



Campus Standards

EASTERN OREGON UNIVERSITY

February 2013



EASTERN OREGON
UNIVERSITY

INTRODUCTION

The Campus Standards support EOU's policies related to the design and maintenance of facilities on campus. They complement the Campus Master Plan and standardize EOU's quality and maintenance expectations.

These Standards are intended to facilitate communication with Design Teams and set budget priorities. As such, they document equipment, materials, and building systems which EOU regularly utilizes and wishes to standardize; they are not exhaustively comprehensive given that standards are most effective when focused on items and systems that are common to most projects. There are a range of section types, some more technical and product specific in nature and others based on descriptions, intentions, and/or written around a "basis of design". Sections that do not impact aesthetics, performance, maintenance, or durability and fall under the guidance of general industry standards are not included, such as Cold Formed Metal Framing.

SUSTAINABILITY

Eastern Oregon University understands that public institutions have a unique opportunity to be leaders in the advancement and pioneering of sustainable practices. Additionally, many sustainable design decisions also bring economic rewards, such as reduced operational costs through energy and water efficiency and waste management programs. These Standards are intended to support the University's goals in achieving a campus that:

- Develops a vibrant economy and strong community
- Uses resources wisely
- Enhances economic self-reliance and human well-being
- Maintains and restores natural systems
- Preserves Oregon's economic, social, and environmental assets for future generations

These Standards also support the following sustainability policies developed during the EOU Master Plan:

- All major renovations and new construction will meet energy efficiency performance targets consistent with the President's Climate Commitment and the implementing Action Plan that will accompany that commitment.
- All new construction and major renovations by the University will be designed and constructed to meet a minimum of Gold rating under the U.S. Green Building Council's LEED® Rating System. The costs and benefits of certifying and/or pursuit of a higher level will also be evaluated.
- For projects serving the University but built and operated by private partners, the University will require the builder to meet the LEED® Silver minimum standard.
- The University will make a coordinated effort to reduce water consumption through the following means
 - Review of landscape irrigation practices, including exploration of drought-tolerant landscapes where appropriate
 - Use of low-flow fixtures and other emerging technologies that demonstrate significant water savings
 - Future building projects will assess the feasibility of greywater reuse for appropriate purposes such as toilet flushing
 - Update irrigation system to increase efficiency and reduce consumption of potable water from off-site sources

USE

This document is to be used by Architecture, Engineering, and other design and construction professionals under contract to complete work for EOU. It is also a resource for University staff and faculty. Developing these Standards included a holistic look at EOU's built environment and were researched and selected by a cross-section of staff and professional consultants. They are standards, but not absolutes and can be waived or adjusted when appropriate to a particular situation with prior authorization from the Director of Facilities and Planning.

This document references both Preferred Manufacturers and Basis of Design. Preferred Manufacturers include product lines that generally meet the level of quality required by the Campus Standards. A Basis of Design indicates the product the Design Team should use in developing their documents and is the product most preferred by the University. It is also used when there is a benefit to creating consistency across campus such as ease of maintenance and to minimize quantity of parts EOU needs in inventory.

It is not the intent of this document to create "sole source" standards. Unless noted otherwise, where a single Basis of Design is provided, the intent is to describe the level of quality and warranty required for the product. If a more appropriate product, material, or practice meets or exceeds these standards and provides additional value to EOU, it should be considered. Proposed changes should be submitted in writing to the Director of Facilities and Planning as early as possible in the design process to allow adequate time for EOU's review. Proposed changes will be evaluated based on cost, durability, constructability, aesthetics, environmental impact, and ease of maintenance. As a "living document", the Standards are intended to evolve and be updated with each campus project.

With the exception of specific sections in Division 1, these standards are not a complete specification. Using the EOU Campus Standards does not relieve the user of standard of care or other professional responsibilities. The information provided in the standards should be translated into the user's instruments of service and shall not be incorporated by reference only. Complete specification sections in Division 1 are indicated by inclusion of the standard 3-part specification format headings and end with the text "END OF SECTION".

MANAGEMENT AND DISTRIBUTION

To allow for ease of access and updating, the Campus Standards will be housed on the Facilities and Planning server as word documents. To minimize the use of paper and ensure the use of the most recent version, the Standards will be available for downloading as pdfs from Eastern Oregon University's website.

At the end of each project, the Director of Facilities and Planning will update sections of the Campus Standards as necessary with changes to basis-of-design products, manufacturers, or additional guidelines developed during the course of a project.

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01 1000 SUMMARY

PART 1 GENERAL

1.1 REQUIREMENTS

A. Owner Occupancy

1. Cooperate with Eastern Oregon University to minimize conflict and to facilitate Eastern Oregon University's operations.
2. Schedule the Work to accommodate Eastern Oregon University use of the site and facilities.

B. Contractor Use of Site and Premises – Includes building interiors during renovations and remodels:

1. Arrange use of site and premises to allow:
 - a. Work by Others.
 - b. Work by Eastern Oregon University.
 - c. Use of Eastern Oregon University campus pathways and facilities by public.
2. Provide access to and from site as required by law and by Eastern Oregon University:
 - a. Do not obstruct roadways, sidewalks, or other public ways without permit.
 - b. Do not obstruct building corridors or other areas of the project in use by Eastern Oregon University.
 - c. Limit parking and staging areas to areas designated by Eastern Oregon University.
3. Time Restrictions:
 - a. In compliance with the City of La Grande Ordinance #3002, Section 11.A.5 Noise Disturbances: Limit exterior work between the hours of 7:00am and 9:30pm, except by special permit granted by the La Grande Chief of Police. For exterior work adjacent to ALikut Hall, Daugherty Hall, Hunt Hall, North Hall, Quinn Coliseum and Fitness Center, and Zabel Hall, limit work between the hours of 8:00am and 8:00pm.
 - b. Limits to interior work to be determined on a per project basis.
4. Utility Outages and Shutdown:
 - a. Limit disruption of utility services to hours the site is unoccupied or as approved by Eastern Oregon University.
 - b. Do not disrupt or shut down life safety systems and utilities, which may impact the campus or other facilities, including but not limited to electrical service, plumbing service, network service, fire sprinklers and fire alarm system, without 7 days notice to Eastern Oregon University and authorities having jurisdiction.
5. Prevent accidental disruption of utility services to other facilities.

C. Overtime Work

1. To permit arrangements for inspections, the Contractor shall notify the Architect and Owner's Representative at least 48 hours in advance of any overtime work, including nights, weekends, and holidays. Do no overtime work without notifying Architect and Owner's Representative.
2. The Contractor shall reimburse the Architect and Owner for any expenses incurred by them because of Contractor's overtime work.

D. Work in Public Right of Way

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

E. Protecting Existing Utilities

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

F. Correction Period for Non-Complying Work

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

01 2000 PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Contract modification procedures.
- C. Additional architectural service for extraordinary contract administration.
- D. Procedures for preparation and submittal of application for final payment.

1.02 DEFINITIONS

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

1.03 SCHEDULE OF VALUE

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

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect and Owner for approval.
- C. Forms filled out by hand will not be accepted.
- D. Present required information in typewritten form.
- E. Form: AIA G702 Application and Certificate for Payment and AIA G703 – Continuation Sheet including continuation sheets when required.
- F. Execute certification by signature of authorized officer.

- G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- I. Include the following with the application:
 - 1. Construction progress schedule, revised and current as specified in Section 01 3000.
 - 2. Project Record Documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
 - a. Alternative: Review Record Documents with Architect and Owner prior to submitting Application.
 - 3. Preliminary Closeout Documents when specified in Section 01 7800
- J. When Architect or Owner requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.
- K. Submit three copies of each Application for Payment to Architect (or Owner if no architect is involved) at times stipulated below.
- L. When Architect finds Application properly completed and correct, he will transmit Certificated for Payment to Owner, with copy to Contractor.

1.05 APPLICATION SCHEDULE

- A. On or before 24th day of month for which payment is due submit application for Payment to Architect.
- B. On or before 8th day of month following submittal of approved Application, until Substantial Completion, Owner will pay Ninety-five Percent (95%) of value of Work acceptably performed, and of materials stored as defined in General Conditions during the previous month, as estimated by Architect.
- C. Upon execution of Certificate of Substantial Completion, balance due under Contract will be paid, excluding Retainage Amount of at least double the estimated value of uncompleted and/or unacceptable portions of Work, or \$1,000.00, whichever is the greater amount.

1.06 PAYMENT FOR PRODUCTS STORED OFF THE PROJECT SITE

- A. When delay or added cost to Owner can be avoided by storing Products off Site, Owner will make payment to Contractor for said Products provided that Contractor shall:
 - 1. Locate Storage Facilities within 10 miles of Project Site.
 - 2. Make Storage Facilities available for Architect's visual inspection.
 - 3. Segregate and label Stored Products for specified Project.
 - 4. Assume all risk for loss.
 - 5. Assume responsibility for exceeding Product "shelf-life".
 - 6. Protect Stored Products and provide applicable Insurance against their damage, discoloration, and theft, naming the Owner and any Mortgagee as Additional Insureds.
 - 7. Submit itemized Inventory and Schedule of Values for Stored Products together with Certificate of Insurance.

8. Submit payment requests to Owner as part of Contractor's regular Progress Payment Request.
9. Reimburse Owner for damages sustained if Stored Products are not delivered to Jobsite when needed.
10. Submit to Owner, with copy to Architect, a written Waiver of Lien insuring Owner against claims for unpaid Storage Costs.
11. Upon receipt of payment from Owner prepare and issue to Owner, with a copy for Architect and any Mortgagee, a Bill of Sale for Stored Products. (See required Bill of Sale Form bound hereinafter.)

1.07 MODIFICATION PROCEDURES

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.
- B. Architect will advise on minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instruction on Item of Change Form.
- C. Construction Change Directive: Architect may issue an ASI, signed by Owner, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 2. Promptly execute the change.
- D. Proposal Request: Architect may issue an ASI which includes a detailed description of a proposed change with supplementary or revised Drawings and specification, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 15 days.
- E. Contractor may propose a change by submitting a request for information to Architect (or Owner if no architect is involved), describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 1. For pre-determine unit prices and quantities, the amount shall be based on the fixed unit prices.
- G. Substantiation and Computation of Costs: Provide full information required for evaluation as follows:
 1. Quantities of products, labor, and equipment.
 2. Taxes, insurance, and bonds.
 3. Overhead and profit on products and labor only. Overhead and profit is limited as follows:
 - a. Entity performing work: 10% Materials, 15% Labor
 - b. General Contractor: % per contract with Owner
 4. Justification for any change in Contract Time.

5. Credit for deletions from Contract, similarly documented
 6. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly enter changes in Project Record Documents.

1.08 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Applications for Final Payment will not be considered until the following have been accomplished:
1. All closeout procedures specified in Section 01 7000.
 2. Affidavit that payrolls and bills have been satisfied.
 3. Consent of Surety to make Final Payment.
 4. Certificate evidencing that insurance required after Final Payment will remain in force, and a written statement that Contractor knows of no reason that insurance will not be renewed for the required period.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3000 ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Commissioning Agent.
- C. Agenda:

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

3.02 PROGRESS MEETINGS

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

3.03 PROGRESS PHOTOGRAPHS

- A. Submit photographs to architect and owner with each application for payment
- B. Maintain one set of all photographs at project site for reference; same copies as submitted, identified as such.
- C. Provide photographs of site and construction prior to the start of Work and throughout progress of Work produced by an experienced photographer, acceptable to Architect.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
 - 1. Completion of site clearing.
 - 2. Excavations in progress.
 - 3. Foundations in progress and upon completion.
 - 4. Structural framing in progress and upon completion.
 - 5. Enclosure of building, upon completion.
 - 6. Final completion, minimum of ten (10) photos.
- F. Views:
 - 1. Provide non-aerial photographs from four cardinal views at each specified time, until Date of Substantial Completion.
 - 2. Consult with Architect and Owner for instructions on views required.
 - 3. Provide factual presentation.
 - 4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
- G. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Via email or ftp site.
 - 2. File Naming: Include project identification, date and time of view, and view identification.

3.04 COORDINATION DRAWINGS

- A. Review drawings prior to submission to Architect.

3.05 SUBMITTALS FOR REVIEW

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

3.06 SUBMITTALS FOR INFORMATION

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

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

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

3.08 NUMBER OF COPIES OF SUBMITTALS

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

3.09 SUBMITTAL PROCEDURES

- A. Transmit each submittal with approved form.

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

END OF SECTION

SECTION 01 3113 PROJECT COORDINATION

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. Cutting & Patching: Section 01045
- B. Summary of Work: Section 01010
- C. Project Meetings: Section 01200
- D. Construction Progress Schedules: Section 01320
- E. Shop Drawings, Product Data, & Samples: Section 01330
- F. Temporary Facilities: Section 01500
- G. Contract Closeout: Section 01700
- H. Cleaning: Section 01710

1.02 CONSTRUCTION ORGANIZATION & START-UP

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

1.03 COORDINATING SUBCONTRACTORS' WORK

- A. Coordinate the Work of all Subcontractors and make certain that, where the Work of one Trade is dependent upon the Work of another Trade, the Work first installed is properly placed,

installed, aligned, and finished as specified or required to properly receive subsequent Materials applied or attached thereto.

- B. Direct Subcontractors to correct defects in Substrates they install when Subcontractors of subsequent Materials have a reasonable and justifiable objection to such surfaces.
- C. Do not force Subcontractors to apply or install Product to improperly placed or improperly finished Substrate that would result in an unsatisfactory or unacceptable finished Product.

1.04 COORDINATING WORK WITH OWNER'S WORK

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

1.05 CLOSE-OUT DUTIES

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3200 CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.01 GENERAL

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

1.02 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

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

1.03 SCHEDULES

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

1.04 SCHEDULE CONTENTS

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

2. Show dates Submittals will be required for Owner-furnished Products, if any.
 3. Show dates Approved Submittals will be required from the Architect.
- C. Products Delivery Schedule:
1. Show delivery dates for Products furnished by Owner, if any.

1.05 SCHEDULE REVISIONS

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

1.06 SUBMISSIONS

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

1.07 DISTRIBUTION

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 4500 CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.01 RELATED SECTIONS

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

1.02 EXTENT OF WORK

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 5000 TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 TEMPORARY UTILITIES

- A. Eastern Oregon University will provide the following:
 - 1. Electrical power, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY TELECOMMUNICATIONS SERVICES

- A. Eastern Oregon University will provide a wireless and/or wired connection to the field office at time of project mobilization.

1.04 TEMPORARY SANITARY FACILITIES

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

1.05 TEMPORARY CONTROLS

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

C. Exterior Enclosures

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

D. Interior Enclosures When Working In An Occupied Building

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

1.06 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Eastern Oregon University's operations from unauthorized entry, vandalism, or theft.

1.07 VEHICULAR ACCESS AND PARKING

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

1.08 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. 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.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.09 BULLETIN BOARD

- A. Provide 1 weatherproof 4x4 ft. Bulletin Board where regularly visible to Workers.
- B. Display employee benefits such as Health & Welfare Plan, Pension Plan, etc., if any; Equal Opportunity Employment Requirements; Emergency Telephone Numbers; and other important data.

1.010 PROJECT IDENTIFICATION

- A. Provide 54"x36" project identification sign graphics using the template provided (see Appendix for printed copy). Owner to provide actual signboard with supplied graphics.
- B. Locate signboard where directed by Owner and secure to 2 nominal 4x4 inch wood posts set 4 ft. into ground. Do not attach sign to project fencing.

- C. No other signs are allowed without Owner permission, except those required by law.

1.011 FIELD OFFICES

- A. Office: Weather-tight, 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. At Contractor's option, portable buildings or mobile homes suitable for Office use may be used.

1.012 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 5320 TREE & PLANT PROTECTION

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning)."

1.02 QUALITY ASSURANCE

- A. All workers and all supervisory personnel shall, before entering the work site, attend a briefing by the University Arborist on relevant provisions of this section.
- B. Contractor shall comply with the University Arborist's instructions for tree protection and continued tree health when work occurs within the root zones of trees scheduled to remain.
- C. Retain an arborist approved by the University at the Contractor's expense to perform, under the supervision of the Campus arborist, any aerial trimming required in the project. The arborist shall be certified by ISA or licensed in the jurisdiction where the Project is located.

1.03 COORDINATION

- A. Coordinate with other trades affecting or affected by Work of this Section
- B. Provisions of this Section to be reviewed at the pre-construction meeting. Refer to Section 01 3000.

1.04 PENALTIES

- A. A minimum fine of \$1,000 will be levied against the responsible firm for each violation of the provisions of this specification. In addition, trees between 3-inch and 11-inch in caliper are worth \$500 per caliper inch and 12-inch to 24-inch in caliper are worth \$1,000 per caliper inch, or create tree protection plan with integrated values as part of the bid documents. All caliper measurements to be taken at breast height.

1.05 SUBMITTALS

- A. Qualification Data: Provide proof of arborist license for tree service firm and proposed arborist. Arborist to have a minimum of (5) five years of experience while being licensed.
- B. Tree Pruning Schedule: Written schedule from arborist detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
- C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

PART 2 PRODUCTS

2.01 FENCING

- A. Tree protection fencing shall be one of the following at the Contractor's option:
 - 1. Wirebound woodroll snow fence 4-feet high minimum, with 3/8 inch by 1-1/2 inch wide pickets, spaced approximately 2" apart bound together with at least 13 gauge galvanized steel wire. Posts shall be barbed wire type steel fence posts, same height as fence.
 - 2. Galvanized chain link fencing, minimum 4-feet high. Stakes for fencing shall be galvanized steel posts, same height as fence, driven a minimum of two feet into the ground or supported by concrete block temporary footings. Posts shall be spaced 10 feet on center maximum.

3. Tensar Safety Grid-GS Orange, BX 20521, or as approved, minimum 4-feet high with barbed wire type steel fence posts, same height as fence.

PART 3 EXECUTION

3.01 PROTECTION

- A. Protection of Soil Structure: Work with topsoil, whether native or imported, or work conducted over areas of topsoil that are intended to support plants shall not be performed under wet weather conditions, excessively dry conditions, or be compacted by excessive equipment or foot traffic.
- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to remain during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.
- C. Tree and Plant Protection Areas: Due to the amount and high quality of the existing trees and plants within the work area, all areas within the project limits are to be considered tree and plant protection areas unless otherwise approved by the University arborist. The Contractor shall exercise utmost care to protect existing trees and plants as specified in this Section. The Contractor shall install tree and plant protection fencing if additional protection is required when working within the drip line of existing trees or when significant roots are present in the soil. The location and requirements for fencing shall be determined by the University arborist prior to, and at any time during the course of the work.
 1. Fencing:
 - a. Install temporary fencing around tree protection zones indicated on the Drawings or as directed by the University arborist to protect remaining trees and vegetation from construction damage. Maintain temporary fence and remove when construction is complete. Install chain-link fence according to ASTM F 567 and manufacturer's written instructions.
 - b. Fencing shall be installed beyond the drip line of the trees to be protected, unless otherwise approved by the University arborist.
 - c. Tree and plant protection fences shall remain in place until all work is completed and shall not be removed or relocated without the approval of the University arborist.
 - d. Signs shall be mounted on the protection fencing at 30foot intervals warning construction personnel to keep out of protective zones and informing that violations are subject to fine.
 2. Prohibit entry into plant protection areas except under the direct supervision of the University arborist.
 3. Prohibit earth stockpiling, material storage, vehicle or equipment parking and vehicle traffic within the tree and plant protection areas.
- D. Tree and Plant Protection
 1. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
 2. All work within the drip line will be conducted with an air spade to expose tree root system.
 3. Prohibit foot and vehicle traffic which may compact soil over root systems.
 4. Prohibit cutting, breaking, and skinning of branches and roots. All pruning of branches and

roots is to be approved in advance by the University and is to be performed by the University approved arborist under the supervision of the University Arborist.

5. Prohibit skinning and bruising of bark.
6. Prohibit fires, high-heat, and smoke adjacent to trees and plants.
7. All servicing of construction equipment is to be carried out within the areas designated for equipment servicing on the site plan or as directed by the University.

3.02 WATERING

- A. During the contract period, water pre-existing trees and plant growth located adjacent to construction areas as directed by the University Arborist.

3.03 CLEARING WITHIN PROTECTION AREAS

- A. Selective clearing within tree protection areas, if required, shall be performed only by the Landscape Contractor selected for the landscaping portion of the project at a time scheduled with the University and in a manner directed by the University Arborist.
- B. Do not strip topsoil or grub understory within protection areas. The trees and understory which are to be removed shall be cut instead of pulling or grubbing. Leave the soil undisturbed.

3.04 CLEARING FOR CONSTRUCTION

- A. When trees or brush which are to be removed are next to trees that will remain, they must be cut instead of pulled or grubbed so as to cause the least disturbance to the soil.
- B. All plants that are not marked for saving and that will interfere with construction are to be removed before construction begins.
- C. Any pruning required to provide clearance for construction equipment or construction operations is to be performed by a University-approved arborist under the direction of the University Arborist. Such pruning is to be completed before construction begins.

3.05 EXCAVATION

- A. Locations and limits of excavations shall be established in the field in consultation with the University and the University Arborist.
- B. The Contractor shall paint on the ground the exact locations of excavations. Excavations shall be represented on the ground in outline, except trenches exceeding 20' in length may be shown as a single line representing the center line of the trench. Crossing bars representing the width of the trench shall be placed every 50' along trench routes.
- C. Any changes to locations of excavations, including trench routes, shall be made in consultation with the University and the University Arborist. The changes must be painted on the ground in a color contrasting with previous markings.
- D. The Contractor shall record on the Record Copy of the Architects drawings the dates on which excavation locations are established and revised in the field and the color of paint used to mark the locations and each revision of location.
- E. The Contractor shall maintain the painted lines representing excavations and keep them visible until the excavations are made.

3.06 EXCAVATION AROUND TREES

- A. Any method of digging or cutting which tears roots or disturbs soil beyond the grading limit or excavation limit is unacceptable.

- B. If roots larger than 1" dia. require removal, call the University Arborist to sever them from the tree.
- C. When roots larger than 1" dia. are encountered while trenching, call the University Arborist for directions on how to proceed. Depending on the proximity to trees and the orientation of the trench, boring or hand digging may be required.
- D. Provide temporary support and protect roots against damage until permanently relocated and covered with backfill.
- E. Do not allow exposed roots to dry before permanent backfill is placed.

3.07 CONSTRUCTION PRUNING

- A. Where roots have been cut, engage a University-approved arborist to prune the tree under the direction of the University Arborist to compensate for root loss, if required by the University.

3.08 GRADING AND FILLING AROUND TREES

- A. If it appears that a grade change will be required within the drip line of a tree which is to be preserved, report to the University arborist for evaluation and instruction.

3.09 REPAIR AND REPLACEMENT OF PLANTS, INCLUDING TREES

- A. At the option of the University, repair, and replace or compensate the University for plants damaged by construction operations.
- B. Make repairs promptly after damage occurs to prevent progressive deterioration.
- C. Remove and replace dead and damaged plants that are determined by the University arborist to be incapable of recovery to normal growth pattern.
- D. Unless otherwise approved, provide plants of same size and species as those removed.
- E. Plant and maintain as specified in Landscaping Specifications Section 02900.
- F. Where damaged trees cannot realistically be repaired or replaced, pay the University, as liquidated damage, value of trees as determined by Guide For Tree & Landscape Appraisers and as distributed by International Society of Arboriculture (ISA). (Copies can be obtained from Society at Box 71, Urbana, IL 61801).
- G. Unless immediate replacement is required by the University, visible damage to the branches trunks or roots of established trees not marked for demolition will cause the owner to withhold from the Contractor the amount of \$200 per inch caliper of the tree (measured at four feet above grade) for a period of two years. After that period the impact of the damage will be assessed by the University in accordance with the ISA Guide. If, in the opinion of the University, the tree is in fair to good health, the damage fine will be refunded; if the tree is in poor condition or lost, the fine will not be refunded.

3.10 REPAIR AND REPLACEMENT OF LAWNS

- A. Repair lawn areas damaged by construction operations.
- B. Match or improve upon original lawn condition.
- C. Perform work as described in Section 02900.

END OF SECTION

SECTION 01 6300 PRODUCT SUBSTITUTIONS

PART 1 GENERAL

1.01 GENERAL

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

1.02 SUBSTITUTIONS DURING BIDDING PERIOD

- A. No request for substitution approval will be considered unless the request has been submitted on Standard Form bound herein-after, and has been received by Architect at least 5 Working Days prior to Bid opening.
- B. Requests must be hand-delivered, mailed, or emailed. Facsimile (Fax) submittals will not be considered.
- C. Architect will issue Addenda prior to Bid opening listing all approved substitutions.

1.03 SUBSTITUTIONS AFTER CONTRACT AWARD

- A. Approval will be granted only when:
 - 1. Specified Product cannot be delivered without Project delay, or
 - 2. Specified Product has been discontinued, or
 - 3. Specified Product has been replaced by superior Product, or
 - 4. Specified Product cannot be guaranteed as specified, or

5. Specified Product will not perform properly, or
6. Specified Product will not fit within designated space, or
7. Specified Product does not comply with governing codes, or
8. Substitution will be clearly in Owner's interest.

B. Architect will issue Change Order authorizing approved substitutions and revising Contract Sum where appropriate.

1.04 CONTRACT COMPLIANCE

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 7000 CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 CONTRACT CONDITIONS

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

1.02 SUBSTANTIAL COMPLETION INSPECTION

- A. When Contractor considers Work substantially complete, as defined in General Conditions, he shall submit to the Architect:
 - 1. Written notice that Work, or designated portion thereof, is substantially complete.
 - 2. List of Items to be completed or corrected.
- B. Architect will, as soon as possible thereafter, make inspection to determine completion status.
- C. Should Architect determine that Work is not substantially complete:
 - 1. Architect will promptly notify Contractor in writing, giving reasons therefore.
 - 2. Contractor shall remedy Work deficiencies, and send second notice of substantial completion to Architect.
 - 3. Architect will re-inspect Work.
- D. When Architect concurs that Work is substantially complete, he will:
- E. Prepare Certificate of Substantial Completion using AIA Document G704, accompanied with Contractor's list of items to be completed or corrected, as verified and amended by Architect.
- F. Submit Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.03 FINAL INSPECTION

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

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

1.04 REINSPECTION FEES

- A. Architect will make 1 Substantial Completion Inspection to determine any Work Deficiencies and 1 Final Completion Inspection to ascertain that Deficiencies have been satisfactorily corrected.
- B. Should Architect be required to make more than 2 Inspections due to Contractor's failure to correct specified Deficiencies:
 - 1. Owner will compensate Architect for such additional services.
 - 2. Owner will deduct Architect's compensation amount from Contractor's final payment as follows:
 - a. Architect's time at current Billing Rates.
 - b. Architect's Employees' time at current Billing Rates.
 - c. Others at 1.10 times direct cost incurred.
 - d. Charges will be made for necessary travel time, inspection time, inspection report writing time, auto expense computed at 45 cents per mile, and all other expenses incurred in making inspections.

1.05 EVIDENCE OF PAYMENTS & RELEASE OF LIENS

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

1.06 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ARCHITECT

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

1.07 SPARE PARTS & MAINTENANCE MATERIALS SUBMITTAL TO OWNER

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

1.08 DEMONSTRATIONS

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

1.09 FINAL ADJUSTMENT OF ACCOUNTS

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

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

01 7419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Eastern Oregon University requires that projects generate the least amount of trash and waste possible.
- B. Contractor shall employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Required Recycling, Salvage, and Reuse: 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. Metal, including packaging banding, metal studs, sheet metal, structural steel, piping, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 - 6. Glass.
 - 7. Plastic buckets.
 - 8. Rigid foam insulation.
 - 9. Windows, doors, and door hardware.
 - 10. Plumbing fixtures.
 - 11. Mechanical and electrical equipment.
- E. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
 - 5. Incineration, either on- or off-site.
- F. Regulatory Requirements: The General Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state, and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- B. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- C. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- D. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- E. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 7800 CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

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

1.03 SUBMITTALS

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

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

3.02 OPERATION AND MAINTENANCE DATA

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

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

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

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

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

3.05 OPERATION AND MAINTENANCE MANUALS

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

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

3.06 WARRANTIES AND BONDS

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

3.07 ELECTRONIC COPIES

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

END OF SECTION

SECTION 01 7900 DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUMMARY

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

1.02 RELATED REQUIREMENTS

- A. Section 01 7800 - Closeout Submittals: Operation and maintenance manuals.
- B. Section 01 9113 - General Commissioning Requirements: Additional requirements applicable to demonstration and training.
- C. Other Specification Sections: Additional requirements for demonstration and training.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures; except:
 - 1. Make all submittals specified in this section, and elsewhere where indicated for commissioning purposes, directly to the Commissioning Authority.
 - 2. Submit one copy to the Commissioning Authority, not to be returned.
 - 3. Make commissioning submittals on time schedule specified by Commissioning Authority.
 - 4. Submittals indicated as "Draft" are intended for the use of the Commissioning Authority in preparation of overall Training Plan; submit in editable electronic format, Microsoft Word 2003 preferred.
- B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and

skill-level of attendees.

1. Submit to Commissioning Authority for review and inclusion in overall training plan.
 2. Submit not less than four weeks prior to start of training.
 3. Revise and resubmit until acceptable.
 4. Provide an overall schedule showing all training sessions.
 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such a slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
1. Include applicable portion of O&M manuals.
 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- D. Training Reports:
1. Identification of each training session, date, time, and duration.
 2. Sign-in sheet showing names and job titles of attendees.
 3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.
 4. Include Commissioning Authority's formal acceptance of training session.
- E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
1. Format: DVD Disc.
 2. Label each disc and container with session identification and date.

1.04 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.

2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

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

3.02 TRAINING - GENERAL

- A. Commissioning Authority will prepare the Training Plan based on draft plans submitted.
- B. Conduct training on-site unless otherwise indicated.
- C. Owner will provide classroom and seating at no cost to Contractor.
- D. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.
- E. Provide training in minimum two hour segments.
- F. The Commissioning Authority is responsible for determining that the training was satisfactorily completed and will provide approval forms.
- G. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
- H. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
 3. Typical uses of the O&M manuals.

- I. Product- and System-Specific Training:
 - 1. Review the applicable O&M manuals.
 - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
 - 4. Provide hands-on training on all operational modes possible and preventive maintenance.
 - 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 - 6. Discuss common troubleshooting problems and solutions.
 - 7. Discuss any peculiarities of equipment installation or operation.
 - 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 - 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 - 10. Review spare parts and tools required to be furnished by Contractor.
 - 11. Review spare parts suppliers and sources and procurement procedures.
- J. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide a complete written response within three days.

END OF SECTION

03 0000 CONCRETE

PART 1 GENERAL

1.1 DESIGN REQUIREMENTS

A. Submittal Requirements:

1. Mix Design
2. Formwork layout

B. Curing and Protection: Keep continuously moist for not less than three days.

C. Site Concrete:

1. Do not use earth cuts as forms for vertical surfaces
2. Air Entrainment for Site Paving and Exterior Seat Walls: 5 to 6 percent.
3. To maintain a low-albedo, standard concrete is preferred with no color additives.
4. Finish at Exterior Seat Walls: Sand with 100 grit sandpaper to smooth; Square corners.
5. Expansion Joints at Site Paving: Sanded joint; 3/8" wide with backer rod and expansion joint filler.
6. Score Joints at Site Paving: 1/4" wide with 1/4" radius. No shiner band.

D. Building Concrete:

1. Mock-up: 4'x4' mock-up required on project with exposed concrete.
2. Jointing: Locate control joints that result in as close to square panels as possible or rectangles not greater than 1-1/2:1.
3. Concrete Forming and Accessories:
 - a. For exposed concrete, use form ties that will leave no metal within 1-1/2" of the concrete surface.
 - b. Provide isolation joint filler 1/2" thick and height equal to the slab thickness with removable top section that will form 1/2" deep sealant pocket after removal.

E. Maintenance of Concrete

1. When patching, match existing assembly for sub-grade granular fill, insulation, vapor barrier, waterproofing if present. Seal to maintain continuity of the barrier.

PART 2 PRODUCTS

2.1 PREFERRED MANUFACTURERS

- ##### **A. Patching and repair material: Ardex**

12 9300 SITE FURNISHINGS

PART 1 GENERAL

1.1 DESIGN REQUIREMENTS

- A. Through a consistent application of materials, the University intends to establish a coherent family of site furnishings and associated improvements.
- B. Site furnishings and improvements will share a palate of colors, basic forms, styles and need for durability.
- C. In locating the furnishings, care should be taken in evaluating the campus needs, associated building program, and flexibility of the improvements.
- D. Layout and installation should be coordinated with the Owner.
- E. Maintain family of furnishing styles and colors using durable materials with regional fabrication.
 - 1. Family: Contemporary designs utilizing steel banded forms.
 - 2. Powder-coated Campus Site Furnishings Color; See 09 9000 Painting and Coating for color information.
 - 3. Location: Locate furnishings in populated areas; at edge of paths with concrete base; set level with washers to a maximum of 1". Maximum 2% slope unless approved by University.
- F. Trash Recycling Receptacle
 - 1. Open lid with hole shapes to match trash and recycling holes at interior receptacles.
 - 2. One opening for trash and one for co-mingled recycling;
 - 3. LANDFILL and RECYCLE to be laser-cut into lid prior to powder coat finish. Confirm font/size.
 - 4. Access at side door with 36 gallon plastic liner.
- G. Bench
 - 1. Contemporary steel bench with vertical banding
 - 2. Integral arm rests at ends, option for center handrail.
 - 3. 6-foot length
 - 4. Concrete seat walls also acceptable. See Section 03 0000 Concrete for specification.
- H. Bicycle Rack
 - 1. Circular pipe rack.
 - 2. Surface mount with expansion bolts
- I. Removable Bollard - Decorative
 - 1. Lift out and lockable for access control with key or wrench access. Use Master Padlock for locking device.
 - 2. Locate an additional in-ground receiver in adjacent plant bed so that removable bollards can be set aside for easy storing while removed. (1) per bollard
- J. Fixed Bollard – Protective
 - 1. Cast-in-place galvanized, filled with concrete.
 - 2. Paint yellow with reflective tape.

3. 6-inch pipe, 42 inches tall, 30-inch embeds.

K. Skateblocks

1. Use only if problem situation arises.
2. Cast metal
3. Affixed to seat walls

L. Emergency Call Station

1. Campus Security to determine required locations and point of connection.

M. Exterior Drinking Fountain

1. Freeze Protection
2. ADA accessible
3. With filter

PART 2 PRODUCTS

2.1 BASIS OF DESIGN

- A. Trash Recycling Receptacle: Victor Stanley, Steelsites Series, NSDC-36



- B. Bench: Victor Stanley, Steelsites RB Series, RB-28



C. Bicycle Rack: ANOVA Furnishings, Circle Bike Rack, Surface Mount



D. Removable Bollard: Bollards Reliance Foundry Co. Ltd., Removable Bollard, Model R-7902 with Removable Mounting Receiver with Hinged Lid. Bollard to be Campus Site Furnishing color. Receiver and hinged lid to be Stainless Steel.



E. Fixed Bollard; See description in Part 1 above.



4. Skate Block: Skate Stoppers, G-Series or approved by University



F. Existing Emergency Call Station: Ramtel, PLC-7, Midnight Blue with White Graphics



26 0500 BASIC MATERIALS AND METHODS

PART 1 GENERAL

1.1 DESIGN REQUIREMENTS

- A. National Electrical Manufacturer's Association (NEMA):
 - 1. WD 1-79 General Purpose Wiring Devices.
- B. National Electrical Code (NFPA 70)

PART 2 PRODUCTS

2.1 RACEWAYS AND BOXES

- A. Raceways type shall be GRC, IMC, EMT, flexible steel conduit, Schedule 40 PVC, or Liquid Tight Flexible conduit.
- B. Connectors and fittings shall have insulated throats using set screw or compression connectors. Die cast or indenter fittings are not acceptable.
- C. Conduits in unconditioned spaces subject to physical damage shall be GRC.
- D. Minimum size $\frac{3}{4}$ ". Provide a pull string in each empty conduit.
- E. Each conduit run shall have at least one ground conductor installed
- F. Boxes shall be 2-1/8" by 4" square minimum.
- G. Metal boxes shall have a grounding pigtail installed.

2.2 WIRES AND CABLES

- A. All conductors shall be copper, color coded.
- B. The use of AC or MC cables is not acceptable without special approval.
- C. All splices in conductors #8 or larger shall be non-reversible crimp type with heat shrink insulation.
- D. 120/208 volt color coding shall be black, red, blue, and white.
- E. 277/480 volt color coding shall be brown, orange, yellow, and gray.
- F. Splices not allowed in feeders or branch circuits with conductors sized greater than #6 AWG.

32 8400 PLANTING IRRIGATION

PART 1 GENERAL

1.1 DESIGN REQUIREMENTS

- A. Review all site conditions and obtain approval of irrigation design proposal with University Grounds prior to installation.
- B. Follow commonly accepted and approved design procedures and approaches while designing and laying out campus irrigation systems.
- C. All new plant areas to have full irrigation prior to commencement of planting.
- D. Provide manual drain valves per zone to facilitate winterization.
- E. Irrigation zone control shall be automatic operation with controller and automatic control manual operation with manual valves
- F. Ensure that irrigation overspray does not impact building facades or primary walks.
- G. Minimum Working Pressures:
 - 1. Irrigation Main Piping: 200 psig
 - 2. Circuit Piping: 150 psig
- H. Test and review irrigation system with Owner prior to acceptance.

PART 2 PRODUCTS

2.2 REQUIREMENTS

A. UNDERGROUND IRRIGATION MAIN PIPING

- 1. Pipe NPS 4 and Smaller:
 - a. Schedule 80, PVC pipe and socket fittings, and solvent-cemented joints.
 - b. Schedule 80, PVC pipe; Schedule 80, PVC fittings; and threaded joints.
 - c. SDR 21, PVC, pressure-rated pipe; Schedule 80, PVC socket fittings; and solvent-cemented joints.
- 2. Pipe NPS and Larger:
 - a. NPS 6 and larger ductile-iron, mechanical-joint pipe and fittings; and gasketed joints.
 - b. NPS 6 and larger ductile-iron, push-on-joint pipe and fittings; and gasketed joints.
 - c. PE pressure pipe; PE butt, heat-fusion fittings; and solvent-cemented joints.
 - d. Schedule 80, PVC pipe and socket fittings; and solvent-cemented joints.
 - e. SDR 21, PVC, pressure-rated pipe; Schedule 80, PVC socket fittings; and solvent-cemented joints.

B. CIRCUIT PIPING

- 1. Pipe NPS 2 and Smaller:
 - a. PE, controlled ID pipe; insert fittings; and fastener joints.
 - b. PE, controlled OD pipe; PE butt, heat-fusion, or socket-type fittings; and heat-fusion joints.
 - c. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.

- d. SDR 26, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
 - e. Sleeves – Class 200, 2x line size
- C. DRAIN PIPING
- 1. SDR 9, 11.5, or 15, PE, controlled ID pipe; insert fittings; and banded or fastener joints.
 - 2. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
 - 3. SDR 21, 26, or 32.5, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
- D. ABOVE GROUND, SHUTOFF-DUTY VALVES
- 1. Brass ball valve.
 - 2. Bronze gate valve.
- E. DRAIN VALVES: Brass, Champion or approved
- F. CONTROLLER: Rainbird ESP-LXME(F) with IQv2.0
- G. ISOLATION VALVES: Less than 3": brass, Kennedy or approved
- H. SHUTT-OFF VALVE: brass, Nibco or approved
- I. JOINT RESTRAINTS: over 2 ½" mechanical – 2 ½" or less concrete per industry standard
- J. QUICK COUPLING VALVE: Rain Bird 44 RC or approved
- K. FLOW SENSORS: Rainbird, Toro or approved
- L. MASTER VALVES: Bermad or approved
- M. MANUAL DRAIN VALVE: brass, Champion or approved
- N. AUTOMATIC CONTROL VALVES: Plastic – Rain Bird PEB series
- O. BOXES FOR AUTOMATIC CONTROL VALVES: Carson or approved
- 1. green at lawn
 - 2. black at mulch bed
- P. SPRINKLERS
- 1. Spray Heads 5'- 15': Rainbird 1800 series, MPR
 - 2. Impact-Drive Rotary Sprinklers 15'–60': Rainbird 3500 or 5500 series as applicable
 - 3. Impact-Drive Rotary Sprinkler 60'-100': Hunter I-90 or approved
- Q. DRIP IRRIGATION: Rainbird *Dripline* and associated system
- R. WIRE: Single-strand copper, UL approved for direct burial, AWG-UF type, sized per manufacturer's recommendations, No. 14 gauge minimum.
- 1. Use red jacket wire for control valves pilot wires.
 - 2. Use white jacket wire for common wires.
 - 3. Use orange jacket wire for master valve pilot wire.
 - 4. Use yellow jacket wire for spare wires.
 - 5. Use blue jacket wire for tracer wires.

- S. WIRE CONNECTION: direct bury splice kit, Scotch Lok 3570 or approved
- T. WARNING TAPES / LOCATE:
 - 1. metallic tape at mainlines, blue, 5 mil, printed with - "Caution: Irrigation Line Below"
 - 2. blue jacket wire at all laterals over 1-inch
- U. As-built protocol:
 - 1. Contractor/Consultant to provide Auto CAD drawing file
 - 2. PDF file
 - 3. Print of final drawings

32 9113 SOIL PREPARATION

PART 1 GENERAL

1.0 DESIGN REQUIREMENTS

- A. Soil preparation is to include a thorough removal of noxious material, construction debris, stones, over 1-inch, roots, and other debris.
- B. Existing soil is to be ripped to a depth of 8-inches below the elevation of the new material to be placed i.e. shrub beds with 18-inches of new material should be ripped to a depth of 2-inches.
- C. Topsoil and amendments should be thoroughly blended by tilling.
- D. Plant health is dependent of soil health and friability. Do not allow site soils to be compacted during construction.
- E. Topsoil to
 - 1. Approved on-site or local sources need to be approved by Owner.
 - 2. Free of noxious weeds (local source)
 - 3. Sandy loam TS – sand 60%, clay 20%, silt 20% (manufactured blend)
 - 4. pH – 6.5 to 7.5
 - 5. Agricultural analysis required and specifies fertilizer rates based on plant type – lawn, shrub, meadow, etc.
- F. Compost
 - 1. Well rotted-composted yard debris from a locally obtained source. Color to be black.
 - 2. pH – 6.5 to 7.5
- G. Plant Bed
 - 1. 18 inches of soil, 6 inches of compost – mixed
- H. Lawn
 - 1. 6 inches of topsoil, 3 inches of compost - mixed

32 9200 TURFS & GRASSES

PART 1 GENERAL

1.1 DESIGN REQUIREMENTS

- A. Utilize horticulturally appropriate turf and native grasses to establish attractive and durable seeded grass areas throughout the campus.
- B. Explore options of substituting native grass mixes or groundcover mixes in place of turf grass.

1.2 MAINTENANCE SERVICE

- A. Turfs and Grasses: Maintain turf and grasses for three months past the date of final acceptance.

PART 2 PRODUCTS

2.1 MATERIALS

A. Lawn Seed

- 1. Locally obtained lawn seed mix. Approved by Owner prior to application.
- 2. Composed of seed blend: 60% Perennial Rye, 20% Kentucky Bluegrass, 20% Hard Fescue. Mix to be free of weed seed. Provide certification of clean seed source.
- 3. Application: drill seeding or hydro-seeding when approved by Owner
- 4. Rate of 7 lbs per 1,000 sf – typical. Over-seed rate at 3-5 lbs per 1,000 sf.

B. Sod

- 1. Locally grown sod. Approved by Owner prior to application.
- 2. Composed of a seed blend approved by Owner

C. Native Grass and Flower Mix

- 1. Seed mix to be approved by Owner prior to application.
- 2. Do not plant invasive grass varieties. Provide certification of clean seed source.

32 9300 PLANTS & PLANTING

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Landscape planting will be planned in coordination with the University Grounds Personnel. Planting selection, design, and supporting elements will be conceived for the local climate, soils, and maintenance regimes.
- B. Provide Campus Facilities Project Manager with plans and specs to provide to Facilities Grounds Supervisor for review.
- C. The EOU campus is dominated by a pattern of buildings, walks and trees set in an irrigated lawn landscape. The overall character of the University is a formal institution of higher learning, organized around series of districts, open spaces, and an informal network of paths. Planting design should incorporate native forest conditions where practical. Plantings should be designed to minimize irrigation requirements. Plantings, like the buildings cover many eras and represent multiple periods in their life cycle. As new landscapes are planned they should consider blending with these existing plants while moving toward a new more sustainable campus model.
- D. Refer to the Campus Master Plan 2012 for an overview of landscape character.

1.2 QUALIFICATIONS

- A. Installer's Personnel Certifications: Certified Landscape Technician. Minimum 5-years of relevant experience.
- B. Soil analysis of each un-amended soil type for further consideration.

1.3 WARRANTY

- A. Trees, Shrubs, Vines, and Ornamental Grasses: **12** months.
- B. Ground Covers: Biennials, Perennials, and Other Plants: **12** months.
- C. Annuals: **Three** months.

1.4 MAINTENANCE SERVICE

- A. Trees and Shrubs: **Three** months.
- B. Ground Cover and Other Plants: **Three** months.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Plants, General: Nursery-grown and complying with ANSI Z60.1
- B. Annuals and Biennials: Healthy and acclimated to outdoor conditions.
- C. Planting Soils: ASTM D 5268 topsoil, existing, in-place surface soil, imported topsoil or manufactured topsoil, amended with inorganic and organic soil amendments and fertilizers in specified quantities.
- D. Lightweight On-Structure Planting Soil: Modified planting soil.
- E. Mulches:
 - 1. Organic Mulch – Aged compost, pH 6-8, passing ½" sieve,
 - 2. Mineral Mulch –River Rock 1-2", washed, from local quarry
 - 3. Pea Gravel – Standard ¾" or smaller, washed

F. Weed Barriers: Non-woven spun bonded polypropylene geotextile fabric

G. Pesticides:

1. Registered and approved by EPA pre-emergent and post-emergent herbicide(s).
2. Pre-Emergent: Snapshot/Surflan

H. Tree Stabilization:

1. Upright staking and tying
2. T-post, painted flat black with rubber hose
3. Wire ties, (3) per tree

I. Landscape Edgings:

1. Steel or Aluminum
2. Angle iron 2.5",
3. Curved material: ¼ x 4" with 12" stake 4'-0" o.c.

2.2 INSTALLATION

A. Planting Soil Depth: 12 inches of topsoil, 6 inches of compost at plant beds, 6 inches of topsoil at lawn areas, 3-inches of compost at native grass areas. Thoroughly blend all soils into the existing grade to a depth of 6-inches.

B. Ground Cover and Plant Planting: Space ground cover and plants other than trees, shrubs, and vines as appropriate per species, in even rows with triangular spacing.

C. Mulching:

1. Utilize organic mulch in plant beds which are natural in character or informal. Utilize mineral mulch in areas where formality is desired or erosion is a concern.
2. Trees and Tree-like Shrubs in Turf Areas: Organic mulch ring of 2-inch thickness with 24-inch radius.
3. Planting Areas: 2-inch average thickness of mulch extending 12 inches beyond edge of individual planting over whole surface of planting area.

2.3 VEGETATION LIST

A. Plant selection is intended to reinforce the campus character, define space, support campus planning goals and be easily maintainable. A short list of plant material is provided as a beginning point of planning and to provide an immediate resource for small projects. Additional plants may be used with the written approval from the University.

1. Trees: TBD
2. Shrubs: TBD
3. Grasses: TBD
4. Groundcover: TBD
5. Bulbs: TBD