus	G	=	11500.0 ksi

Name :	Stage - analysis : 1 - 1



Analysis results

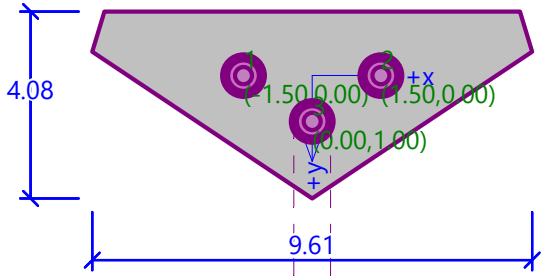
Maximum internal forces (all load cases)

Maximum compressive force	=	-89710.7 lbf
Maximum tensile force	=	66485.0 lbf
Max. bending moment	=	21627.1 lbf
Max. shear force	=	5744.8 lbf

Maximum displacements (only service load cases)

Max. settlement	=	0.16 in
Maximum horizontal displacement of pile cap	=	1.03 in
Max. rotation of pile cap	=	3.1E-03

Name : | **Stage : 1**



Micropile Group Analysis

Construction

Pile diameter d = 0.80 ft
Cap overlap o = 1.50 ft

Coordinates of piles

No.	x [ft]	y [ft]
1	-1.50	0.00
2	1.50	0.00
3	0.00	1.00

Cross-section : circular tube S.t
Diameter = 9.60 in
Web thickness = 0.60 in

Geometry

Thickness of pile cap = 2.00 ft
Length of piles = 40.00 ft
Diameter of root = 1.80 ft
Root length = 25.00 ft
Resistance of foundation soil = 2000.0 psi

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

Concrete : Concrete ACI

Compressive strength	f_c' =	3000.0 psi
Elasticity modulus	E_{cm} =	3122.0 ksi
Shear modulus	G =	1311.2 ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y =	80000.0 psi
Ultimate tensile strength	f_u =	100000.0 psi
Elasticity modulus	E =	29000.0 ksi
Shear modulus	G =	11500.0 ksi

Name :	Stage - analysis : 1 - 1

Analysis results

Maximum internal forces (all load cases)

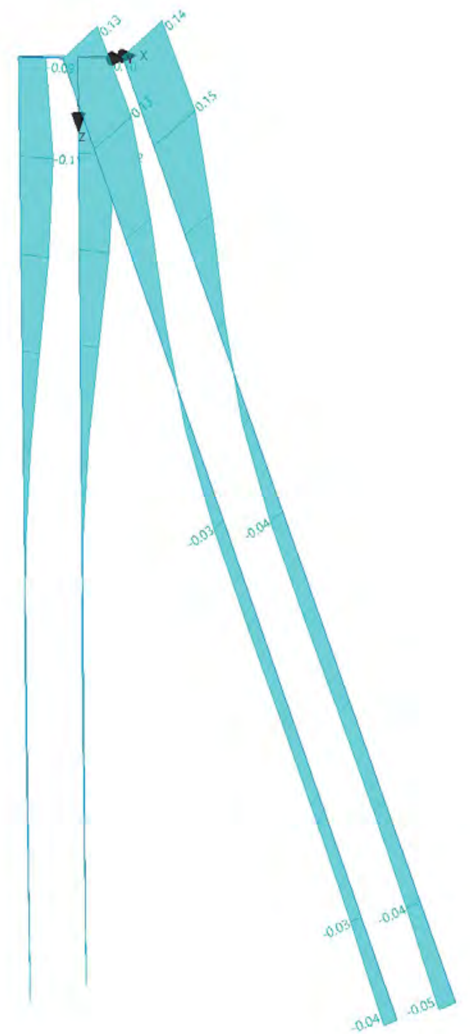
Maximum compressive force	= -89065.13	lbf
Maximum tensile force	= 33268.45	lbf
Max. bending moment	= 36164.2	lbfft
Max. shear force	= 4588.81	lbf

Maximum displacements (only service load cases)

Max. settlement	= 0.19	in
Maximum horizontal displacement of pile cap	= 1.06	in
Max. rotation of pile cap	= 4.5E-01	°

Strata Design - 20-0206	Beaver Hill Structure
rgt	Grid B - 2 Vertical - 2 Batter Piles - Uplift

Name :	Stage - analysis : 1 - 1



Analysis results

Maximum internal forces (all load cases)

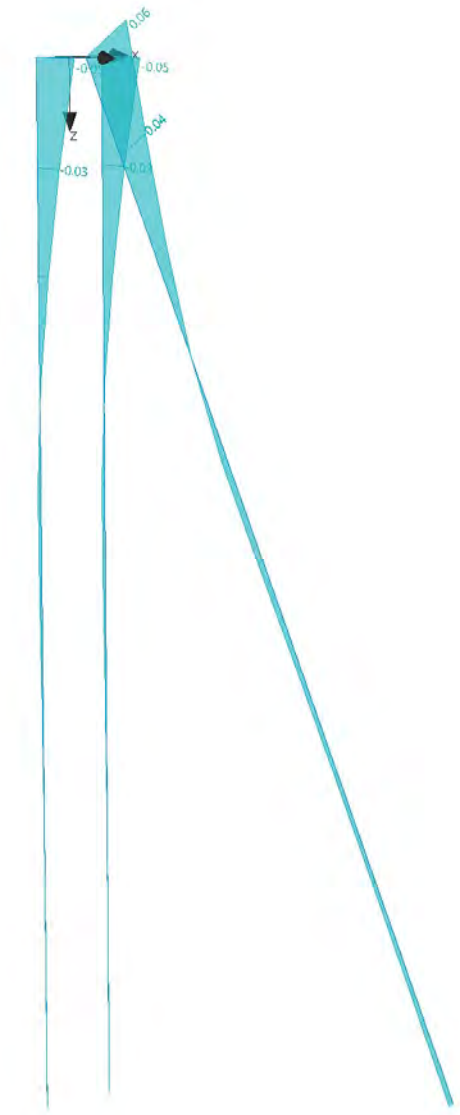
Maximum compressive force	=	0.00	lbf
Maximum tensile force	=	22033.45	lbf
Max. bending moment	=	20092.0	lbft
Max. shear force	=	2636.6	lbf

Maximum displacements (only service load cases)

Max. settlement	=	0.0	in
Maximum horizontal displacement of pile cap	=	0.0	in
Max. rotation of pile cap	=	5.1E-0[illegible]	

	Project: 20-0206	GRID B UPLIFT RESULTS	Figure 11
STRATA DESIGN	October 2020	Beaver Hill Structure, Coos Bay	

Name :	Stage - analysis : 1 - 1



Analysis results

Maximum internal forces (all load cases)

Maximum compressive force = 0.0
Maximum tensile force = 1,364 2,9
Max. bending moment = 0.3
Max. shear force = 21 5.4

Maximum displacements (only service loads)

Max. settlement =
Maximum horizontal displacement of pile =
Max. rotation of pile = 1 °

Direction of Photograph:	Description of Photograph:	Photo
North	Roof and Slope Structure	1

Direction of Photograph:	Description of Photograph:	Photo
East	Overall Structure	2

STRATA DESIGN	Project: 20-0206	**PHOTOGRAPHIC LOG**
	June 22, 2020	Beaver Hill Structure, Coos Bay

Direction of Photograph:	Description of Photograph:	Photo
South	Overall Structure	3

Direction of Photograph:	Description of Photograph:	Photo
Southwest	B-5 Location	4

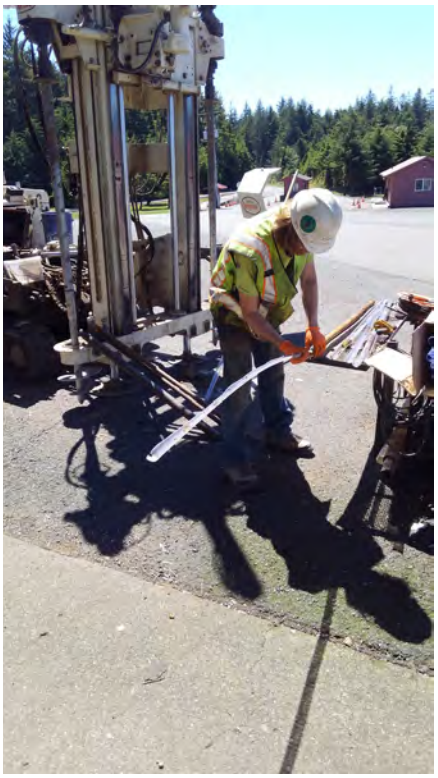
STRATA DESIGN	Project: 20-0206 June 22, 2020	**PHOTOGRAPHIC LOG** Beaver Hill Structure, Coos Bay

Direction of Photograph:	Description of Photograph:	Photo
Closeup	B-1 Location	5

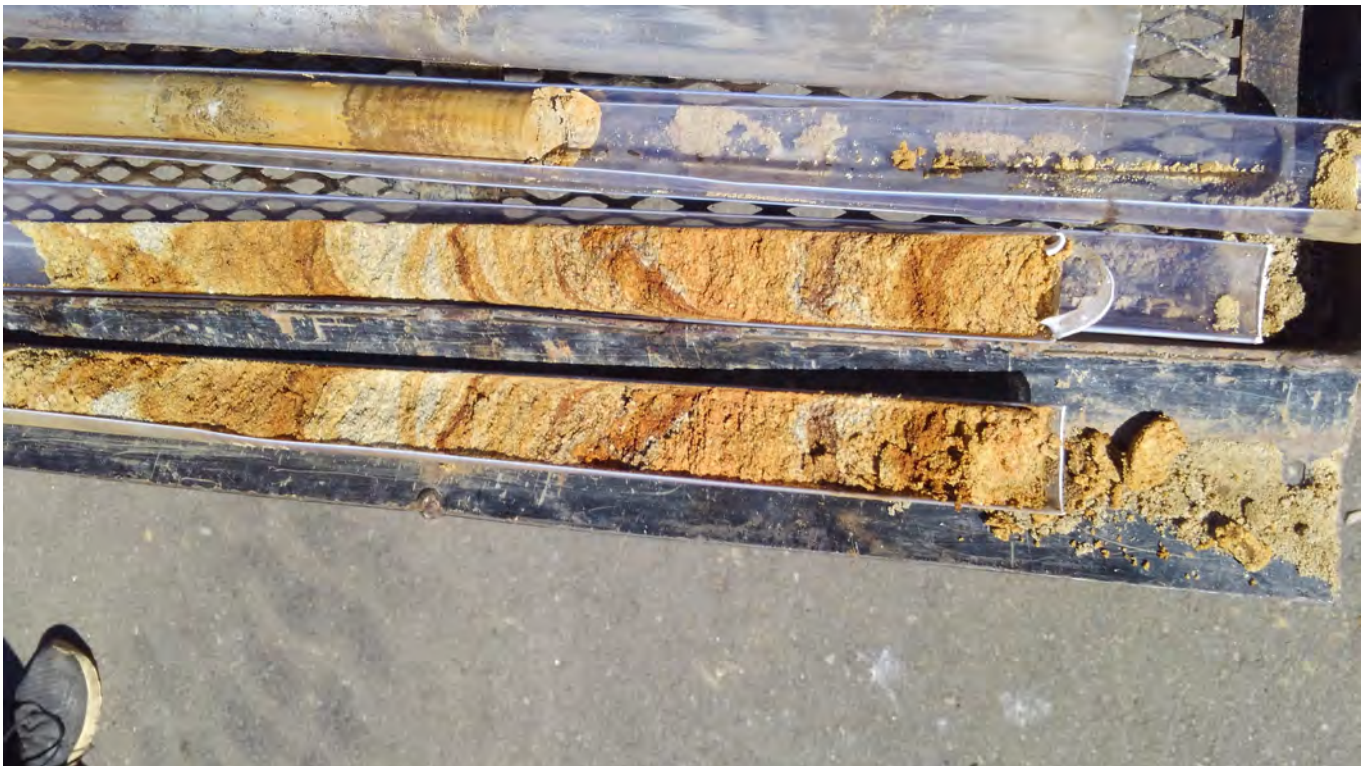
Direction of Photograph:	Description of Photograph:	Photo
Closeup	Drilling Operation	6

STRATA DESIGN	Project: 20-0206 June 22, 2020	**PHOTOGRAPHIC LOG** Beaver Hill Structure, Coos Bay

Direction of Photograph:	Description of Photograph:	Photo
Closeup	Removing Sample for 5 foot Plastic Sleeve	7



Direction of Photograph:	Description of Photograph:	Photo
Closeup	Sand-Sandstone Sample	8



STRATA DESIGN	Project: 20-0206 June 22, 2020	**PHOTOGRAPHIC LOG** Beaver Hill Structure, Coos Bay

APPENDIX A: Field Exploration (GeoProbe) Logs (B1-B6)

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		AC	Asphaltic Concrete - 6-inches thick						
		SW	Loose to medium dense, brown-dark brown, fine to coarse grained SAND; moist.	1		13			
5				2		8			
10		ML	Medium stiff, tan-brown CLAYEY SILT; moist.	3		37			
15		SC	Dense to hard, light brown, medium to coarse grained, cemented SAND/SANDSTONE; moist.	4		37			
20				5		26			
25		SW	Medium dense, brown-dark brown, fine to coarse grained SAND; moist.	6		13			
		RK	Hard, gray SILTSTONE; moist.						
30			End at 26 ft 7 inches due to refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and capped with asphalt patch upon completion.						
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 532' +/-	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

Beaver Hill Roof Structure

20-0206

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LOG OF BORING

B-1

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		AC	Asphaltic Concrete - 6-inches thick						
		SW	Loose to medium dense, brown-dark brown, fine to coarse grained SAND; moist.	1		36			
		ML	Medium stiff, dark brown CLAYEY SILT; moist.						
5			Dense, tan-red, medium to course grained, cemented SAND/SANDSTONE; moist.	2		29			
10		SC		3		32			
15				4		33			
20		RK	Hard, gray SILTSTONE; moist.	5		17			
25			End at 22 ft 4 inches due to boring refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and capped with asphalt patch upon completion.						
30									
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 532'	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

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LOG OF BORING

B-2

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		AC	Asphaltic Concrete - 6-inches thick						
		SW	Loose to medium dense, brown-dark brown, fine to coarse grained SAND; moist.	1		35			
		ML	Medium stiff, dark brown CLAYEY SILT; moist.						
5		ML	Medium stiff, brown, fine SANDY SILT; moist.	2		26			
10		SC	Dense, tan-red, fine to coarse grained, cemented SAND/SANDSTONE; moist.	3		32			
15				4		29			
20		RK	Hard, gray SILTSTONE; moist.	5		14			
25			End at 21 ft 1 inch due to boring refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and capped with asphalt patch upon completion.						
30									
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 532'	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

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LOG OF BORING

B-3

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		Asphalt	Asphaltic Concrete - 8-inches thick	1		19			
		GW	Gray, angular, fine GRAVEL (baserock - 1 foot thick).	2		7			
5		SW	Loose, tan-brown, fine to coarse grained SAND; moist.	3		6			
10				4		28			
15		SC	Dense, tan-red, fine to coarse grained, cemented SAND/SANDSTONE; moist.	5		29			
20				6		31			
25		RK	Hard, gray SILTSTONE; moist.						
30			End at 24 ft 6 inches due to boring refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and capped with asphalt patch upon completion.						
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 532'	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

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LOG OF BORING

B-4

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		GW	Gray, angular, fine GRAVEL (baserock - 2 1/2 feet thick).						
			Dense, tan-red, fine to coarse grained, cemented SAND/SANDSTONE; moist.	1		18			
5		SC		2		14			
		RK	Hard, gray SILTSTONE; moist.						
10			End at 9 feet 3 inches due to boring refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and gravel upon completion.						
15									
20									
25									
30									
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 516'	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

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LOG OF BORING

B-5

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	MOISTURE CONTENT (%)	GROUNDWATER	FIELD TESTING	TESTING AND LABORATORY DATA
0		GW	Gray, angular, fine GRAVEL (baserock - 2 1/2 feet thick).						
			Dense, tan-brown, fine to coarse grained, cemented SAND/SANDSTONE; moist.	1		26			
5		SC		2		16			
		RK	Hard, gray SILTSTONE; moist.						
10			End at 9 feet 3 inches due to boring refusal in hard siltstone. No caving and no groundwater observed to the depths explored. Boring backfilled with cuttings and gravel upon completion.						
15									
20									
25									
30									
35									
40									

BORING METHOD: Probe/Push	**ELEVATION REFERENCE:** 2008-2009 DOGAMI Lidar	**START CARD/TAG ID:**
BOREHOLE DIAMETER: 1"	**GROUND SURFACE ELEVATION:** 516'	
DRILL RIG: 6600 GeoProbe	**CASING ELEVATION:**	
CONTRACTOR: Oregon Geotech. Exp.	**LOCATION:** See Figure 2	
LOGGED BY: Rick Thrall, PE	**DRILLING DATES:** 6/22/20	

Beaver Hill Roof Structure

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LOG OF BORING

B-6

APPENDIX B: Micro Pile Group Analysis Documentation

Verification of pile group

Input data

Project

Task : Pile Group
Part : Grid B Analysis
Description : F 6.0 Footings_2 Vertical_2 Batter Micropiles
Customer : HGE
Author : rgt
Date : 10/20/2020
Project ID : Beaver Hill Structure
Project number : 20-0206

Settings

USA - Safety factor

Materials and standards

Concrete structures : ACI 318-11
Steel structures : EN 1993-1-1 (EC3)
Partial factor on bearing capacity of steel cross section : γ_{M0} = 1.00

Soil parameters

Sandy silt (MS), firm consistency

Unit weight :	γ	=	115.0 pcf
Angle of internal friction :	φ_{ef}	=	26.50 °
Cohesion of soil :	c_{ef}	=	240.0 psf
Deformation modulus :	E_{def}	=	975.0 psi
Poisson's ratio :	ν	=	0.35
Saturated unit weight :	γ_{sat}	=	115.0 pcf

Sandstone

Unit weight :	γ	=	118.0 pcf
Angle of internal friction :	φ_{ef}	=	30.00 °
Cohesion of soil :	c_{ef}	=	1000.0 psf
Deformation modulus :	E_{def}	=	8000.0 psi
Poisson's ratio :	ν	=	0.28
Saturated unit weight :	γ_{sat}	=	118.0 pcf

Siltstone

Unit weight :	γ	=	130.0 pcf
Angle of internal friction :	φ_{ef}	=	21.00 °
Cohesion of soil :	c_{ef}	=	2500.0 psf
Deformation modulus :	E_{def}	=	2000.0 psi
Poisson's ratio :	ν	=	0.13
Saturated unit weight :	γ_{sat}	=	132.0 pcf

Construction

Pile diameter d = 0.80 ft
Cap overlap o = 1.50 ft

Coordinates of piles

No.	x [ft]	y [ft]
1	-1.50	-2.00
2	-1.50	1.00
3	1.50	-2.00
4	1.50	1.00

Cross-section : circular tube 9.6
Diameter = 9.60 in
Web thickness = 0.60 in

Geometry

Thickness of pile cap	t	=	4.00	ft
Length of piles	l	=	40.00	ft
Diameter of root	d_r	=	0.80	ft
Root length	l_r	=	25.00	ft
Resistance of foundation soil	R	=	2000.0	psf

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

Concrete : Concrete ACI

Compressive strength	f_c'	=	3000.0	psi
Elasticity modulus	E_{cm}	=	3122.0	ksi
Shear modulus	G	=	1311.2	ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y	=	80000.0	psi
Ultimate tensile strength	f_u	=	100000.0	psi
Elasticity modulus	E	=	29000.0	ksi
Shear modulus	G	=	11500.0	ksi

Horizontal modulus of subsoil reaction

Depth [ft]	k_h [pci]
0.00	0.00
20.00	26.67
25.00	26.67
30.00	26.67
40.00	26.67

Determination of vertical springs

Shear modulus of subsoil reaction

Depth [ft]	k_v [pci]
0.00	0.00
20.00	26.67
25.00	26.67
30.00	26.67
40.00	26.67

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	9.00	0.00 .. 9.00	Sandy silt (MS), firm consistency	
2	11.00	9.00 .. 20.00	Sandstone	
3	20.00	20.00 .. 40.00	Siltstone	
4	-	40.00 .. ∞	Siltstone	

Load

No.	Load new	Load change	Name	Type	N [lbf]	M_x [lbfft]	M_y [lbfft]	H_x [lbf]	H_y [lbf]	M_z [lbfft]
1	Yes		Load No. 1	Design	90000.00	0.0	0.0	0.00	102000.00	0.0
2	Yes		Load No. 1 - service	Service	64285.71	0.0	0.0	0.00	72857.14	0.0

Global settings

Analysis type : spring method - micropiles
Type of pile : floating piles - input the stiffness of springs
Connection piles / pile cap : fixed
Modulus of reaction : input by distribution

Analysis results

Maximum internal forces (all load cases)

Maximum compressive force = -89719.71 lbf
Maximum tensile force = 66485.04 lbf
Max. bending moment = 21827.2 lbfft
Max. shear force = 5744.85 lbf

Maximum displacements (only service load cases)

Max. settlement = 0.15 in
Maximum horizontal displacement of pile cap = 1.03 in
Max. rotation of pile cap = 3.1E-01 °

Analysis of micropile

Input data

Settings

USA - Safety factor

Materials and standards

Concrete structures : ACI 318-11
Steel structures : EN 1993-1-1 (EC3)
Partial factor on bearing capacity of steel cross section : γ_{M0} = 1.00

Micropiles

Verification of section : geometric method (Euler)
Verification of root : Lizzi theory
Verification methodology : Safety factors (ASD)

Safety factors			
Permanent design situation			
Safety factor for critical force :	SF_f =	1.50	[–]
Safety factor for section resistance :	SF_s =	1.50	[–]
Safety factor for root bearing capacity :	SF_r =	2.00	[–]

Soil parameters

Sandy silt (MS), firm consistency

Unit weight :	γ	=	115.0 pcf
Angle of internal friction :	φ_{ef}	=	26.50 °
Cohesion of soil :	c_{ef}	=	240.0 psf
Saturated unit weight :	γ_{sat}	=	115.0 pcf

Sandstone

Unit weight :	γ	=	118.0 pcf
Angle of internal friction :	φ_{ef}	=	30.00 °
Cohesion of soil :	c_{ef}	=	1000.0 psf
Saturated unit weight :	γ_{sat}	=	118.0 pcf

Siltstone

Unit weight :	γ	=	130.0 pcf
Angle of internal friction :	φ_{ef}	=	21.00 °
Cohesion of soil :	c_{ef}	=	2500.0 psf
Saturated unit weight :	γ_{sat}	=	132.0 pcf

Geometry

Diameter = 9.60 in
Wall thickness = 0.60 in

Free length of pile	l	= 15.00	ft
Root length	l_r	= 25.00	ft
Diameter of root	d_r	= 0.80	ft
Pile inclination from vertical	α	= 30.00	°
Pile head offset	l_a	= 0.00	ft

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

Concrete : Concrete ACI

Compressive strength	f_c'	= 3000.0	psi
Elasticity modulus	E_{cm}	= 3122.0	ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y	= 80000.0	psi
Elasticity modulus	E	= 29000.0	ksi

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	5.00	0.00 .. 5.00	Sandy silt (MS), firm consistency	
2	11.00	5.00 .. 16.00	Sandstone	
3	20.00	16.00 .. 36.00	Siltstone	
4	-	36.00 .. ∞	Siltstone	

Load

No.	Load new	Load change	Name	Force N [lbf]	Moment M [lbfft]
1	Yes		LC 1	89719.71	21827.2
2	Yes		LC 2	-66485.04	21827.2

Verification No. 1

Cross-section verification 1

Analysis carried out with an automatic selection of the most unfavorable load cases.

Internal stability check: geometric method (Euler)
calculation of section effective length - bearing (hinged-hinged).

Modulus of subsoil reaction E_p = 40.00 pci
Calculate number of halfwaves n = 1.69
Effective length l_{cr} = 11.20 ft

Critical normal force N_{cr} = 3149674.66 lbf
Maximal normal force N_{max} = 89719.71 lbf

Safety factor = 35.11 > 1.50
Internal stability of micropile section is SATISFACTORY

Verification of coupled section bearing capacity:
The maximum utilization of the cross-section is for the load case No. 1

Area of ideal cross-section A_i = 2.29E+01 in^2
Moment of inertia of ideal cross-section J_i = 1.99E+02 in^4
Beam slenderness λ = 45.648
Buckling coefficient κ = 0.759
Location of neutral axis = -3.71 in

Stress in steel = 9444.2 psi
Design strength of steel = 80000.0 psi

Safety factor = 8.47 > 1.50
Coupled section of micropile is SATISFACTORY

Verification No. 1

Root verification

Calculation method - Lizzi theory.
Coefficient of root diameter influence = 0.81
Average limit skin friction q_{sav} = 4000.0 psf

Verification of compressive micropile
Shaft resistance R_s = 202610.11 lbf

Maximal normal force N_{max} = 89719.71 lbf

Safety factor = 2.26 > 2.00
Bearing capacity of compressive micropile is SATISFACTORY

Verification of tensile micropile
Shaft resistance R_s = 202610.11 lbf

Maximum tensile force N_{max} = 66485.04 lbf

Safety factor = 3.05 > 2.00
Bearing capacity of tensile micropile is SATISFACTORY

Vertical bearing capacity of micropile is SATISFACTORY

Verification of pile group

Input data

Project

Task : Pile Group Analysis
Part : Grid E Analysis
Description : F 6.0 Footing - 2 Vertical_1 Batter Piles
Customer : HGE
Author : rgt
Date : 10/13/2020
Project ID : Beaver Hill Structure
Project number : 20-0206

Settings

USA - Safety factor

Materials and standards

Concrete structures : ACI 318-11
Steel structures : EN 1993-1-1 (EC3)
Partial factor on bearing capacity of steel cross section : γ_{M0} = 1.00

Soil parameters

Sandy silt (MS), firm consistency

Unit weight :	γ	=	115.0 pcf
Angle of internal friction :	φ_{ef}	=	26.50 °
Cohesion of soil :	c_{ef}	=	240.0 psf
Deformation modulus :	E_{def}	=	975.0 psi
Poisson's ratio :	ν	=	0.35
Saturated unit weight :	γ_{sat}	=	115.0 pcf

Sandstone

Unit weight :	γ	=	118.0 pcf
Angle of internal friction :	φ_{ef}	=	30.00 °
Cohesion of soil :	c_{ef}	=	1000.0 psf
Deformation modulus :	E_{def}	=	8000.0 psi
Poisson's ratio :	ν	=	0.28
Saturated unit weight :	γ_{sat}	=	118.0 pcf

Siltstone

Unit weight :	γ	=	130.0 pcf
Angle of internal friction :	φ_{ef}	=	21.00 °
Cohesion of soil :	c_{ef}	=	2500.0 psf
Deformation modulus :	E_{def}	=	2000.0 psi
Poisson's ratio :	ν	=	0.13
Saturated unit weight :	γ_{sat}	=	132.0 pcf

Construction

Pile diameter d = 0.80 ft
Cap overlap o = 1.00 ft

Coordinates of piles

No.	x [ft]	y [ft]
1	-1.50	0.00
2	1.50	0.00
3	0.00	1.00

Cross-section : circular tube 9.6
Diameter = 9.60 in
Web thickness = 0.60 in

Geometry

Thickness of pile cap	t	=	2.00	ft
Length of piles	l	=	40.00	ft
Diameter of root	d_r	=	0.80	ft
Root length	l_r	=	25.00	ft
Resistance of foundation soil	R	=	2000.0	psf

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

Concrete : Concrete ACI

Compressive strength	f_c'	=	3000.0	psi
Elasticity modulus	E_{cm}	=	3122.0	ksi
Shear modulus	G	=	1311.2	ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y	=	80000.0	psi
Ultimate tensile strength	f_u	=	100000.0	psi
Elasticity modulus	E	=	29000.0	ksi
Shear modulus	G	=	11500.0	ksi

Horizontal modulus of subsoil reaction

Depth [ft]	k_h [pci]
0.00	0.00
20.00	26.67
25.00	26.67
30.00	26.67
40.00	26.67

Determination of vertical springs

Shear modulus of subsoil reaction

Depth [ft]	k_v [pci]
0.00	0.00
20.00	26.67
25.00	26.67
30.00	26.67
40.00	26.67

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	9.00	0.00 .. 9.00	Sandy silt (MS), firm consistency	
2	11.00	9.00 .. 20.00	Sandstone	
3	20.00	20.00 .. 40.00	Siltstone	
4	-	40.00 .. ∞	Siltstone	

Load

No.	Load new	Load change	Name	Type	N [lbf]	M_x [lbfft]	M_y [lbfft]	H_x [lbf]	H_y [lbf]	M_z [lbfft]
1	Yes		Load No. 1	Design	51000.00	0.0	0.0	0.00	53000.00	0.0
2	Yes		Load No. 1 - service	Service	36428.57	0.0	0.0	0.00	37857.14	0.0

Global settings

Analysis type : spring method - micropiles
Type of pile : floating piles - input the stiffness of springs
Connection piles / pile cap : fixed
Modulus of reaction : input by distribution

Analysis results

Maximum internal forces (all load cases)

Maximum compressive force = -89065.13 lbf
Maximum tensile force = 33268.45 lbf
Max. bending moment = 36164.2 lbfft
Max. shear force = 4588.81 lbf

Maximum displacements (only service load cases)

Max. settlement = 0.19 in
Maximum horizontal displacement of pile cap = 1.06 in
Max. rotation of pile cap = 4.5E-01 °

Analysis of micropile

Input data

Settings

USA - Safety factor

Materials and standards

Concrete structures : ACI 318-11
Steel structures : EN 1993-1-1 (EC3)
Partial factor on bearing capacity of steel cross section : γ_{M0} = 1.00

Micropiles

Verification of section : geometric method (Euler)
Verification of root : Lizzi theory
Verification methodology : Safety factors (ASD)

Safety factors			
Permanent design situation			
Safety factor for critical force :	SF_f =	1.50	[–]
Safety factor for section resistance :	SF_s =	1.50	[–]
Safety factor for root bearing capacity :	SF_r =	2.00	[–]

Soil parameters

Sandy silt (MS), firm consistency

Unit weight :	γ	=	115.0 pcf
Angle of internal friction :	φ_{ef}	=	26.50 °
Cohesion of soil :	c_{ef}	=	240.0 psf
Saturated unit weight :	γ_{sat}	=	115.0 pcf

Sandstone

Unit weight :	γ	=	118.0 pcf
Angle of internal friction :	φ_{ef}	=	30.00 °
Cohesion of soil :	c_{ef}	=	1000.0 psf
Saturated unit weight :	γ_{sat}	=	118.0 pcf

Siltstone

Unit weight :	γ	=	130.0 pcf
Angle of internal friction :	φ_{ef}	=	21.00 °
Cohesion of soil :	c_{ef}	=	2500.0 psf
Saturated unit weight :	γ_{sat}	=	132.0 pcf

Geometry

Diameter = 9.60 in
Wall thickness = 0.60 in

Free length of pile	l	= 15.00	ft
Root length	l_r	= 25.00	ft
Diameter of root	d_r	= 0.80	ft
Pile inclination from vertical	α	= 30.00	°
Pile head offset	l_a	= 0.00	ft

Material of structure

Unit weight γ = 150.00 pcf
Analysis of concrete structures carried out according to the standard ACI 318-11.

Concrete : Concrete ACI

Compressive strength	f_c'	= 3000.0	psi
Elasticity modulus	E_{cm}	= 3122.0	ksi

Structural steel: N80 Steel Casing (user defined)

Yield strength	f_y	= 80000.0	psi
Elasticity modulus	E	= 29000.0	ksi

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	7.00	0.00 .. 7.00	Sandy silt (MS), firm consistency	
2	11.00	7.00 .. 18.00	Sandstone	
3	20.00	18.00 .. 38.00	Siltstone	
4	-	38.00 .. ∞	Siltstone	

Load

No.	Load new	Load change	Name	Force N [lbf]	Moment M [lbfft]
1	Yes		LC 1	89065.13	36164.2
2	Yes		LC 2	-33268.45	36164.2

Verification No. 1

Cross-section verification 1

Analysis carried out with an automatic selection of the most unfavorable load cases.

Internal stability check: geometric method (Euler)
calculation of section effective length - bearing (hinged-hinged).

Modulus of subsoil reaction E_p = 40.00 pci
Calculate number of halfwaves n = 1.69
Effective length l_{cr} = 11.20 ft

Critical normal force N_{cr} = 3149674.66 lbf
Maximal normal force N_{max} = 89065.13 lbf

Safety factor = 35.36 > 1.50
Internal stability of micropile section is SATISFACTORY

Verification of coupled section bearing capacity:
The maximum utilization of the cross-section is for the load case No. 1

Area of ideal cross-section A_i = 2.29E+01 in^2
Moment of inertia of ideal cross-section J_i = 1.99E+02 in^4
Beam slenderness λ = 45.648
Buckling coefficient κ = 0.759
Location of neutral axis = -3.03 in

Stress in steel = 11858.7 psi
Design strength of steel = 80000.0 psi

Safety factor = 6.75 > 1.50
Coupled section of micropile is SATISFACTORY

Verification No. 1

Root verification

Calculation method - Lizzi theory.
Coefficient of root diameter influence = 0.81
Average limit skin friction q_{sav} = 4000.0 psf

Verification of compressive micropile
Shaft resistance R_s = 202610.11 lbf

Maximal normal force N_{max} = 89065.13 lbf

Safety factor = 2.27 > 2.00
Bearing capacity of compressive micropile is SATISFACTORY

Verification of tensile micropile
Shaft resistance R_s = 202610.11 lbf

Maximum tensile force N_{max} = 33268.45 lbf

Safety factor = 6.09 > 2.00
Bearing capacity of tensile micropile is SATISFACTORY

Vertical bearing capacity of micropile is SATISFACTORY

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SECTION 01-1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: 19.48.1 - Beaver Hill Pit Roof Structure REBID

B. Owner's Name: Coos County

C. Architect's Name: HGE Architects, Inc.

D. The Project consists of the construction of an approximately 19,800 square foot pre-engineered metal building structure open on all sides with large overhangs. The structure free spans a large solid waste dump pit at the Coos County Beaver Hill Transfer site. Work also includes:
   1. Site Work including existing building demolition, concrete paving and site restoration as required.
   2. Refer to specifications within this Project Manual and the Drawings for complete description of the Work.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price..

1.03 WORK BY OWNER.

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Substantial Completion. Some items include:
   1. Small equipment.
   2. Temporary set up of dump area during construction.

1.04 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the site during the entire construction period and Contractor to accomodate Owner operations during the entire construction period. This includes Owner and Owner customers access to various dump areas in the site. The Owner will move dump location from Building Site/Pit area for a partial period only.

B. Coos County Beaver Hill Solid Waste Disposal Transfer Station is closed Sunday and Monday, year round.

C. Dump pit will be accessed by the Owner and the Owner's patrons during construction to the greatest extent possible. It is understood that the site will be inaccessible during the actual erection of the structure, however the site shall be made accessible to the Owner other times as follows:
   1. To minimize impact to Owner operations, Contractor may not occupy any portion of the site until the building/structure package is on site, or a confirmed delivery date is established. This is to avoid any downtime or delay to the overall construction period.
   2. Contractor to occupy and work on north or south side only at one time, allowing the Owner to occupy the opposite side and dump debris into the pit. When the north or south side is completed, and the concrete is cured to strength, then the Contractor may shift to the remaining side.

D. Site is a DEQ regulated operation and DEQ approval of the project is required. Owner will submit and obtain DEQ permiting. The existing Pit Roof Structure shall remain in place during all subgrade and grade work construction. This includes excavation, foundation work, and slab work. This will provide protection of the debris during construction.
   1. Contractor shall provide schedule for commencing demolition of the existing building to allow Owner to notify DEQ of operations, and move to a temporary dump site.
   2. Contractor shall understand time is of the essence to provide a Sustantially Complete structure to allow the Owner to move back to the Pit dump area as soon as possible.

E. Owner intends to occupy the Project upon Substantial Completion.

F. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

G. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:
   1. Work by Others.
   2. Work by Owner.

C. Provide access to and from site as required by law and by Owner:
   1. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours of 7 am to 7 pm.

E. Utility Outages and Shutdown:
   1. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01-2300
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

1.02 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

1.03 SCHEDULE OF ALTERNATES

A. Alternate No. 1 - Rain Drain Piping:
   1. Base Bid Item: Precast concrete splash blocks.
   2. Alternate Item: Install rain drain piping to two existing catch basins as shown on Site Plan Drawing. Connect roof gutter downspouts to drain system with cleanouts per Site Plan.

B. Alternate No. 2 - Guard Rail:
   1. Base Bid Item: Typical fence posts, fence panel, hardware, and accessories as noted in Drawings.
   2. Alternate Item: Fabricated hot dipped galvanized steel guard rail. Refer to Drawings.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01-3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Progress meetings.

C. Construction progress schedule.

D. Submittals for review, information, and project closeout.

E. Number of copies of submittals.

F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01-7000 - Execution and Closeout Requirements: Additional coordination requirements.

B. Section 01-7800 - Closeout Submittals: Project record documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. General Contractor, contractor's superintendent(s) and major subcontractors.

C. Agenda:
   1. Distribution of Contract Documents.
   2. Designation of personnel representing the parties to Contract, Owner, Contractor,, and Architect .
   3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   4. Scheduling. Contractor to present and review schedule.
   5. Submittals. Contractor shall present and review submittal log and schedule.

D. Record minutes and distribute copies within three days after meeting to participants, with emailed electronic 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 at maximum two-week intervals.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

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. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

E. Record minutes and distribute copies within three days after meeting to participants, with emailed electronic copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 01-3216

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. Submit updated schedule at each construction progress meeting.

3.04 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 for review for the limited purpose of checking for compliance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed 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.

3.05 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01-7800 - Closeout Submittals:
1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.06 SUBMITTAL PROCEDURES

A. General Requirements:

B. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

C. Transmit each submittal with a copy of approved submittal form.

D. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

F. 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.

G. Schedule submittals to expedite the Project, and coordinate submission of related items.

H. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

J. Provide space for Contractor and Architect review stamps.

K. When revised for resubmission, identify all changes made since previous submission.

L. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

M. Submittals not requested will not be recognized or processed.

END OF SECTION

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SECTION 01-4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. References and standards.

B. Control of installation.

C. Testing and inspection agencies and services.

D. Control of installation.

E. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; 2014a.

1.03 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
a. To provide access to Work to be tested/inspected.
b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
c. To facilitate tests/inspections.
d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 01-5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary telecommunications services.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers, enclosures, and fencing.

D. Security requirements.

E. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Water supply, consisting of connection point for Contractor.

B. Provide and pay for all electrical power, lighting, heating and cooling, and ventilation required for construction purposes.

1.03 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Internet Connections: Minimum of one; DSL modem or faster.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

1.05 BARRIERS

A. 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.

1.06 WASTE REMOVAL

A. See Section 01-7419 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from 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.

1.07 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet from existing and new structures.

1.08 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of 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 01-6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01-7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made outside the United States, its territories, Canada, or Mexico.
   2. Made using or containing CFC's or HCFC's.
   3. Made of wood from newly cut old growth timber.

C. Where other criteria are met, Contractor shall give preference to products that:
   1. Are extracted, harvested, and/or manufactured closer to the location of the project.
   2. Have longer documented life span under normal use.
   3. Result in less construction waste. See Section 01-7419
   4. Are made of vegetable materials that are rapidly renewable.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

B. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

C. Substitution Submittal Procedure (after contract award):
   1. Submit one copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01-7419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

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SECTION 01-7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Surveying for laying out the work.

C. Cleaning and protection.

D. Starting of systems and equipment.

E. Demonstration and instruction of Owner personnel.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01-1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01-3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01-4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01-5000 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01-5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.

F. Section 01-7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

1.04 QUALIFICATIONS

A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

E. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

F. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Contractor shall locate and protect survey control and reference points.

D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

G. Utilize recognized engineering survey practices.

H. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.

I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

J. Periodically verify layouts by same means.

K. Maintain a complete and accurate log of control and survey work as it progresses.

3.03 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing.

D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07-8400, to full thickness of the penetrated element.

I. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.05 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.06 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Prohibit traffic from landscaped areas.

H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.07 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect and Owner seven days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.08 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.09 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

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SECTION 01-7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. 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: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood.
   5. Land clearing debris, including brush, branches, logs, and stumps; see Section 31-1000 - Site Clearing for use options.
   6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   7. Carpet, carpet cushion, carpet tile, and carpet remnants, both new and removed: DuPont (http://flooring.dupont.com) and Interface (www.interfaceinc.com) conduct reclamation programs.

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: 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.

1.02 RELATED REQUIREMENTS

A. Section 01-5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

B. Section 01-6000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

C. Section 01-7000 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01-6000 for waste prevention requirements related to delivery, storage, and handling.

B. See Section 01-7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings particularly at:
   1. Preconstruction meeting.
   2. Regular job-site meetings.
   3. Job safety meetings.

E. 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. As a minimum, provide:
      a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
      b. Separate dumpsters for each category of recyclable.
      c. Recycling bins at worker lunch area.

2. Provide containers as required.
3. Provide adequate space for pick-up and delivery and convenience to subcontractors.
4. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. 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.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

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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.

D. Evidence of Payments and Release of Liens.

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. Section 01-7000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. 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 one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets 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.

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. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.
   3. Contractor to submit clean set of Drawings, transfering all changes that occurred during construction from the working job set of Drawings to a clean set of Drawings. Submit to Architect for review and approval.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: 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.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

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. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. 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.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

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

D. Prepare data in the form of an instructional manual.

E. 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.

F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

L. 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 Date of Substantial completion is determined.

1. General Warranties:

a. Provide one-year warranty as described in the General Conditions, Article 3.5. Warranty period shall commence on the date of the fully executed Certificate of Substantial Completion.

b. Weather-tight warranty: The Contractor shall, and hereby does, warranty flashings, roofing, and all other work which is a component part of the roofing to be weather-tight under ordinary wear and usage for a period of two years from and after Substaintial Completion of the building. This is an extension of the general one year warranty described above. Further, the Contractor shall warranty that it will make good without delay all defects of labor and materials without additional cost to the Owner.

2. Additional Warranties: See individual technical specification sections for written warranties for specific projects of work.
3. Warranty period shall begin upon Substantial Completion, or if a Certificate of Substantial Completion is not issued or if Work which is to be covered by warranty is not then complete, Warranty Period shall begin upon the date of Final Acceptance or on the date appearing on the final Certificate for Payment to the Contractor, whichever is earlier.

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. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

3.07 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

A. Submit with Final Application for Payment the following:
1. Contractor's Affidavit of Payment of Debts and Claims: AIA G706.
2. Contractor's Affidavit of Release of Liens: AIA G706A, with
a. Consent of Surety to Final Payment (AIA G707) with accompanying Power of Attorney.
b. Contractor's release or waivers of liens.
c. Separate releases or waivers of liens for subcontractors, suppliers, and others with lien rights against property of Owner.

END OF SECTION

SECTION 02-4100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition .

B. Selective demolition of built site elements.

1.02 RELATED REQUIREMENTS

A. Section 01-1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01-1000 - Summary: Sequencing and staging requirements.

C. Section 01-1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

D. Section 01-5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

E. Section 01-6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

F. Section 01-7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

G. Section 31-2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

PART 2 PRODUCTS

2.01 MATERIALS

A. No items.

B. Fill Material: As specified in Section 31-2323 - Fill.

PART 3 EXECUTION

3.01 SCOPE

A. Remove entire building, in portions of existing building in the following sequence:
   1. Remove building structure only after all foundation and concrete slab work is complete. This will allow minimum exposure of dump pit refugesolid waste to the rain.
   2. Demo site paving only one side at at time. Refer to Drawings for additional notes and requirements. This will allow continual patron access to dump pit to the maximum extent.
   3. It is understood that the dump pit area will be closed off to patron access during actual building demolition.

B. Remove paving and curbs as required to accomplish new work.

C. Remove concrete slabs on grade within site boundaries.

D. Remove other items indicated, for salvage and recycling.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Do not close or obstruct roadways or sidewalks without permit.

6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.

D. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site. Debris, junk, and trash may be deposited on site, per Owner direction.

B. Building demolition materials may be deposited on site, per Owner direction.

C. Concrete demolition material to be crushd, 12" max size, and may be deposited on site, per Owner direction.

D. Leave site in clean condition, ready for subsequent work.

E. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03-2000
CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Reinforcing steel for cast-in-place concrete.

B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

A. Section 03-3000 - Cast-in-Place Concrete.

B. Testing Agency Requirements.

1.03 REFERENCE STANDARDS

A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2010.

B. ACI 318 - Building Code Requirements For Structural Concrete and Commentary; American Concrete Institute International; 2008.

C. ACI SP-66 - ACI Detailing Manual; American Concrete Institute International; 2004.

D. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2007.

E. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.

F. CRSI (DA4) - Manual of Standard Practice; Concrete Reinforcing Steel Institute; 2001.

1.04 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.

C. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301.

PART 2 PRODUCTS

2.01 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M Grade 60 (420).
   1. Deformed billet-steel bars.
   2. Unfinished.

B. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gage.
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.02 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.

B. Welding of reinforcement is not permitted.

C. Locate reinforcing splices not indicated on drawings at point of minimum stress.

PART 3 EXECUTION

3.01 PLACEMENT

A. Place, support and secure reinforcement against displacement. Do not deviate from required position.

B. Do not displace or damage vapor barrier.

C. Accommodate placement of formed openings.

D. Maintain concrete cover around reinforcing as follows:
   1. Supported Slabs and Joists: 3/4 inch, not exposed to ground or weather.
   2. Walls (exposed to weather or backfill): 2 inch.
   3. Footings and Concrete Formed Against Earth: 3 inch.
   4. Slabs on Fill: 3 inch.

E. Conform to applicable code for concrete cover over reinforcement.

END OF SECTION

SECTION 03-3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Floors and slabs on grade.

C. Concrete foundation walls.

D. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

B. Section 03-2000 - Concrete Reinforcing.

1.03 REFERENCE STANDARDS

A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

C. ACI 301 - Specifications for Structural Concrete; 2016.

D. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.

E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

F. ACI 306R - Guide to Cold Weather Concreting; 2016.

G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2018).

H. ACI 347R - Guide to Formwork for Concrete; 2014.

I. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2012.

J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016, with Editorial Revision (2016).

K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2018.

L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2017a.

M. ASTM C150/C150M - Standard Specification for Portland Cement; 2018.

N. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.

O. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2016.

P. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).

Q. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2017.

R. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.

1.04 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Test Reports: Submit report for each test or series of tests specified.

D. Sustainable Design Submittal: If any fly ash, ground granulated blast furnace slag, silica fume, rice hull ash, or other waste material is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

B. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface. Fill all voids after cones have been removed.

2.02 REINFORCEMENT MATERIALS

A. Comply with requirements of Section 03-2000.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

C. Fly Ash: ASTM C618, Class C or F.

D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C260/C260M.

2.05 ACCESSORY MATERIALS

2.06 CURING MATERIALS

A. Moisture-Retaining Sheet: ASTM C171.
   1. Curing paper, regular.

B. Water: Potable, not detrimental to concrete.

2.07 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
   1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

C. Normal Weight Concrete:
   1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,000 psi, unless drawings indicate otherwise. Concrete should be a minimum of a 6-sack mix.
   2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.
   3. Water-Cement Ratio: Maximum 40 percent by weight.
   4. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.

5. Maximum Slump: 4 inches.
6. Maximum Aggregate Size: 3/4 inch.

2.08 MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Notify Architect and Owner's Independant Testing Agency not less than 24 hours prior to commencement of placement operations.

C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

3.04 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/8 inch or more in height. Provide finish as follows:
   1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.05 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

D. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.
      a. Moisture-Retaining Sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges.

3.06 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01-4000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

3.07 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.08 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 05-5000
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

1.02 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2018.

C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

D. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.

E. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.

F. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions; 2015a.

G. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.

H. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).

I. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

1.03 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Plates: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, hot-dip galvanized finish.

E. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

F. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

H. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

A. Steel truss plates for heavy timber exposed trusses.

B. Posts and Handrails

C. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.

2.04 FINISHES - STEEL

A. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements.
   1. Required at all steel fabricated items except as noted above for interior handrails.

B. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A 123/A 123M requirements. All exterior fabricated steel.

2.05 FABRICATION TOLERANCES

A. Squareness: 1/8 inch maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch.

C. Maximum Misalignment of Adjacent Members: 1/16 inch.

D. Maximum Bow: 1/8 inch in 48 inches.

E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 PREPARATION

A. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.02 INSTALLATION

3.03 TOLERANCES

A. Maximum Offset From True Alignment: 1/4 inch.

B. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 07-9005
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

1.02 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2010.

B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2011.

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2010.

D. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov. <http://www.aqmd.gov/>

E. ASTM C 1521 Standard Practice for Evaluating Adhesion of Installed Weatherproofing Joint Sealants.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with other sections referencing this section.

1.04 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

1.05 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

PART 2 PRODUCTS

2.01 SEALANTS

A. Type 1 - General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
   1. Color: color as selected.
   2. Product: Sonolastic NP-1 manufactured by BASF.
   3. Applications: Use for:
      a. Control, expansion, and soft joints in masonry.
      b. Joints between concrete and other materials.
      c. Joints between metal frames and other materials.
      d. Joints at wood siding and trim as indicated.
      e. Other exterior joints for which no other sealant is indicated.
   4. Test Data:
      a. Movement capability, % - +100 to -50.
      b. Tensile strength - 250 psi.
      c. Ultimate elongation at break, % - 1000.
      d. Hardness, Shore A - passes 25 - 30.

2.02 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
   1. Width/depth ratio of 2:1.
   2. Neck dimension no greater than 1/3 of the joint width.
   3. Surface bond area on each side not less than 75 percent of joint width.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured.

3.06 SCHEDULE

A. Exterior Joints for Which No Other Sealant Type is Indicated: Type 1.

END OF SECTION

SECTION 13-3419
METAL BUILDING SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufacturer-engineered, shop-fabricated structural steel building frame, galvanized.

B. Metal wall and roof panels including gutters and downspouts.

C. Refer to Drawings for building shape, roof slope, roof configuration. Metal Building System manufacture/engineer shall follow general configuration of building design. Slab and foundation to be constructed as shown in Drawings.

1.02 REFERENCE STANDARDS

A. ANSI/AISC 341-16 - AISC Seismic Provisions for Structural Steel Buildings.

B. AISC 360 - Specification for Structural Steel Buildings; 2016.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

D. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

E. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.

F. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.

G. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2014.

H. ASTM A529/A529M - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality; 2014.

I. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

J. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2010 (Reapproved 2015).

K. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2011 (Reapproved 2015).

L. ASTM C991 - Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings; 2016.

M. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2014.

N. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

O. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.

P. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.

Q. MBMA (MBSM) - Metal Building Systems Manual; 2012.

R. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

S. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

1.03 DESIGN REQUIREMENTS

A. Design members to withstand dead load, applicable snow load, and design loads due to pressure and suction of wind calculated in accordance with 2022 Oregon Structural Specialty code.

B. Members to withstand the following building system live and dead loads:
   1. Roof snow load of 25 psf
   2. Collateral load (HVAC, Fire Sprinkler System, Lighting, etc.) of 2 psf
   3. Seismic Site Classification (Table 20.3-1 ASCE) = Site Class D.
   4. All loads shall be proportioned and applied in accordance with the 2019 edition of the Oregon Structural Specialty Code (OSSC) and ASCE Standard 7.
   5. Ultimate Design Wind Speed = 135 mph (3-second gust). Exposure B.
   6. Wind Surface Roughness = C.
   7. Wind Importance = 1.00.
   8. Seismic Importance = 1.00.

C. Deflections shall be limited as follows:
   1. Primary Framing:
      a. H/360 for wind loads.
      b. 0.02* H or H/50 for seismic loads.
      c. L/240 for roof snow load and dead load.
      d. L/360 for roof snow load.
      e. Camber frame rafters for dead load + collateral dead load.
   2. Secondary Framing:
      a. Roof Framing for Gravity Load:
         1) L/240 for dead load + roof snow load; but not less than that required to maintain positive drainage for the greater of dead load + 1/2 roof snow load or dead load + 5 PSF.
   3. Sheeting: L/360 for roof snow load.
      a. Where L is the span of the element between support points, and H is the eave height of the building.

D. Assembly to permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to temperature range of 60 degrees F.

E. Site Conditions: The following site features and adjacent structures must be considered in the design. The top of building is approximately 20 feet above surrounding terrain.

F. Roof drainage system to withstand rainfall intensity of 2 inches per hour with 5 minute duration.

G. Size and fabricate wall and roof systems free of distortion or defects detrimental to appearance or performance.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01-3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on profiles, component dimensions, fasteners.

C. Shop Drawings: Indicate assembly dimensions, locations of structural members, connections; wall and roof system dimensions, panel layout, general construction details, anchorages and method of anchorage, installation ; framing anchor bolt settings, sizes, and locations from datum, foundation loads; indicate welded connections with AWS A2.4 welding symbols; indicate net weld lengths; provide professional seal and signature.

D. Samples: Submit two samples of precoated metal panels for each color selected, 12 by 12 inch in size illustrating color and texture of finish.

E. Submit shop drawings stamped by a professional engineer registered in the state of Oregon showing plan view layout of all members, anchor bolt placement plan, and connection details for all framing members.

F. Submit structural calculations stamped by a professional engineer registered in the state of Oregon showing design loads and calculations for all components of the building including a summary of column reactions for all load combinations.

G. Erection Drawings: Indicate members by label, assembly sequence, and temporary erection bracing.

H. Project Record Documents: Record actual locations of concealed components and utilities.

1.06 QUALITY ASSURANCE

A. Design structural components, develop shop drawings, and perform shop work under direct supervision of a Professional Structural Engineer experienced in design of this Work.
   1. Design Engineer Qualifications: Licensed in the State in which the Project is located.
   2. Conform to applicable code for submission of design calculations as required for acquiring permits.
   3. Cooperate with regulatory agency or authority and provide data as requested.

B. Perform work in accordance with AISC 360, MBMA (MBSM), and AISC 341.

C. Perform welding in accordance with AWS D1.1/D1.1M.

D. Manufacturer Qualifications: Company specializing in the manufacture of products similar to those required for this project.
   1. Not less than 5years of documented experience.
   2. Member of MBMA (Metal Building Manufacturers Association) and ICC (International Code Council). Accredited under the International Accreditation Service, "Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems (AC472)", and testing per FM Global.

E. All nomenclature shall conform to the MBMA Metal Building Systems Manual.

F. Coordination and administration of the work shall be in accordance with the MBMA Metal Building Systems Manual - Common Industry Practices. Fabricate structural steel members in accordance with MBMA Low Rise Building Systems Manual, and, for items not covered, AISC - Specification for Structural Steel for Buildings.

G. Erector Qualifications: Company specializing in performing the work of this section with minimum 5 years experience.

1.07 INSURANCE REQUIREMENTS

A. Building manufacturer's Professional Structural Engineer shall submit certificate of insurance, or evidence of insurance for errors and omissions insurance with the following coverages:
   1. Single occurences: $1,000,000.
   2. Aggregate: $2,000,000.

B. Building manufacturer shall also provide proof of general liability insurance, with Coos County named as additional insured. Refer to Supplemental Conditions - Section 00-7300 for coverage requirements.

1.08 WARRANTY

A. See Section 01-7800 - Closeout Submittals, for additional warranty requirements.

B. A manufacturer's representative is required to inspect the installation periodically and prior to substantial completion.

C. Correct defective Work within a one and two year period after Date of Substantial Completion, general workmanship and weathertightness respectively.

D. Siding Panels Finish Warranty: Furnish the siding panel manufacturer's written warranty, covering failure of the factory-applied exterior finish on metal wall and roof panels within the warranty period.

E. Provide manufacturer's written no dollar limit (NDL) weather tightness and condensation warranty for a minimum of twenty-five (25) years against leaks in roof panel system and condensation arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions in Coos County, Oregon.

F. It is the manufacturers' sole responsibility to warrant against any labor or materials deficiencies.

G. The warranty shall be signed by both the metal roof system manufacturer and the metal roof system contractor.

H. Paint System
   1. Provide manufacturer's standard written paint film warranty for thirty five (35) years on finish film integrity and color retention.
   2. The finish shall not crack, check, peel, flake, or blister, or chalk in excess of ASTM D659, number 8 rating, or fade in excess of 5 units per ASTM D2244, under normal atmospheric conditions in Coos County, Oregon.
   3. The warranty shall be signed by the metal roof system manufacturer.

I. All warranties shall commence after the date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Buildings:

B. Approved Manufacturer and Basis of Design: Butler Manufacturing Company[<>]: www.butlermfg.com/speclink.

C. Other approved manufactures:
   1. Metallic Building Company: www.metallic.com.
   2. VP Buildings; (Varco Pruden): www.vp.com.
   3. Behlen Building Systems.
   4. Rigid Global Buildings.
   5. Metallion Industries Metal Siding/Roofing Mechanically Seamed Panels, MI200.
   6. Butler Sunlite Strip Daylighting System.
   7. Web Steel Buildings Northwest.
   8. Nucor Building Systems.
   9. Pacific Building Systems.
   10. Substitutions: See Section 01-6000 - Product Requirements.

2.02 METAL BUILDING

A. Single span rigid frame.

B. Bay Spacing: varies ft .

C. Primary Framing: Rigid frame of rafter beams and columns, portal frames, and wind bracing.

D. Secondary Framing: Purlins, Girts, Eave struts, Flange bracing, Sill supports, and Clips, and other items detailed.

E. Wall System: Preformed metal panels of vertical profile, with sub-girt framing/anchorage assembly, and accessory components.

F. Roof System - Base Bid: Preformed metal panels oriented parallel to slope, with sub-girt framing/anchorage assembly, and accessory components.

G. Roof Slope: 1 inches in 12 inches, typical.

2.03 PERFORMANCE REQUIREMENTS

A. Design structural members to withstand dead load, applicable snow load, and design loads due to pressure and suction of wind calculated in accordance with Oregon State Structural Specialty Code (OSSC) 2019 code.

B. Design structural members to withstand Class 30 wind uplift in accordance with UL 580.

C. Exterior wall and roof system shall withstand imposed loads with maximum allowable deflection of L/240 of span.

D. Size and fabricate wall and roof systems free of distortion or defects detrimental to appearance or performance.

2.04 MATERIALS - FRAMING

A. Structural Steel Members: ASTM A36/A36M, galvanized.

B. Plate or Bar Stock: ASTM A529/A529M, Grade 50, galvanized.

C. Anchor Bolts: ASTM A307, galvanized to ASTM A153/A153M.

D. Bolts, Nuts, and Washers: ASTM A325 or ASTM A325M Type 1 galvanized to ASTM A153/A153M Class C.

E. Welding Materials: Type required for materials being welded.

F. Grout: ASTM C1107/C1107M Non-shrink type, premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents, capable of developing minimum compressive strength of 2400 psi in two days and 7000 psi in 28 days.

2.05 MATERIALS - WALLS AND ROOF

A. Sheet Steel Stock: Pre-finished, galvanized ASTM A653, structural quality, 1 with a G90 coating.

B. Steel Sheet: ASTM A792/A792M aluminum-zinc alloy coated to AZ50/AZM150.

C. Roof System:
   1. Standing Seam; standing seam panels with system of interlocking panels and "screw top" type attachment.
   2. 24 ga., G90 galv., 24" width coverage, with 3" high ribs, and minor corrugations at 6" oc., panel lengths maximum possible to minimize end laps.
   3. See below for Finish requirements. Manufacturers standard primer or "galvalum" finish on interior side of panel.
   4. Roof panel mounting clip; two part assembly, 16 ga. galvanized steel clip base with 24 ga stainless steel sliding clip tab. Base shall be pre-drilled for mounting to roof structural members. Sliding clip tab shall be designed to lock into roof panel lock seam.
   5. Panel Sidelap; Panels shall provide full double lock seam with factory applied mastic in female portion of panel.
   6. Panel Endlap; Endlaps shall be sealed with tape-mastic and non-skinning butyl caulk. Endlaps shall occur over secondary structural members. Seams shall be staggered.
   7. Maximum lengths practical, min single length at 30' and under.
   8. See below for Finish requirements. Manufacturers standard primer or "galvalum" finish on interior side of panel.

D. Roof Panel Finish: Fluoropolymer Coil Coating System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, and at least 80 percent of coil coated aluminum surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss as selected by Architect from manufacturer’s standard line.

E. Joint Seal Gaskets: Manufacturer's standard type.

F. Fasteners: Manufacturer's standard type, galvanized to comply with requirements of ASTM A153/A153M, finish to match adjacent surfaces when exterior exposed.

G. Trim, Closure Pieces, Caps, Flashings, Gutters, Downspouts, Rain Water Diverter, Fascias, and Infills: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

2.06 ACCESSORY COMPONENTS

A. Concrete: Specified in Section 03-3000.

B. Division 31 - Earthwork, Excavation and Fill for building slab and foundation.

2.07 FABRICATION - FRAMING

A. Fabricate members in accordance with AISC 360 for plate, bar, tube, or rolled structural shapes.

B. Anchor Bolts: Formed with bent shank, assembled with template for casting into concrete.

2.08 FABRICATION - GUTTERS AND DOWNSPOUTS

A. Fabricate of same material and finish as roofing metal.

B. Form gutters and downspouts of standard profile and size indicated to collect and remove water. Fabricate with connection pieces.

C. Form sections in maximum possible lengths. Hem exposed edges. Allow for expansion at joints.

D. Fabricate support straps of same material and finish as roofing metal, color as selected.

2.09 MISCELLANEOUS MATERIALS

A. Trim, Closure Pieces, Caps, Flashings, Rain Water Diverter: Same material, thickness and finish as exterior sheets; brake formed to required profiles, finish to match panel.

2.10 FINISHES

A. Framing Members: Clean, prepare, and galvanize to ASTM A1.

B. Secondary Framing Members: Clean, prepare, and galvanize to ASTM G90. Do not prime surfaces to be field welded.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that foundation, floor slab, mechanical and electrical utilities, and placed anchors are in correct position

3.02 ERECTION - FRAMING

A. Erect framing in accordance with AISC 360 - Specification for Structural Steel Buildings. Erect framing also in accordance with MBMA Low Rise Building Systems Manual, Common Industry Practices.

B. Provide for erection and wind loads. Provide temporary bracing to maintain structure plumb and in alignment until completion of erection and installation of permanent bracing. Locate braced bays as indicated.

C. The erector shall furnish temporary guys and bracing where needed for squaring, plumbing, and securing the structural framing against loads, such as wind loads acting on the exposed framing and seismic forces, as well as loads due to erection equipment and erection operation, but not including loads resulting from the performance of work by others. Bracing furnished by the manufacturer for the metal building system cannot be assumed to be adequate during erection. The temporary guys, braces, falseworks and cribbing are the property of the erector, and the erector shall remove them immediately upon completion of erection.

D. Set column base plates with non-shrink grout to achieve full plate bearing.

E. Do not field cut or alter structural members without approval of the metal building manufacturer.

F. After erection, prime welds, abrasions, and surfaces not shop primed.

3.03 ERECTION - WALL AND ROOF PANELS

A. Install in accordance with manufacturer's instructions.

B. Exercise care when cutting prefinished material to ensure cuttings do not remain on finish surface.

C. Fasten cladding system to structural supports, aligned level and plumb.

D. Locate end laps over supports. End laps minimum 2 inches. Place side laps over bearing.

E. Provide expansion joints where indicated.

F. Use concealed fasteners.

G. Install sealant and gaskets, providing weather tight installation.

3.04 ERECTION - GUTTERS AND DOWNSPOUTS

A. Rigidly support and secure components. Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts.

B. Slope gutters minimum 1/16 inch/ft.

C. Connect downspouts to storm sewer system.

3.05 TOLERANCES

A. Framing Members: 1/4 inch from level; 1/8 inch from plumb.

B. Roofing: 1/8 inch from true position.

C. All work shall be performed in a workmanlike manner.

D. Install Framing in accordance with MBMA Low Rise Building Systems Manual, Common Industry Practices.

END OF SECTION

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SECTION 26-0100
ELECTRICAL

PART 1 GENERAL

1.01 SECTION INCLUDES:

A. Furnish labor, supervision, permits, materials and equipment to complete the work required by the Contract Documents, including sectional overhead door operator motors.

B. All work shall conform to National Electric Code Standards, Oregon Electrical Specialty Code, Oregon Administrative Rules Chapter 437 and all Codes, rules, and regulations current or latest edition adopted by authorities having jurisdiction at time of permit.

C. Verify all Utility requirements. Coordinate power requirements with local service provider. Contractor to pay for all fees and hook up charges.

D. Contractor shall provide temporary power as required during the course of construction.

E. Provide all required conduits, junction boxes, wire, receptacles, etc., to provide fully operational power systems.

PART 2 PRODUCTS

2.01 BASIC MATERIALS

A. Provide conduit at all locations.

B. Provide junction boxes as required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work.

3.02 INSTALLATION - GENERAL

A. Perform work in accordance with manufacturer's instructions.

B. All work shall comply with Code.

C. Verify connection points in existing building with Owner prior to commencing work.

END OF SECTION

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SECTION 31-2200
GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Rough grading the site for site structures.

B. Finish grading.

1.02 RELATED REQUIREMENTS

A. Section 31-2323 - Fill: Filling and compaction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Other Fill Materials: See Section 31-2323.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

B. Verify the absence of standing or ponding water.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Stake and flag locations of known utilities.

C. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.

D. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, and paving, from damage by grading equipment and vehicular traffic.

3.03 ROUGH GRADING

A. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.

B. Do not remove wet subsoil , unless it is subsequently processed to obtain optimum moisture content.

C. When excavating through roots, perform work by hand and cut roots with sharp axe.

D. See Section 31-2323 for filling procedures.

E. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

F. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack surface water control.

3.04 SOIL REMOVAL

A. Stockpile excavated subsoil on site, as directed by Owner. Spread excess sub-soil on site as directed by Owner, in 8 inch lifts, compacted to 95%. Or remove excess from site.

B. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.

3.05 FINISH GRADING

A. Before Finish Grading:
   1. Verify building and trench backfilling have been inspected.
   2. Verify subgrade has been contoured and compacted.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.

C. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 3 inches.

3.06 REPAIR AND RESTORATION

A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.

3.07 FIELD QUALITY CONTROL

A. See Section 31-2323 for compaction density testing.

END OF SECTION

SECTION 31-2323
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Filling, backfilling, and compacting for curbs, footing subgrades, building volume below grade, footings, slabs-on-grade, paving, and site structures.

B. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.02 RELATED REQUIREMENTS

A. Geotechnical Investigation Report - StrataDesign, October 21, 2020.

B. Section 31-2200 - Grading: Site grading.

C. Section 03-3000 - Cast-in-Place Concrete.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2019.

B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012, with Editorial Revision (2015).

C. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2015, with Editorial Revision (2016).

D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 2012, with Editorial Revision (2015).

E. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.

F. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

G. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2017a.

1.05 SUBMITTALS

A. See Section 01 3000 - Shop Drawings, Product Data, Samples for submittal procedures.

B. Soil Samples: 10 pounds sample of each type of fill; submit in air-tight containers to testing laboratory.

C. Materials Sources: Submit name of imported materials source.

D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used, including manufactured fill.

E. Compaction Density Test Reports.

1.06 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where indicated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill- Fill Type Class A: Use native or common material excavated from within limits of the project, free from vegetation and other detrimental material and containing no frozen ground. Maximum particle size shall be 3 inches. Engineer will make approval prior to placement. Compact to at least 95 percent of the maximum dry density, as determined by ASTM D 698.

B. Granular Fill- Fill Type Class B: Use high quality, dense-grade, 1"-0 crushed rock, with less than 5 percent passing the U.S. Standard No. 200 sieve, compact to at least 98 percent of the maximum dry density, as determined by ASTM D698. Class B Granular Fill shall conform to Section 02630 of ODOT/APWA 2018 Oregon Standard Specifications for Construction.

C. Building Foundation "Select" Fill: ¾-inch minus, clean (i.e., less than 5% passing the #200 U.S. Sieve), well-graded, crushed gravel or rock.

D. Structural Fill: Use high quality, clean, dense-grade **1-1/2"-0** crushed rock conforming to Section 02630 of ODOT/APWA 2018 Oregon Standard Specifications for Construction. Compact to at least 95 percent of the maximum dry density, as determined by ASTM D1557.

E. Sand- Fill Type Class C: Clean sand; washed;free of silt, clay, loam, friable or soluble materials, and organic matter.
   1. Graded in accordance with ASTM C136/C136M; within the following limits:
      a. No. 200 sieve: Less than 5 percent passing.

F. Drainrock Fill - Fill Type Class D: Use granular permeable material; coarse, clean, free drain open graded 1 inch to 2 inch minus crushed rock containing no fines or round rock, less than 2 percent passing the #200 sieve.

G. Topsoil- Fill Type Class F: Friable loam, imported borrow.
   1. Graded.
   2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.

2.02 ACCESSORIES

A. Separation Geotextile Fabric: Non-biodegradable, non-woven, permeable stabilization fabric, 5 oz/yd weight minimum.
   1. Mean Average Roll Value (MARV) strength properties meeting the requirements of an AASHTO M 288-17 Class 2 geotextile.
   2. Flow Rate (ASTM D4491): 110 gpm/sf.
   3. Permittivity greater than 0.1 sec-1. The permittivity is required to reduce the risk of subgrade pumping during wet weather.
   4. Apparent opening size (AOS): 0.6 mm (max average roll value).
   5. Grab Strength (ASTM D 4632): 200 lbs minimum.
   6. Grab Elongation (ASTM D 4632): 50 percent.

B. Geotextile Filter Fabric: Same as above.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the Work are as indicated.

B. Identify required lines, levels, contours, and datum locations.

C. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

D. Verify structural ability of unsupported walls to support imposed loads by the fill.

E. Verify areas to be filled are not compromised with surface or ground water.

3.02 PREPARATION

A. Scarify, compact and proof roll subgrade surface to a depth of 6 inches to identify soft spots. Proof roll in the presence of the Architect. Do not place any fill in the building zone until proof rolling has been performed and observed by the Architect.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with Fill Type B or Structural Fill.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, place 4 inches of compacted granular structural backfill over footing subgrades to protect the footing subgrades from foot traffic and the elements. Maintain excavations and prevent loose soil from falling into excavation.

3.03 SEPARATION GEOTEXILE FABRIC

A. Place the Separation Geotextile over the approved subgrade prior to placing Select Fill. The geotextile should be laid smooth, without wrinkles or folds, in the direction of construction traffic. Overlap adjacent rolls a minimum of 2 feet. Pin fabric overlaps or place the Select Fill in a manner that will not separate the overlap during construction. Seams that have separated will require removal of the Select Fill to establish the required overlap.

3.04 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Employ a placement method that does not disturb or damage other work.

C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Granular Fill: Place and compact materials in equal continuous layers not exceeding 8 inches compacted depth.

F. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.

G. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

H. Correct areas that are over-excavated.
   1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 98 percent of maximum dry density.
   2. Other areas: Use Fill Type B, flush to required elevation, compacted to minimum 98 percent of maximum dry density.

I. Reshape and re-compact fills subjected to vehicular traffic.

J. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.05 FILL AT SPECIFIC LOCATIONS

A. Use **general granular Fill (Type B)** unless otherwise specified or indicated.

B. Structural Fill at Building pads:
   1. See note above regarding proof rolling preparation.
   2. Use Fill Type Building Foundation Select Fill.
   3. Fill up to subgrade elevations as noted per Drawings.
   4. Maximum depth per lift: 8 inches, compacted.
   5. **Minimum thickness: 12 inches under entire building pad, to underside of building slab.**
   6. Compact to minimum 95 percent of maximum dry density per ASTM D 698.

C. All Other Planting Areas :
   1. Use Fill Type Class F.
   2. Depth: 12 inches minimum or as noted on Drawings.
   3. Compact to 65 percent of maximum dry density.
   4. See Section 31-2200 for topsoil placement.

5. **Minimum thickness: 6 inches.**

3.06 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1/2 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1/4 inch from required elevations.

3.07 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Control, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.

C. When using the nuclear method of ASTM D6938, the gauge shall be field calibrated according to ASTM standards.

D. For general fill, Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor").

E. For "Structural Fill" evaluate results in relation to compaction curve determined in accordance with ASTM D1557 ("modified proctor").

F. If tests indicate work does not meet specified requirements, remove work, replace and retest.

G. Frequency of Tests: For structural fill, tests shall be taken each day of production.

3.08 CLEANING

A. See Section 01 7400 - Cleaning for construction waste management and disposal, for additional requirements.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

SECTION 32-3113
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Rigid fabric panel.

B. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 01-2300 - Alternates: Steel fabricated guardrail.

1.03 REFERENCE STANDARDS

A. ASTM F567 - Standard Practice for Installation of Chain-Link Fence; 2014a.

B. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures; 2018.

C. FS RR-F-191/1D - Fencing, Wire and Post Metal (Chain-Link Fence Fabric); 1990.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Chain Link Fences and Gates:
   1. Master-Halco, Inc: www.masterhalco.com/#sle.
   2. Prolink.
   3. Substitutions: See Section 01-6000 - Product Requirements.

2.02 COMPONENTS

A. Line Posts: 4 inch diameter.

B. Corner and Terminal Posts: 4.0 inch diameter.

C. Top and Brace Rail: 1-7/8 inch diameter, plain end, sleeve coupled.

D. Bottom Rail: 1- 7/8 inch diameter, plain end, sleeve coupled.

2.03 MATERIALS

A. Posts, Rails, and Frames: ASTM F1083 Schedule 40 hot-dipped galvanized steel pipe, welded construction, minimum yield strength of 30 ksi.

B. Line Posts: Type I round in accordance with FS RR-F-191/1D.

C. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round in accordance with FS RR-F-191/1D.

D. Wire Fabric: 6 ga. panel, 2 inch by 4 inch hot dipped galvanized:

2.04 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; hot dipped galvanized.

C. Privacy Slats: Vinyl strips, sized to fit fabric weave, color as selected. South property line fencing only.

2.05 FINISHES

A. Hardware: Hot-dip galvanized to weight required by ASTM A153/A153M.

B. Accessories: Same finish as framing.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that areas are clear of obstructions or debris.

3.02 INSTALLATION

A. Install framework, fabric, accessories in accordance with ASTM F567.

B. Place fabric on outside of posts and rails.

C. Set intermediate posts plumb with base plates as shown in Drawings.

D. Provide top rail through line post tops and splice with 6 inch long rail sleeves.

E. Do not stretch fabric until concrete foundation has cured 28 days.

F. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.

G. Weld fabric to top rail, line posts, braces.

3.03 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From True Position: 1 inch.

C. Do not infringe on adjacent property lines.

END OF SECTION