RICHARD AND MAURINE NEUBERGER CENTER (RMNC) SPEECH AND HEARING REMODEL AND RELOCATION

Solicitation No. 1753

Appendix 4.04 PSU Division 01

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SECTION 01 11 00 – SUMMARY OF WORK

PART 1 – GENERAL

1.01 WORK COVERED BY THE PROJECT MANUAL AND DRAWINGS

A. Work covered by the Project Manual and Drawings consists of: **(Scope of Work)**, as required for a completed Project as listed on drawings and specifications for the Work.

B. The Contractor shall supply all labor, transportation, apparatus, scaffolding, tools and other items necessary for the completion of the work in conformance with PSU General Conditions, Section A.2.

C. The Work shall be started within ten (10) calendar days following approval of the Contractor's Certificate of Insurance and the execution of an Agreement by PSU, attention proposals@pdx.edu. All work shall be final completed within the time frames established in the Notice of Public Improvement Agreement Opportunity.

1.02 CONTRACTOR'S USE OF PREMISES

A. Contractor shall limit use of the Premises for Work and storage to allow for:
   1. Owner and tenant occupancy of adjacent spaces, day and night
   2. Public use, day and night
   3. Security
   4. Safe entry and exit for vehicles and pedestrians

B. Access through the interior of the building will be coordinated with the Owner's Authorized Representative.

1.03 PROTECTIONS

A. Protect sidewalks, asphalt paving, concrete, trees, shrubs, and lawn areas at all times from spillage of materials used in carrying out the Work. Prevent materials from clogging sinks, catch basins and yard drains; maintain drains clean and in proper working conditions. Dumping of plaster, solvents, or other injurious materials in PSU plumbing systems is not permitted. Costs of cleaning or repair will be withheld from Contractor as required.

B. Clean, repair, resurface, or restore existing surfaces to their original, or better, condition, or completely replace such surfaces to match existing, where damaged by construction operations.

C. The Contractor shall be responsible for any and all damages as specified in PSU General Conditions Section G.1.

D. The Owner will not be responsible for protection of materials or equipment from vandalism or theft. Security is the responsibility of the Contractor.

E. The Contactor will verify that all drains in the construction area are in working order and notify the Owner's Representative, in writing, of any drains that are plugged, prior to the Start of Work. Start of Work will be considered as acknowledgement that all drains are clear and in good working order.

F. Debris shall not be allowed to remain around the buildings during performance of Work, and shall be disposed of daily and/or as directed by Owner's Authorized Representative.

G. The Contractor shall manage a safe job environment for both the safety of all people around the Premises as well as the safety of the Owner's and general public's property.

H. Do not store materials where they will interfere with operations of Owner. Storage areas must be approved by the Owner's Authorized Representative prior to start of the Work.

1.04 OWNER OCCUPANCY

A. The Owner and building tenants will occupy the Premises during the entire period of construction for the conduct of normal operations. Cooperate and coordinate with Owner's Authorized Representative in construction operations to minimize conflict and to facilitate the Owner's usage, especially in the following areas:
   1. Restricted access and parking
   2. Use of elevators and stairs
   3. Temporary storage space availability
   4. Provide a written schedule of Work specifying where and when Work will be accomplished
   5. Notify Owner's Authorized Representative a minimum of 72 hours prior to performing any work that will release strong odors or fumes, causes noise, or requires windows to be closed during hot weather.

B. Conduct operations in such a way to ensure the least inconvenience to PSU staff, students and the general public.

C. To maintain continual operations by the Owner and building tenants, evening and/or weekend work by the Contractor will be required for short durations at various stages of the Project. Coordinate with the Owner's Authorized Representative at least seventy-two (72) hours in advance to performing evening or weekend work.

1.05 SALVAGE

A. All material indicated to be removed shall become the property of the Contractor except those items noted on the drawings and in the specifications as being retained by the Owner.

B. All locksets, cylinders and strikes removed shall be returned to Owner. Coordinate with Owners Authorized Representative.

C. The City of Portland has mandated the recycling of demolition materials. See Specifications for Waste Management requirements, if applicable, which includes recycling documentation to be provided to the Architect and Owner by the Contractor.

1.06 REUSE OF EXISTING MATERIALS

A. Except as specifically indicated or specified, materials and equipment removed from existing construction shall not be used in the completed Work.

B. For material and equipment specifically indicated or specified to be reused in the Work or salvaged to Owner:
   1. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
   2. Arrange for transportation, storage, and handling of products that require off-site storage, restoration or renovation. Pay all costs for such Work.
   3. Contractor shall be responsible for removing and reinstalling mechanical units, vents, guys, antennae, and electrical and grounding wires or conduits.

1.07 PREPARATION

Inspect existing conditions, Work requirements, and the Agreement Documents. Verify that materials and equipment being furnished meet requirements specified. Report any discrepancies to the Owner's Authorized Representative prior to proceeding with work.

1.08 MATERIAL HANDLING

A. If, in the opinion of the Contractor, cranes, hoists, towers, or other lifting devices are necessary for the proper and efficient movement of materials, comply with these requirements:
   1. Use only experienced personnel
   2. Remove equipment as soon as possible after task is ended
   3. Coordinate the placement of such equipment with the Owner's Authorized Representative to ensure that utility tunnels, utilities, and surfaces are not damaged.
   4. Obtain required permits and meet the requirements of governing authorities regarding street and sidewalk closures, safety, noise, and other applicable regulations.
   5. Provide barricades and warning ribbons to close off areas temporarily for loading and unloading, to insure public safety.

B. Contractor shall not allow any materials or debris to free-fall from the building.

1.09 WORKMANSHIP

A. Unless otherwise specified, perform the Work using workers skilled in the particular type of Work involved.

B. Should the Owner or the Architect, in writing, deem anyone on the Work incompetent or unfit for the assigned duties, dismiss the worker immediately or reassign that worker to a different task requiring a lesser degree of competence.

C. Workmanship shall be first class in every respect as determined by the Owner's Authorized Representative and Architect, and all Work performed shall be performed in accordance with standard industry practice.

D. The Contractor shall maintain effective supervision on the project at all times Work is being performed. The Superintendent shall be the same person throughout the course of the Work, and shall attend the pre-construction conference.

1.10 TESTING

A. The Owner reserves the right to perform any testing as may be required to determine compliance with the Project Manual and Drawings. Costs for such testing will be the Owner's responsibility unless testing indicates noncompliance. Costs for testing which indicates noncompliance shall be borne by the Contractor. Non-complying Work shall be corrected and testing will be repeated until the Work complies with the Project Manual and Drawings. Contractor will pay costs for retesting non-complying Work.

B. The Contractor shall cooperate in every respect with the activities of the testing agency.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 23 00 – ALTERNATES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work of the Section includes administrative and procedural requirements to the Bid Alternates of the PSU Bid Form.

B. The Owner's initial intent is to contract for all work of the Base Bid.

C. Alternates quoted on the Bid Form will be reviewed and may be rejected, accepted individually or in combination, entirely at the Owner's option.

D. As part of the notice of Contract award, the Owner will designate which Alternates have been accepted and included in the award.

E. Contractor shall include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required to complete the alternative work and surrounding modifications whether or not mentioned as part of the work.

F. Contractor shall coordinate all related Work and modify or adjust adjacent Work as necessary to ensure that the Work affected by each accepted Alternate is complete and fully integrated into the Project.

G. **Schedule of Alternates:**

The following Alternates may be deducted and/or added from the Work of the Base Bid:

1. _____
2. _____

1.02 RELATED SECTIONS

A. Additional information regarding bid alternates and changes in scope may be found in the follows:

1. PSU Bid Form
2. PSU General Conditions
3. Other Sections of these specifications.

1.03 DEFINITIONS

A. An alternate is an amount proposed by bidders and stated on the Bid Form for certain work defined in the Project Manual that may be added or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in the amount of construction to be completed, or in the products, materials, equipment, systems, or installation method.

B. The cost change for each alternate is the net addition to or deletion from the Base Bid to incorporate the alternate into the work. No other adjustments are made to the Base Bid, unless stipulated in the Instructions to Bidders or the PSU General Conditions.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 32 10 – DOCUMENT MANAGEMENT AND CONTROL

PART 1 – GENERAL

1.01 DESCRIPTION

A. This Section describes the project document management extranet program or Project Control System that shall be utilized on the Project. This system is mandatory and PSU will not accept any request for substitution for this program.

B. Requests for Information, Submittals, PCO's, Issues will be issued via and stored on AiM administered by AssetWorks

1.02 RELATED SECTIONS

Additional Contract closeout requirements may be provided as follows:

A. PSU General Conditions

B. Supplemental General Conditions

C. Division 01, Submittal Procedures

D. Other Sections of these Specifications

1.03 DEFINITIONS

A. Project Control System - project document management extranet program that Contractor shall use to supply electronic information

1.04 DATA ENTRY

A. The Contractor shall provide, at the Contractor's Temporary Site Office, and home office if required, the computer hardware and software to provide access to the Project Control System.

B. The Owner has established the project document management database for this project. The PSU will provide management, training, etc. of the database and interface with the system provider.

C. Use of the Project Control System will not replace or change any contractual responsibilities of the Contractor. The system has been implemented to enhance and expedite team communication.

PART 2 – PRODUCTS

2.01 PROJECT CONTROL SYSTEM

The Project Control System uses the AiM software created by AssetWorks.

2.02 TECHNICAL SUPPORT CONTACT DETAILS AND COSTS

Information concerning the system can be obtained by contacting the PSU Project Manager and requesting contact information for the AiM Reporting Analyst.

PART 3 – EXECUTION

3.01 PROJECT CORRESPONDENCE

All Contractor Project correspondence shall be either created electronically or digitized so that it can be stored and tracked by the Project Control System. This includes, but is not limited to:

A. Requests for Information (RFI's) and attachments

B. Submittals

C. Potential Change Orders

D. Issues Log

E. Payment Applications

END OF SECTION

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.01 DESCRIPTION

This Section includes administrative and supervisory requirements necessary for coordinating contract documentation, communications and construction operations. The requirements of this Section relate to all work by the Contractor and Sub-contractors performing work under these Contract documents including, but not limited to, the following:

A. Pre-construction Coordination
B. Identification of Owner's Authorized Representatives
C. Identification of Architect
D. Listing of Sub-contractors
E. Contractor Emergency Contact Information
F. Safety & Emergency Procedures
G. Unforeseen Hazardous Materials
H. Permits and Fees
I. Key Requests
J. Progress Meetings
K. Requests for Clarifications & Information
L. Construction Directives
M. Construction Change Orders

1.02 RELATED SECTIONS

Additional requirements related to Project Coordination may be found in the following:

A. Instructions to Bidders
B. PSU General Conditions
C. Other Sections of these specifications.

1.03 DEFINITIONS

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION

3.01 PRE-CONSTRUCTION CONFERENCE

A. A pre-construction conference shall predate the Work and shall include but not be limited to the following agenda:
    1. Contract management and communication requirements
    2. Emergency phone numbers
    3. Record maintenance requirements
    4. Work schedule
    5. Schedule of values
    6. Submittal schedule
    7. Early purchase, long lead items and owner procurements
    8. Multiple contract coordination
    9. Maintenance of access and use of the premises
    10. Traffic control, parking and contractor's use of the job site
    11. Hazardous materials
    12. Job site safety
    13. Job site inspection & observation requirements
    14. Review of contract documents
    15. Progress meetings
    16. Other subjects of interest desired by the Contractor, Architect, Owner's Authorized Representative(s), Manufacturer's Representatives, and other participants.
B. Refer to Division 01, Submittals prior to the pre-construction conference.

C. Coordinate all operations with the Owner's Authorized Representative during the construction period.
D. Submit to the Owner's Authorized Representative for approval, a schedule of Values for the Work to be performed; schedule of values shall include project and building name, when the Work is to begin, and estimated duration of the Work. The Schedule of Values is to be provided to the Owner's Authorized Representative.
E. Submit to the Owner's Authorized Representative for approval, a schedule for the Work to be performed; schedule shall include project and building name, when the Work is to begin, and estimated duration of the Work. The Schedule is to be provided to the Owner's Authorized Representative. The schedule shall be specific as to which portion of the Work is taking place on a particular day.
F. Prior to start of any work, Contractor shall provide at the pre-construction meeting an emergency responsible person/contact list on a 24-hour, "7 day a week" basis for any emergency issue that may arise in connection with this project. Contractor must reissue the list any time the responsible person(s) changes. Issue to Owner's Authorized Representative. See Project Information Sheet provided herein.
G. Parking will not be provided on the premises. See Division 01, Temporary Facilities and Controls.
H. Schedule elevator usage with the Owner's Representative a minimum of 72 hours in advance so as not to inconvenience the public.

3.02 IDENTIFICATION OF OWNER'S AUTHORIZED REPRESENTATIVE

The Owner's Project Manager and the Owner's Field Construction Manager (Jointly the Owner's Authorized Representative or his designee) will be appointed by the Owner and identified at the Pre-construction meeting. The Owner's Authorized Representative in conjunction with the Architect will provide coordination during construction and on-site observation. See Project Information Sheet provided herein.

3.03 IDENTIFICATION OF ARCHITECT

The Owner has contracted with (Architect) to prepare construction documents and assist in Owner's Authorized Representative in the coordination of the construction project. See Project Information Sheet provided herein.

3.04 LISTING OF SUB-CONTRACTORS

Provide to the Owner's Authorized Representative at the pre-construction conference three (3) copies of list of sub-contractors anticipated to perform work on the project. Provide on the list of subcontractors: subcontractor's name, contact person, mailing address and telephone number. Substitution shall be permitted only with the approval of the Owner's Authorized Representative

3.05 CONTRACTOR EMERGENCY CONTACT INFORMATION

Provide to the Owner's Authorized Representative at the pre-construction conference Contractor Emergency Contact telephone numbers. See Project Information Sheet provided herein.

3.06 SAFETY AND EMERGENCY PROCEDURES

A. The Contractor shall be responsible for maintaining a safe job site at all time, until the Owner takes possession. The Contractor shall comply with all safety regulations, and for enforcing compliance with all safety regulations and procedures by all workers, sub-contractors and visitors on the site.
B. Refer to Division 01, Temporary Facilities and Controls for minimal temporary facilities required for job site safety. The Contractor shall provide procedures and additional temporary facilities as required.
C. The Contractor shall maintain indoor air quality and noise control standards specified in Division 01, Indoor Air Quality.
D. The Contractor shall complete and submit the Owner's Authorized Representative, at the pre-construction conference the "Construction Project Safety Form" provided herein.

3.07 UNFORESEEN HAZARDOUS MATERIAL

A. Asbestos: The Owner has exercised due diligence in the identification and removal of asbestos containing materials from the work area. Prior to each phase of construction the Contractor shall confirm the non-existence of asbestos containing materials in the work area prior to proceeding. If the Contractor identifies materials suspected of containing asbestos, he shall immediately stop work in that area of the job site and proceed in accordance with Division 01, Cleaning and Waste Management).

B. Lead Paint: The Owner has exercised due diligence in the identification and removal of lead paint from the work area. Prior to each phase of construction the Contractor shall confirm the non-existence of materials coated with lead based paint in the work area prior to proceeding, as required in accordance with OSHA Directive CPL 2-2.58. If lead based paint materials are suspected, the contractor shall immediately notify the Owner's Authorized Representative and proceed in accordance with OSHA Standards and Directives. If required an adjustment in the Contract Sum and Contract Time will be made through Execution of a Contract Change Order in Accordance with PSU General Conditions Section D.1.3.

3.08 PERMITS & FEES

A. Portland State University is enrolled in the city of Portland's Facilities Permit Program. See PSU General Conditions and Supplemental General Conditions.

B. The Owner shall provide Building, Electrical, Mechanical and Plumbing permits for buildings in accordance with PSU Supplemental Conditions. If the Contractor needs to block a portion of the right-of-way, the Contractor must secure the proper permits from the City of Portland and shall give all requisite notices to public authorities. The Contractor shall be responsible for all violations of the law for any cause in connection with the Work or caused by obstructing streets or sidewalks.

C. The Contractor shall provide proper notice to all governing jurisdictions including but not limited to the Oregon Department of Environmental Quality prior to beginning work.

D. Contractor shall pay for and document Oregon Bureau of Labor and Industries fees as required by Bureau of Labor & Industry.

3.09 KEY REQUESTS

Keys will be provided to the Contractor as required for access to buildings and work areas. There is a deposit of $100.00 required for each key given to the Contractor. Contractor shall fill out Contractor's key request form and deliver for approval to Project Manager a minimum of 48 hours in advance. This deposit will be refunded upon return of the key(s.) Keys will not be provided to sub-contractors, nor will Facilities open locked doors for Contractor's employees or sub-contractors. Contractor shall provide and coordinate all such requirements.

3.10 PROGRESS MEETINGS

A. The contractor shall schedule for the contractor's Project Manager and Field Superintendent to attend weekly Progress Meetings with the Architect and the Owner's Authorized Representative. The contractor shall coordinate and assure the attendance of sub-contractors as required by the agenda and the Owner's Authorized Representative.

B. Weekly Progress Meetings shall be held on days and times to be determined, following the pre-construction conference and continuing through substantial completion and until final completion. The Owner's Authorized Representative may require additional on-site `tail-gate' meetings as necessary to resolve construction related issues and facilitate continued progress.

C. Progress meetings shall be held at:
   PSU, Facilities and Property Management
   202 University Services Building
   617 SW Montgomery, Portland, Oregon 97201

D. The progress meeting minutes serve as the official communication between all parties involved in the Project. The Contractor shall:
   1. Prepare agendas.
   2. Record minutes and include decisions.
   3. Record attendance
   4. Distribute minutes to attendees within three (3) calendar days after meetings.

E. Minimum agenda shall include:
   1. Review and approve minutes of previous meetings.
   2. Review work progress and work schedule since previous meeting.
   3. Discuss field observations, problems, clarifications and information required.
   4. Review delivery schedules, identify problems that could impede planned progress.
   5. Review proposed changes in construction or procedures.
   6. Delivery and discussion of submittals.
   7. Submittal of progress payment requests for review.
   8. Other items as may be required.

3.11 REQUESTS FOR CLARIFICATIONS AND INFORMATION

A. Throughout the course of work, the Contractor may require clarifications or additional information from the Architect or Owner's Authorized Representative. This information may include but not be limited to the following:
   1. Clarifications whether specific work is within the scope of an item of work and no Contract adjustment is anticipated.
   2. Clarifications or interpretations of information or directions provided in the Contact Documents, for which no Contract adjustment is anticipated.
   3. Clarifications or directions as a result of unforeseen conditions, which may or may not result in adjustments to the Contact Sum or days allowed for contact completion.
   4. Additional details or information needed for construction, which were not originally included in the contract documents, which may or may not result in adjustments to the Contact Sum or days allowed for contact completion.

B. The contractor's field superintendent shall be the principle generator of requests for clarification and information (RFI's) as a result of field operations and conditions.

C. Three copies of requests for clarifications and information (RFI) shall be typed and submitted in accordance with the communication process described in Division 01, Submittal Procedures.

D. All RFI's shall be sequentially numbered and include the following information:
   1. Project item information as specified in Division 01, Submittal Procedures.
   2. Reason for request, and clarification and information requested.
   3. Work impacted by request for clarification or information.
   4. Drawings or sketches as necessary.
   5. Contractor's recommendations as appropriate.
   6. Signature and date by contractor's authorized representative.

E. If the contractor anticipates that a change in the scope of work may be necessary in conjunction with a request for clarification or information, he may submit with the request a proposal to perform additional work as a Contract Change Order as specified herein. No changes in work shall commence without an approved RFI response, Construction Directive or Executed Contract Change Order.

F. All RFI Responses will be by the Architect through and with the approval of the Owner's Authorized Representative.

G. Response time to process RFI's shall be seven (7) calendar days from the date received by the Architect, to allow reasonable time for researching the question and preparing a response. If, due to unavoidable circumstances, information is needed immediately, coordinate with the Owner's Authorized Representative who will attempt to expedite a response by FAX or e-mail. When responses are expedited, an RFI must still be submitted as a confirmation of the communication prior to submitting for progress payment for the related work.

H. A log and copies of all RFI's shall be maintained in the jobsite office, for review or reference by the Contractor, Architect and Owner's Authorized Representative.

3.12 CONSTRUCTION DIRECTIVES

A. Construction Directives may be initiated by the Owner's Authorized Representative, or the Architect on approval of the Owner's Authorized representative, and provides interpretations of the contract documents or orders minor changes in the work, which may require changes in the Contract Sum or Contract Time, which would be subsequently executed through a Construction Change Order. Interpretation of the Contract documents shall be in accordance with PSU General Conditions Section A.3, and as amended by the PSU Supplemental General Conditions. Construction Directives are not Construction Change Orders. If the Contractor believes the work described in a Construction Directive requires a change in Contract Sum or Contract Time, he shall submit a proposal to perform additional work as a Construction Change Order as specified herein. Do not proceed with Construction Order work until a proposal for Change Order work has been submitted and directed to proceed by the Owner's Authorized Representative. Proceeding without authorization waives the Contractor's claim for additional Contract Sum or Contract Time.

B. Construction Directives shall be executed using the attached Construction Directive form.

3.13 CONSTRUCTION CHANGE ORDERS

A. Contract Bid award is based on the Base Bid. Additional work may be authorized by amending the Contract based upon Unit Prices provided in the Bid Form, the Contractor's Schedule of Values, or other Contractor Proposals approved by the Owner's Authorized Representative, and in accordance with Section D of the PSU General Conditions.

B. A Construction Change Order is a written order issued after the execution of a contract, which authorizes and directs a change in scope of work and an adjustment in the Contract Sum, Contract Time or both.

C. A Contract Change Order request can be initiated by the Owner's Authorized Representative through a proposal request to the Contractor, or by the Contractor through submittal of a proposal request in conjunction with a RFI response or Construction Directive.

D. The Contractor's proposal for Contract Change Order Work shall include the following:
   1. Project item information as specified in Division 01, Submittal Procedures.
   2. Reason for request
   3. Itemized statement of required materials and equipment, including adjustments to adjacent and dependent work.
   4. Itemized statement of required labor, including adjustments to adjacent and dependent work.
   5. Total Contract Sum adjustment required for the Change in Work.
   6. Total Contract Time adjustment required for the Change in Work.
   7. Additional Documentation as required to support the request.
   8. Signature and date by contractor's authorized representative.

E. Construction Change Order work shall be reviewed by the Architect and the Owner's Authorized Representative and executed in accordance with PSU General Conditions Section D, and as amended herein.

F. If a fair and reasonable Contract Change Order adjustment cannot be agreed upon, the Owner's Authorized Representative may in writing direct the Contractor to proceed with the Change in Work on a `Time and Materials' basis in accordance with PSU General Conditions.

END OF SECTION

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

This Section specifies general administrative and procedural requirements for submittals required by the Contract Documents. The requirements specified in this Section relate to Submittal materials, Requests for Information and Requests for Clarification by all Contractors, Sub-contractors and Suppliers performing Work under these Contract Documents and includes:

A. Submittal Procedures
B. Submittals Schedule
C. Proposed Products List
D. Shop Drawings
E. Product Data
F. Samples
G. Manufacturer's Instructions
H. Manufacturer's Operations & Maintenance Manuals
I. Manufacturer's Certificates

1.02 RELATED SECTIONS

Additional submittal requirements may be provided as follows:

A. Instruction to Bidders
B. PSU General Conditions
C. Supplemental General Conditions
D. Other Sections of these specifications

1.03 SUBMITTAL PROCEDURES

A. All Submittals, Shop Drawings, Product Data and Samples shall be in accordance with PSU General Conditions as amended by the Supplemental General Conditions.
B. Provide the minimum number of each required submittal as noted in the Contract Documents and/or as follows:
    1. Shop Drawings: one (1) PDF
    2. Product data: one (1) PDF
    3. Samples: five (5) samples
    4. Mock ups: As required by the Contract Documents
    5. Reference the Contract Documents for additional submittal requirements
C. Submittal Preparation: Contractor shall place a label on each submittal for processing. Include the following information on the label:
    1. Date
    2. Owner's Project name
    3. Owner's Project number
    4. Name of Contractor
    5. Submittal name and number
    6. Name of the entity that prepared the submittal
    7. Specification reference number
    8. For Shop Drawing submittals: Contractor's certification that the submittal has been coordinated and reviewed for compliance with the requirements of the Contract Documents, and is approved for A/E's action
D. Review of the submittals by the Architect and Owner's Authorized Representative shall not relieve the Contractor of its obligations as specified in PSU General Conditions Section B.18.
E. The General Contractor shall review submittals for completeness, accuracy, and compliance with the Contract Documents. Reviews include verification of products required, field dimensions, adjacent construction work and coordination of information.
F. Provide space for review approval by Architect and the Owner's Authorized Representative, as specified herein.
G. Schedule submittals to expedite Project; deliver to Architect and Owner's Authorized
H. Representative as directed herein and coordinate submission of related items.

I. Portable Document Format (PDF) Requirements:
   1. All documents are to be created as PDF files from the original source files, unless approved otherwise in writing by Owner.
   2. In addition to the submission of the original source files CAD drawings shall also be migrated to PDF/E or embedded in the PDF/A-3 format.
   3. Non-CAD documents shall conform to PDF/A standards
   4. All documents are to be created with a resolution of not less than 300 dpi.
   5. All fonts are to be embedded in the PDF.
   6. Each drawing shall represent a single printed sheet where the file name conspicuously identifies the sheet number (e.g. sheet A2.1 CAD file name might be A2-1.dwg).

1.04 SUBSEQUENT TO THE AWARD OF THE CONTRACT

A. Seventy-two (72) hours prior to the pre-construction conference and in all cases prior to the commencement of work, the Contractor shall submit the following to the Owner's Authorized Representative:
   1. Certificate of Insurance as required
   2. Signed Public Improvement Agreement
   3. One (1) original copy of Performance & Payment Bonds
   4. Schedule of Values
   5. Project Construction Schedule
   6. Submittal List and Schedule of Submittals, identifying long lead items
   7. Contractor Emergency Contact Information

B. Prepare Submittals Schedule in chronological order by date of required submittal approval. Indicate the following:
   1. Submittal number
   2. Name of the entity that prepared the submittal
   3. Generic Description of Work covered
   4. Specification reference number
   5. Activity or event number on the project construction schedule
   6. Proposed submittal date for first submittal
   7. Date material required for installation
   8. Re-submittal dates and final release or approval by Architect and Owner's Authorized Representative

1.05 DURING CONSTRUCTION

A. The general Submittal Review Procedure is illustrated in the following diagram.
   1. Subcontractor and/or Supplier submits to General Contractor for review and approval
   2. If approved, General Contractor submits to Architect for review and approval
   3. Architect submits to Design Team Consultants for review and approval
   4. If approved, Architect submits to PSU Project Manager for review and approval
   5. If approved, PSU Project Manager submits to PSU Field Representative for approval and delivery to General Contractor's Project Representative.

B. Allow fourteen (14) calendar days for submittal review by Architect and Owner's Authorized Representative. Allow (3) additional calendar days for mechanical and electrical reviews. The General Contractor shall be responsible for timely the submittal of materials approvals in order to satisfy required delivery dates and maintain the construction schedule.

C. Action by Architect and Owner's Representative:
   1. A/E's Action: Except for submittals provided for the Owner's information, the A/E will: review each submittal, mark each submittal with a uniform self-explanatory action stamp indicating action taken, and return promptly and with approval of the Owner's Authorized Representative. All unacceptable or rejected submittals shall be immediately corrected and resubmitted for review.
      (a) Compliance with specified characteristics is the Contractor's responsibility.
   2. Action Stamp: The Architect will stamp each submittal with a uniform action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:

(a) Final Unrestricted Release: When the Architect marks a submittal "No Exceptions Taken," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents.
(b) Final-But-Restricted Release: When the Architect marks a submittal "Make Corrections Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
(c) Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
(d) Unsolicited Submittals: The Architect will return unsolicited submittals to the sender without action.

D. The Owner's Representative may request additional information during the course of the project to monitor material and equipment deliveries as well as coordinate work and materials by others. The General Contractor may be required to submit and periodically update a Material Delivery Summary indicating material order dates, purchase order numbers, expected delivery dates and actual delivery dates.

E. Shop Drawings
1. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. Do not reproduce Contract Documents as the basis of Shop Drawings.
2. Shop Drawings include, but are not limited to, fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
(a) Date of drawing including all revisions
(b) Owner's Project name
(c) Owner's Project number
(d) Name of Contractor
(e) Dimensions.
(f) Identification of products and materials included by sheet and detail number.
(g) Compliance with specified standards.
(h) Notation of coordination requirements.
(i) Notation of dimensions established by field measurement.
(j) Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
(k) Do not use Shop Drawings without an appropriate final stamp indicating action taken.
3. Subsequent to Substantial Completion and prior to Final Pay Request, Submit five (5) copies of As Built documentation of all shop drawings to the Architect for inclusion in Project Record Documents. Provide all record as-built Shop Drawings required by the Contract Documents in CAD and PDF format (per Division 01, Submittal Procedures). See PSU General Conditions Section K and Division 01, Execution and Closeout Requirements.

F. Product Data:
1. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
(a) Mark each product data submittal to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies conspicuously to indicate the applicable information. Include the following information:
(i) Manufacturer's printed recommendations
(ii) Compliance with specified product requirements
(iii) Compliance with trade association standards and testing agency standards including testing agency labels and seals
(iv) Notation of dimensions verified by field measurement
(v) Notation of coordination requirements

2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
3. Submittals: Submit 6 copies of each required submittal; submit 2 additional copies where review is required by Architect's consultants. Up to four copies will be retained by Architect and Owner, plus copies by Architect's consultant, the remaining copies will returned marked with action taken and corrections or modifications required.
4. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
   (a) Do not proceed with installation until a copy of Product Data is in the Installer's possession.
   (b) Do not permit use of unmarked copies of Product Data in connection with construction.

G. Samples:
1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
   (a) Mount or display Samples in the manner to facilitate review of qualities indicated. Prepare Samples to match the Architect's sample. Include the following:
      (i) Date
      (ii) Owner's Project name
      (iii) Owner's Project number
      (iv) Specification Section number and reference
      (v) Product name or generic description of the sample
      (vi) Name of the manufacturer or source of the sample
      (vii) Compliance with recognized standards.
   (b) Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
      (i) Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.
      (ii) Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
   (c) Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three sets. The Architect will return two sets marked with the action taken.
   (d) Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
      (i) Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
      (ii) Sample sets may be used to obtain final acceptance of the construction associated with each set.
      (iii) Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work.

H. Quality Assurance Submittals:
1. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
2. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
   (a) Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
3. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 01, Quality Control.

I. Manufacturer's Instructions:

1. When specified in individual Specification Sections, submit manufacturer's printed instructions for delivery, storage, assembly, start-up, testing, adjusting and finishing.
2. Submit any conflicts between the manufacturer's instructions and the Contract Documents for clarification by the Architect and Owner's Authorized Representative.

J. Manufacturer's Certificate:
1. When specified in individual Specification Sections, submit manufacturer's certificate for review, in quantities specified.
2. Indicate material or product conforms to or exceeds specific requirements. Submit supporting reference date, affidavits, and certificates as appropriate.
3. Certificates may be recent or previous test results on materials or products, but must be acceptable to the Architect and the Owner's Authorized Representative.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 35 45 – INDOOR AIR QUALITY

PART 1 – GENERAL

1.01 DESCRIPTION

A. The owner and building tenants will occupy adjacent areas of the premises during the entire period of construction. The Contractor shall maintain indoor air quality of occupied spaces throughout the construction period to permit normal operations and upon substantial completion provide premises and building systems that meet minimal indoor air quality standards as described herein.

B. Dust and Airborne Particulates: Prevent dust and other particulates from entering HVAC ducts and equipment, and from migrating into occupied spaces.
   1. Cleaning of existing ductwork to remain is not contemplated under this contract. Verify the condition of existing ducts and equipment prior to starting work.
   2. The Contractor shall bear the cost of duct and equipment cleaning required due to failure to protect ducts and equipment from construction dust.
   3. The Contractor shall coordinate with the Owner's Authorized Representative and provide adequate barriers, taping, ventilation and filters to prevent dust, fumes, odors, vapors or other agents from impacting normal operations in adjacent occupied spaces. Failure to do so may result in suspension of Work at the Contractors expense.
   4. Procedures and products have been specified to minimize indoor air pollutants:
      (a) Furnish Products meeting or exceeding the specifications.
      (b) Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

C. Project goals:
   1. AHRE 62 – Ventilation for Acceptable Indoor Air Quality; 1999 and Addenda.
   2. ASHRAE Std. 129 – Measuring Air-Change Effectiveness; 1997.
   3. Oregon Administrative Rules Sections; 437-002—0081, 437-002-0107, 437-002-0382.
   4. Oregon Administrative Rules Section 437-003-0027.

1.02 RELATED SECTIONS

Additional information related to Indoor Air Quality management requirements, temporary facilities required and Owner's remedies for non-compliance may be found in the following:

A. PSU General Conditions

B. Other Sections of these specifications.

1.03 DEFINITIONS

A. Absorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.

B. Contaminates: Gases, vapors, smoke, airborne mold and mildew, and other regulated pollutants including but not limited to construction related noise.

C. Particulates: Dust, dirt and other airborne solid matter.

D. Wet Work: Concrete, plaster, coatings, adhesives and other products that emit water vapor or volatile organic compounds during the installation, drying, or curing processes.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION

3.01 CONSTRUCTION PROCEDURES

A. Prevent the absorption of moisture and humidity by absorptive materials by:
   1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
   2. Delivering and storing such materials in fully sealed moisture-impermeable packaging.
   3. Provide sufficient ventilation for drying of wet work without impacting delivery schedules.

4. Dust containment (sticky) mats shall be used and located at entrance and exit to work area entrance and exit doors.

B. Begin temporary construction heating and ventilation as soon as the work limits are substantially enclosed.

C. If extremely dusty or dirty work must be performed, coordinate the temporary shutdown of HVAC systems with the Owner's Authorized Representative. The Owner's Authorized Representative may require work by the Contractor outside of normal business hours (8:00 AM through 5:00 PM) if HVAC systems serving occupied areas are required to be shut down for extended periods.

D. When working in a portion of an occupied building, provide barriers necessary to prevent movement of air from the construction area to occupied areas.

E. HVAC equipment and ductwork SHALL NOT be used for ventilation during construction:
1. Provide minimum temporary ventilation equivalent to 1.5 air changes per hour. Increase as required for wet work.
2. Exhaust directly to outside. The Owner's Authorized Representative shall approve the Contractors exhaust venting plan including; equipment, routing and outlet prior to installation.
3. Seal HVAC air inlets and outlets immediately after duct installations.

F. Do not store construction materials or waste in mechanical rooms, electrical rooms or exit ways. Coordinate all materials storage with the Owner's Authorized Representative.

G. Prior to use of return air ductworks without intake filters, remove dust and debris generated by construction activities.
1. Inspect duct intakes, return air grills, and terminal units for dust.
2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduits.
3. Clean tops of doors and frames.
4. Clean mechanical and electrical rooms where work is performed, including the tops of pipes, ducts, conduits, equipment and supports.
5. Clean return plenums of air handling units.
6. Remove intake filters last, after all cleaning operations are complete.

H. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.

I. Use other relevant recommendations of SMACNA IAQ Guidelines for Occupied Buildings Under Construction to avoid unnecessary contaminants due to the construction process.

J. Perform Air Contaminant Testing as specified herein.

3.02 AIR CONTAMINANT TESTING

A. Perform air contaminate testing before starting construction, as a baseline for evaluating post-occupancy test results, as specified herein.

B. Perform air contaminate testing prior to submitting for substantial completion.

C. Do not start air contaminant testing until:
1. All other construction operations are substantially complete.
2. HVAC systems have been tested adjusted, and balanced for proper operation.
3. New HVAC unit air filters have been installed.

D. Collect the following indoor air samples from representative spaces of the work areas:
1. Collect samples while windows and exterior doors are closed, HVAC system is in normal operation and the building premises are unoccupied.
2. Collect samples in each space served by the new air handling system.
3. Collect air samples between a height of 48 inches and 72 inches above finished floor.
4. Collect samples from same locations on three separate days and average the results of the three samples.

E. Submit a report analyze the air samples and compare them against the pre-construction baseline (See Division 01, Submittal Procedures).

F. Air Contamination Concentrations and Limits shall be as set forth in the Oregon Administrative Rules and as follows (the most restrictive shall apply):
1. Carbon Monoxide: Measure in ppm, in relation to outside air, at air intake; not more than outside air.
2. Airborne Mold and Mildew: Measure in relation to outside air, at air intake, but in no case less than 48 inches above finish grade; not more than outside air.

3. Formaldehyde: Measure in micrograms per cubic meter in relation to outside air, at air intake; not more than 20 micrograms per cubic meter higher then outside air.
4. Total Volatile Organic Compounds (TVOC): Measure in micrograms per cubic meter, in relation to outside air, at air intake; not more than 200 micrograms per cubic meter higher than outside air.
5. Total Particulate Matter: Measure in micrograms per cubic meter, in relation to air, at air intake, not more than 20 micrograms per cubic meter higher than outside air.

3.03 VENTILATION EFFECTIVENESS TESTING

A. Perform ventilation effectiveness testing prior to substantial completion.

B. Do not begin ventilation effectiveness testing until:
1. HVAC systems have been tested adjusted, and balanced for proper operation.
2. Air contamination testing has been completed satisfactorily.
3. New HVAC unit air filter have been installed.

C. Test each air handler zone in accordance with ASHRAE 129.

D. If calculated air change effectiveness for a particular zone is less than 0.9 due to inadequate balancing of the system, adjust and retest at no additional cost to the Owner.

END OF SECTION

SECTION 01 45 00 – QUALITY CONTROL

PART 1 – GENERAL

1.01 DESCRIPTION

A. General Requirements: Comply with the quality control provisions specified in the Contract Documents and perform quality control testing and inspection, and the surveillance of the Work for quality, unless specifically designated to be performed by Owner.

B. Owner's forms referenced in this Section include:
   1. Contractor Quality Control Daily Report

C. Contractor Quality Control (CQC) shall consist of plans, procedures, and organization necessary to provide materials, equipment, workmanship, fabrication, construction, and operations that comply with the requirements of the Contract Documents. CQC shall cover construction operations keyed to the Progress Schedule including, but not limited to, fabrication on-site and off-site, and field and factory tested construction mock-ups.

D. Owner's special inspection and Testing Agency services are specified in Division 01, Testing and Inspecting Services, which may be required to ensure the Work is in accordance with the Contract Documents, except where those tests are specifically indicated to be performed by the Contractor in the Contract Documents. These services do not relieve the Contractor of responsibility for compliance with Contract Documents requirements.

1.02 RELATED SECTIONS

A. Additional requirements related to Quality Requirements may be provided as follows:
   1. PSU General Conditions
   2. Other Sections of the specifications.

1.03 DEFINITIONS

A. CQC MEETINGS
   1. General Work Plan Meeting: Contractor shall meet with Owner's Representative and A/E to discuss CQC procedures for the Project. Items for discussion shall include, but not be limited to:
      (a) Identification of the Contractor's CQC Representative;
      (b) Interrelationship of Contractor, AE and Owner's Representative;
      (c) CQC administrative procedures and pre-installation work plans;
      (d) Submittals and persons responsible for Shop Drawing review;
      (e) Forms for recording the CQC program;
      (f) Testing, inspections and approvals records;
      (g) On-site and off-site fabrication and installation procedures; and
      (h) Field constructed mock-ups.

B. Pre-installation CQC Work Plan Meetings: Develop a "CQC Work Plan" for each definable feature of the Work. Complete the work plan and submit to Owner with each notification requesting a pre-installation meeting. The work plan shall serve as the basis for discussion and review of the Contract Documents requirements. The work plan will assist to assure that materials and equipment delivered and assembled for construction conform to Contract requirements, and that control testing and CQC procedures are documented.
   1. When requested by the Owner, the Contractor shall revise a CQC Work Plan and provide the Owner a final CQC work plan with changes addressing comments or clarifications from the A/E and/or Owner's special inspection services or Commissioning Authority.

1.04 CONTRACTOR QUALITY CONTROL REQUIREMENTS

A. Contractor's Quality Control Organization: Staff the CQC organization, as required, to perform the activities outlined in this Section and elsewhere in the Contract Documents.
   1. Identify a "CQC Representative" (who is not the superintendent) who shall be on the Project site during progress of the Work as required. The CQC Representative shall have complete authority to take those actions necessary to ensure compliance with the Contract Documents.

2. Identify persons responsible for review and approval of Shop Drawings and other submittals required by the Contract Documents.

B. Qualifications of CQC Representative: The Contractor shall propose and Owner shall approve, in writing, the Contractor's CQC Representative. The CQC Representative must have construction management experience including prior experience with projects of similar construction, size, and complexity.
   1. During progress of the Work, the Owner will monitor and evaluate the performance of the CQC Representative based on the conformance of the Work with the Contract Documents and an assessment of the accuracy, timeliness and completeness of the daily QC Report. If the CQC Representative fails to perform to the sole satisfaction of the Owner, the Contractor shall propose a replacement CQC Representative for the Owner's approval.

C. Daily Quality Control Reports: CQC Representative shall maintain daily Quality Control (QC) Reports. The QC Reports shall be factual records containing numerical data of the Work and quality control activities and observations, including examination of work areas to verify the substrate upon which new work is to be placed. Submit QC Reports on Owner's form, or another Owner approved form, by the next workday following the day of the report.
   1. CQC Representative shall verify and sign all reports. Verification shall contain the statement that all supplies and materials incorporated in the Work are in compliance with the Contract Documents.

D. Control of On-Site and Off-Site Construction: Contractor's Quality Control procedures shall include the following phases of control and management for each definable feature of the Work:
   1. Pre-installation Meeting: A pre-installation meeting shall be held prior to beginning work on each definable feature of the Work specified in the Contract Documents (see Division 01, Project Management and Coordination).
   2. In-Progress Inspection Phase: In-progress quality control testing and inspection, and surveillance of the Work for quality shall be performed continuously to verify that quality standards are maintained throughout the Work. Adjustment to quality control procedures and CQC work plans may be required, based upon the results of the inspections and testing.
      (a) The Contractor shall:
         (i) Discuss quality control procedures at construction progress meetings;
         (ii) Report the results of the inspections and any changes to quality control procedures in the daily QC Report; and
         (iii) Revise CQC work plans for Owner's records, if changes are required.
   3. Above-Ceiling Final Inspections: The Contractor shall provide to the Owner a minimum two (2) week notice prior to ceiling installations for the A/E to conduct above-ceiling final inspections.
      (a) The Contractor shall perform corrective work and provide reasonable time for the A/E to validate the work complete prior to covering from sight.
   4. Contractor's Final Punch List Report: The CQC Representative shall thoroughly inspect all aspects of the construction (including the Subcontractor's Work) and produce a final punch list report of work requiring correction and/or incomplete work that shall be issued to the Subcontractors with instructions to complete prior to requesting the Owner's final inspections. The Contractor's written request for Owner's final inspection shall certify that all features of the Work are installed and have been reviewed by the Contractor to determine compliance with the Contract Documents.
      (a) The Contractor's final punch list report shall be prepared by the Contractor in a format acceptable to the Owner.
         (i) The report shall include a comprehensive Project room number list and additional entry listings for site work, building enclosure, roofs, and other items not designated with a room number to document the entire Project.
         (ii) The Owner's final inspections items will be added to the Contractors final punch list report by the A/E.
         (iii) The Owner will manage the consolidated listing of all open inspection items until all items are signed-off by the Owner.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 45 23 – TESTING AND INSPECTION SERVICES

PART 1 – GENERAL

1.01 DESCRIPTION

A. General Requirements: Comply with the testing and inspection, and correction of Non-Conforming Work provisions specified in this Section and elsewhere in the Contract Documents.

B. Owner's Responsibilities:
   1. The Owner will select and employ an independent "Testing Agency" to conduct the tests and inspections in accordance with applicable standard methods of the American Society for Testing and Materials (ASTM) or other standards as a requirement of the building permit.
   2. The Owner may provide other special inspection services to inspect and verify that the Work installed is in accordance with the Contract Documents and construction industry standards.

C. Contractor's Responsibilities:
   1. All other tests and inspections which are required to obtain regulatory approval by Authorities Having Jurisdiction (AHJ) shall be provided by and paid for by the Contractor.

D. The Contractor shall provide other testing services where specified in the Contract Documents.

1.02 DEFINITIONS

A. For the purpose of this Section, all references made to Testing Agency, or waterproofing and roofing inspections, or geotechnical consulting firm shall be referred to as those tests or inspections which will be conducted by an inspector provided by the Owner.

B. Testing and Inspection: Materials to be tested and inspected are specified by the Contract Documents. In addition, testing and inspection of other materials maybe required by the building permit or as directed by the Owner or AHJ. Quantities and extent of tests and inspections shall be as specified and/or required by the Owner's inspector or AHJ.

1.03 QUALITY ASSURANCE

A. Qualifications: The inspector for all work of this Section, except for geotechnical and waterproofing and roofing special inspectors, shall be a registered inspector employed by an approved inspection and/or Testing Agency as listed by the City of Portland.
   1. The special Inspector for waterproofing and roofing must have the required technical knowledge and experience for the product being installed.
   2. The Owner may select a Testing Agency, other than the agency employed by the Contractor, to perform tests required by the building permit.
   3. Geotechnical inspection will be performed by a licensed geotechnical consulting firm

1.04 DUTIES OF OWNER'S TESTING AGENCY

A. General: The Testing Agency shall conduct testing and inspection services, interpret them, evaluate the results for compliance with the building permit and the Contract Documents, and report the findings to the Owner's Representative, A/E, Contractor, and AHJ. Testing and inspection services shall be in accordance with applicable standard methods of ASTM or other standards specified by AHJ, the Contract Documents, and construction industry standards. The Testing Agency shall reasonably support overtime, second shift, and out-of-area activity if requested by the Contractor and approved at the Owner's sole discretion.

B. Non-Conforming Work: The Owner's inspectors will document and immediately notify the Contractor and the Owner's Representative of any Work found defective or not in accordance with the requirements of the Contract Documents.

C. The Owner's inspectors are not authorized to:
   1. Release, revoke, alter, or enlarge on the requirements of Contract Documents;
   2. Approve or accept any portion of the Work, except as allowed by the special inspection duties delegated by AHJ for building permit inspections and testing;
   3. Perform any duties of the Contractor; or
   4. Stop the Work.

1.05 COSTS

A. The Owner's Testing Agency and special Inspector costs for initial testing and inspection as specified in the Contract Documents will be paid for by the Owner. Initial tests and inspections are defined as those required to complete the first tests and inspections specified.

B. Additional tests and inspections not specified but requested by the Owner or A/E shall be paid for by the Owner.
   1. However, if the results of such tests and inspections are found to be not in accordance with the Contract Documents, the Contractor will be back-charged for all costs of this testing and inspection as well as re-testing, re-inspection and Owner's consultants' services.

C. Costs for additional tests or inspections required because of a Contractor change in products or materials, or source, after a submittal has been reviewed and accepted, shall be borne by the Contractor.

D. Costs of any testing which is required solely for the convenience of the Contractor in its scheduling and performance of the Work shall be borne by the Contractor.

E. Costs for verification testing and inspection of Work done without timely notice, with improper supervision, or contrary to construction practice, shall be borne by the Contractor.

F. Costs for testing of materials for which fabrication and mill reports are required, but not furnished, shall be borne by the Contractor.

G. Costs of any testing which is the responsibility of the Contractor as specified in the Contract Documents shall be borne by the Contractor.

1.06 TESTS AND INSPECTION REPORTS

A. Copies of Test and Inspection Reports: Electronic copies of Owner's Testing Agency (or other special inspection services) reports and Contractor's test and inspection reports shall be exchanged between Owner and Contractor at weekly intervals and shall be provided to AHJ as required. All reports will be signed by a registered engineer. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested and records of special sampling operations that are required shall also be reported.
   1. Submit copies of inspection reports, certifications, notices, correspondence, and similar documents and records established in conjunction with building industry standards bearing upon the Work.

1.07 CONTRACTOR'S RESPONSIBILITIES

A. General: Inspection of the Work by the Owner's special inspectors and/or Testing Agency shall not relieve the Contractor from responsibility for compliance with Contract Documents requirements. Owner's special inspectors and/or Testing Agency and Owner's Representative shall have authority to reject Work whenever the provisions of the Contract Documents are not being complied with, and the Contractor shall instruct his employees accordingly.

B. Coordination: The Contractor's shall initiate, coordinate, and conform to the required tests and inspections of AHJ.

C. Access for the Purpose of Inspection: The Contractor shall ensure the Owner's special inspectors and/or Testing Agency have free access to all parts of the Work and to the shops where the Work is in preparation; are provided proper facilities for safe access for such inspection; and are reasonably furnished equipment, tools, samples, certifications, test reports, design mixes, storage, and assistance as requested by the Owner's Inspector.

D. Storage Facilities: The Contractor shall furnish adequate facilities for the sole use of the Owner's Testing Agency to provide safe storage and curing space for test specimens that must remain on-site prior to transport to the laboratory.

E. Data: The Contractor shall furnish accepted submittals, certificates, and similar data as may be required by Owner's inspectors to perform their work to assure compliance with the Contract Documents.

F. Notice: Furnish notice to Owner's Representative and coordinate with Owner's inspectors. Provide a minimum of five (5) working days' notice in advance of all required tests and a minimum of forty eight (48) hours in advance of all required inspections, unless otherwise specified.

G. Cancellations: Contractor shall give sufficient advance notice to Owner's Representative and Inspectors to allow rescheduling of their work load in the event of cancellation or time extension of any scheduled test or inspection.

1. Any charges from an Inspector due to insufficient advance notice of cancellations or time extensions shall be borne by the Contractor, at the Owner's sole discretion.

1.08 TEST FAILURES

A. General: The Owner's Representative may require a re-test of a sampled material when a sample or procedure has failed to pass the required tests. In such cases, two samples shall be tested and the material shall be rejected if either sample fails.
   1. In the event any test or inspection indicates failure of a material or procedure to meet the requirements of the Contract Documents, all costs for re-testing or re-inspection shall be borne by the Contractor.

1.09 REPORTING TEST FAILURES

A. General: Immediately upon determination of a test failure, the Owner's inspector shall telephone the test results to the Owner's Representative and Contractor. By the end of the following day, the Owner's inspector shall send written test results to those named on the distribution list.

B. Contractor shall similarly report test failures to Owner's Representative resulting from work of testing agencies provided by the Contractor.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 DESCRIPTION

A. The requirements specified in this Section relate to Temporary Facilities, Controls, Utilities and procedures required by all Sub-contractors through the General Contractor performing work under these Contract Documents and includes:
   1. General Requirements for Temporary Facilities and Controls
   2. Temporary Ventilation
   3. Temporary Sanitary Facilities
   4. Temporary Fire Protection and Detection
   5. Temporary Construction
   6. Temporary Enclosures
   7. Temporary Controls
   8. Project Identification.
   9. Progress Cleaning
   10. Removal of Utilities, Facilities and Controls.

1.02 RELATED WORK IN OTHER SECTIONS:

A. Additional requirements related Temporary Facilities and Controls may be provided as follows:
   1. PSU General Conditions
   2. Supplemental General Conditions
   3. Other Sections of these specifications.

1.03 GENERAL TEMPORARY FACILITIES AND CONTROL REQUIREMENTS

A. This Section specifies requirements for temporary services and facilities, including such items as temporary utility services, temporary construction and support facilities, temporary controls, traffic regulations, project security and protection.

B. Cost or usage charges for temporary services or facilities are NOT chargeable to Owner, and will NOT be considered as basis for claim for change orders.

C. Temporary utility services required for use at the Project Site include but are not limited to the following:
   1. Water service and distribution
   2. Temporary electric power and lighting
   3. Telephone, Fax and e-mail service

D. Temporary construction and support facilities required for Project include but are not limited to the following:
   1. Temporary heat
   2. Temporary ventilation
   3. Sanitary facilities
   4. Waste disposal service
   5. Construction aids and miscellaneous general services and facilities
   6. Temporary enclosures
   7. Project identification, bulletin boards and signs
   8. Field office
   9. Parking

E. Security and protection facilities and services required for Project include but are not limited to the following:
   1. Temporary fire protection
   2. Barricades, warning signs and lights
   3. Environmental protection

F. Comply with requirements of local laws and regulations as well as Owner's requirements governing construction, and local industry standards, in installation and maintenance of temporary services and facilities, including but not limited to the following:
   1. Building codes, including local requirements for permits, testing and inspection

2. Health and safety regulations
3. Utility company regulations and recommendations for temporary services
4. Police and Fire Department rules and recommendations
5. Environmental Protection Agency regulations ad requirements
6. Hazardous Materials Safety Regulations

G. Comply with requirements of NFPA Code 241, "Standards for Safeguarding Building Construction and Demolition Operations" and ANSI -A 10 Series standards for "safety Requirements for Construction and Demolition" and AGC/ASA/ASC Joint Guideline #5, "Temporary Job Utility and Services". Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services" as prepared jointly by AGC and ASC for industry recommendations

H. Inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities, and obtain required certifications and permits for use.

I. During progress of Work, submit copies of reports and permits required by governing authorities, or necessary for installation and efficient operation of temporary services and facilities.

J. Provide each temporary service and facility ready for use at each location when service or facility is first needed to avoid delay in performance of Work. Maintain or expand as required and modify temporary services and facilities as needed throughout progress of Work. Do not remove until services or facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

K. Operate temporary services and facilities in safe and efficient manner. Do not overload temporary services or facilities, and do not permit them to interfere with progress of Work. Should services of independent engineer be required to survey existing or temporary utilities, it shall be at no cost to Owner. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist at the Site.

L. Do not permit disruption of existing services, freezing of pipes, flooding or contamination of water sources.

M. Maintain temporary facilities in such manner as to prevent discomfort to users. Take necessary fire protection measures. Maintain temporary support facilities in sanitary manner so as to avoid health problems and other deleterious effects.

N. Maintain Site security and protection measures in safe, lawful and publicly acceptable manner. Take necessary measures to prevent site erosion, as applicable. At no time is Site to be without protective fence enclosure(s), as required to protect general public.

1.04 TEMPORARY UTILITIES

A. Coordinate with the Owner's Authorized Representative and make connections to existing services to provide temporary services to the Project. Connections to the service shall be the responsibility of the Contractor.

B. Coordinate with the Owner's Authorized Representative for acceptable time for service interruptions, where necessary to make connections for temporary services.

C. Do not interrupt any utility service. Seventy-two (72) hours prior request and approval from the Owner's Authorized Representative is required to enable the Owner to shut down any utility required for the work. Contractor's employees shall not shut down utilities.

1.05 TEMPORARY WATER SERVICE

A. Provide temporary water service and distribution piping of sizes and pressures adequate for construction purposes throughout the construction period and until permanent service is in use, including but not limited to following uses:
1. Construction processes
2. Fire protection, as appropriate
3. Drinking water
4. Cleaning

B. Where water use is authorized by Owner's Authorized Representative, connect to Owner's metered source, usage will be paid by Owner. Contractor shall exercise water conservation measures, provide hoses with threaded connection and provide temporary pipe insulation to prevent freezing. Owner's Authorized Representative reserves the right to require the Contract to furnish and install a temporary flow meter during construction and pay for water use, if contractor does not exercise satisfactory water conservation measures.

1.06 TEMPORARY ELECTRICITY

A. Provide weather proof, grounded temporary electric power service and distribution system of sufficient size, capacity and power characteristics to accommodate performance of Work during construction period.

B. Install service and grounding in compliance with National Electric Code (NFPA 70). Include necessary meters, transformers, overload protected disconnect and main distribution switch gear.

C. Provide metal conduit, tubing or armored cable for protection of temporary power wiring where exposed to possible damage during construction operations.

D. Temporary service electrical wiring will be limited to 110-120 volt, 20-amp rating, and wiring of lighting circuits may be non-metallic sheathed cable in areas where located overhead and exposed for surveillance, where permitted by code. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide metal enclosures or boxes for wiring devices.

E. For power hand tools and task lighting, provide temporary 4-gang outlets at each floor level, spaced so that 100-foot extension cord can reach each area of Work. Provide separate 110 120 volt, 20 amp circuit for each 4-gang outlet (4 outlets per circuit).

1.07 TEMPORARY LIGHTING

A. Wherever overhead floor or roof deck has been completed, install temporary lighting adequate to provide sufficient illumination for safe Work and traffic conditions in every area of Work. Take precautions to limit glare or direct illumination into areas occupied after dark.

B. Provide and maintain lighting for construction operations to achieve minimum lighting level of 2 watt/sq. ft.

C. Provide and maintain 1 watt/sq. ft. lighting to staging and storage areas during periods of non-construction after dark for security purposes.

D. Provide and maintain 0.25 watt/sq. ft. lighting to interior work areas during periods of non-construction after dark for security purposes.

E. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

F. Maintain lighting and provide routine repairs.

1.08 TEMPORARY HEAT

A. Provide and pay for heat devices as required to maintain specified conditions for construction operations.

1.09 TEMPORARY VENTILATION

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases. See Division 01, Indoor Air Quality for addition temporary ventilation requirements.

1.10 TEMPORARY SANITARY FACILITIES

A. The Contractor and subcontractors may use Owner designated restroom facilities located on the premises. The Contractor shall be responsible for maintaining the designated restroom facilities in a clean and sanitary condition or the privilege may be revoked. Coordinate restroom use with the Owner's Authorized Representative.

B. Do not discharge liquid wastes into sewers or drainage facilities, containing excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways. The contractor shall bear the cost of any damages to the sewer system, caused directly or indirectly by his crews or subcontractors.

1.11 WASTE DISPOSAL SERVICE

A. If existing sewers or drainage facilities cannot be lawfully used for discharge of liquid waste, provide containers to remove and dispose of waste off Site in a lawful manner. See Division 01, Cleaning and Waste Management.

B. Provide solid waste disposal and recycling facilities for the removal of construction related materials, trash and debris, in accordance with Division 01, Cleaning and Waste Management. No on-site area is available for a `roll-off' dumpster location. Coordinate with the City of Portland and the Owner's Authorized Representative the `hooding' of parking meters and the use of public right-of-way for rubbish disposal as required.

C. Do not dispose of hazardous materials in a manner that could allow the materials to enter landfills, waterways or other unapproved facilities. The Contractor shall comply with the hazardous material provisions of PSU General Conditions Section F, and Division 01, Cleaning and Waste Management.

1.12 CONSTRUCTION AIDS & GENERAL SERVICE FACILITIES

A. Construction Aids:
   1. Design, construct and maintain construction aids and miscellaneous general services facilities as needed to accommodate performance of Work. Construction aids and miscellaneous general services and facilities include, but are not limited to the following:
      (a) Temporary stairs and ladders
      (b) Guardrails and barriers
      (c) Walkways
   2. Provide temporary stairs where ladders are not adequate for proper, safe or efficient performance of Work.
   3. Install and maintain temporary walkways around work and to field offices, toilets and other similar areas. Construct walkways of gravel or duckboard units.
   4. Provide lifting devices necessary for the proper and efficient movement of materials; provide operating personnel for equipment as required. Provide for use of all hoisting equipment on the project during "off hours" as required to prevent impeding the project schedule.

B. Pollution Control:
   1. Provide general protection facilities, operate temporary facilities, conduct construction activities, and enforce strict discipline for personnel on Site by methods which comply with environmental regulations, and that minimize possibility that air, water and subsoil may be contaminated or polluted, or that other undesirable effects may occur from performance of Work.

C. Noise Control:
   1. Contractor shall provide and maintain adequate and effective mufflers, sound barriers and controls for all construction equipment so that noise from this equipment can be controlled to satisfaction of Owner. Coordinate with Owner's Authorized Representative when construction work requires use of air hammers or other objectionable noisy equipment. Comply with all laws and regulations applicable the noise pollution abatement and workplace noise. See Division 01, Indoor Air Quality.
   2. Rotohammering, grinding, drilling or other excessively noisy operations shall be coordinated with Owner's Authorized Representative and scheduled to avoid impacting building occupants. Jack hammering shall not be allowed at existing building interiors.

D. Dust Control:
   1. All streets, roads or detours used for hauling materials shall be oil dust treated as required to prevent dust, or continually watered to prevent dust. Dust prevention measures, both indoors and outdoors shall be continuous until Final Acceptance by Owner.
   2. Provide interior dust control measures, such as temporary partitions, taping of air spaces at doors, maintenance of filters and protection of ducts, etc., as required to control dust. Coordinate to prevent accidental activation of particulate-sensing fire detection system as described under requirements for Hot Work Permit.

E. Erosion and Sediment Control:
   1. Follow city approved master erosion control plan, when applicable. Maintain copy on site.

1.13 TEMPORARY ENCLOSURES

A. Security:
   1. The Contractor shall be responsible for any and all protections required during performance of the work, and shall be responsible for any and all damages as specified in PSU General Conditions Section G. The Owner will not be responsible for protection of materials or equipment from vandalism or theft. Security is the responsibility of the Contractor.

B. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism or theft.

C. Maintain a security program continuously throughout Project, until Owner occupancy or Owner acceptance precludes, need for security program.

D. Barriers:
   1. Comply with recognized standards and code requirements for erection of substantially adequate barriers where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform construction personnel and public of hazard of concern. Provide lighting and flashing signals as required.
   2. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
   3. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
   4. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

E. Fencing:
   1. Where fencing is required, install general enclosure fence with suitable lock for gates. Locate where indicated on Drawings or as required to substantially complete enclosure around Site or staging/construction operations. Install in a manner that will prevent unauthorized persons from easily entering Site. Except when otherwise directed, provide open-mesh, chain-link fencing with posts substantially set in ground, or in moveable concrete blocks.
   2. Within five days of Commencement of Work, Contractor shall provide fencing plan for approval by Owner. Plan shall indicate existing fencing to remain, new fencing required and type, location and sequencing of temporary barriers or fencing required for fencing outside primary Site.

F. Protection of Installed Work:
   1. Protect installed Work and provide special protection where specified in individual Specification Sections.
   2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
   3. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
   4. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

1.14 PROJECT IDENTIFICATION

A. Project Identification Signage:
   1. Project Identification Signage will be furnished by Owner and installed by Contractor. Coordinate signage placement with the Owner's Authorized Representative.
   2. Project Identification Signage shall be installed by the Contractor within five (5) days of delivery by the Owner and shall be removed by the Contractor following notice of Substantial Completion and prior to Final Completion. Upon removal Project Identification Signage shall become the property of the contractor.
   3. Project Identification Sign will consist of two signs, 4'x8' =32 sq ft area, 3/4" marine plywood mounted. Contractor to provide 4"x4" post or other materials and means to mount sign with bottom of sign 4 feet above ground.

B. Project Informational Signs:
   1. Contractor shall provide temporary directional signs to direct traffic into and within site. Relocate as Work progress requires.

1.15 FIELD OFFICE

A. Contractor shall work with Owner's Representative to coordinate storage and site needs.

1.16 TRAFFIC REGULATION AND PARKING

A. Traffic Control:

1. Comply with all rules and regulations of Owner, City, State and county authorities regarding closing of public streets to use by public traffic, including pedestrians. No road shall be closed to public except by expressed by permission by Owner and City. Control obstructions and hazards with approved signs, barricades and lights where necessary to protect safety of public. Convenience of general public adjacent to Project, protection of persons and property, and access of emergency vehicles are of prime importance and shall be provided for in satisfactory manner.

B. Flagging Services:
1. Contractor shall provide trained flaggers and barricade hazardous operations during construction activities requiring the use of street areas, as directed by the Owner's Authorized representative. Equip flaggers and guards on duty with approved red work apparel and stop/slow paddle kept clean and in good condition.
2. Utilize traffic control cones, drums, flares and lights which are approved by the city of Portland Bureau of Transportation. Use flares and lights during hours of low visibility to delineate traffic lanes and guide traffic.

C. Temporary Use of Roads:
1. Provide detours necessary for unimpeded traffic flow.
2. Provide and maintain unobstructed access to fire hydrants.
3. Maintain emergency vehicle top access to the premises.

D. Construction Related Parking Control:
1. Contractor, sub-contractor and employee parking will not be provided parking on the premises. The purchase of hoods for parking meters from the city of Portland is suggested.
2. Coordinate all construction deliveries with the Owner's Authorized Representative. Purchase and obtain a temporary parking permit from the Portland State University Office of Transportation and Parking twenty-four (24) hours prior to anticipated delivery parking need. Temporary construction related parking shall be limited to an assigned staging area as approved in writing by the Owner's Authorized Representative.
3. The Contractor shall be responsible for all contractor and sub-contractor parking citations by the City of Portland and the Portland State University Office of Transportation and Parking. All citations must be paid prior to submission of Notice of Final Completion and Request for Final Payment.

1.17 TEMPORARY FIRE PROTECTION

A. Until fire protection needs may be fulfilled by permanent facilities, install and maintain temporary fire protection facilities of types needed to adequately protect against reasonably predictable and controllable fire losses.
1. Provide equipment of adequate capacity to extinguish minor fires in combustible material on the Premises during the construction period.
2. Comply with applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers".
3. Maintain equipment in working condition with current inspection certificate attached to each.
4. Locate fire extinguishers where they are most convenient, visible and effective for their intended purpose, but provide no less than one extinguisher on each floor or in each general Work area, at or near each usable stairwell.
5. Store combustible materials in containers in recognized fire-safe areas.

B. Develop and supervise overall fire prevention and first-aid fire protection program for personnel at Project Site.
1. Review needs with local fire department officials and establish procedures to be followed.
2. Smoking is prohibited on the premises. Contractor's personnel are to abide by all rules and regulations regarding smoking and all other fire prevention regulations in force where the Work is to be performed. Smoking is not permitted in structures on the PSU campus.
3. Post warning and information and enforce strict discipline.
4. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires.
5. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of ignition for fire.
6. Contractor shall ensure that contractor's employees are familiar with Owner's fire procedures and location of fire hydrants and extinguishers in adjacent parts of building adjacent to the construction area.

1.18 PROGRESS CLEANING

A. Dirt and debris of all nature caused by execution of Work shall be removed from the Site at end of each work day. Contractor shall be responsible for disposal of all scraps and materials that are relative to this Project.

B. Remove debris and trash from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing space.

C. Hose all paved areas staged with construction material and generally prepare area of Work for occupancy with no further clean-up required by Owner.

D. Clean all spilled dirt, gravel or other foreign material caused by construction operations from all streets and roads at conclusion of each day's operations. Cleaning of large areas shall be by grader and front-end loader supplemented by washing with water power brushing and hand labor.

E. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

F. Remove waste materials, debris, and rubbish from Site daily and dispose off-site.

1.19 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

A. Remove temporary above grade of buried utilities, equipment, facilities, and materials prior to Substantial Completion inspection.

B. Remove underground installations to a minimum depth of two (2) feet. Grade site as indicated. C. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 55 00 – VEHICULAR ACCESS AND PARKING

PART 1 – GENERAL

1.01 DESCRIPTION

A. All parking costs and expenses incurred by any contractor in the course of doing business on Owner's property are the sole responsibility of such contractor. There is no free parking on the Owner's property. Parking rates for the City of Portland are posted at the parking entrances or on parking meters. Vehicles without permits may be towed away at the expense of the vehicle's owner. Parking is not allowed on any Owner's roadway unless so indicated. The Contractor's authorized representative can obtain parking permits for its employees from the Portland State University Transportation & Parking Services Office, Academic & Student Recreation Center, 1812 SW 6th Avenue (503.725.6245) at prevailing rates. All costs for parking permits, parking in University parking lots and ramps, and any fines incurred by any contractor shall be the responsibility of the contractor.

B. Contractor shall not park in any area not designated for vehicle parking. It will be the responsibility of such contractor to repair and/or reimburse Owner for any damage to Owner's property caused by contractor's vehicle.

C. Vehicles to be parked on the Owner's property shall be governed by Owner's Transportation & Parking Services Office

1.02 RELATED SECTIONS

A. Additional requirements related to Quality Requirements may be provided as follows:
   1. PSU General Conditions
   2. Other Sections of the specifications.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 55 29 – STAGING AREAS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Building Entry/Routes

1. Contractor shall schedule all necessary material stocking, demolition and trash removal through building corridors and elevators during non-peak hours or as approved by the PSU (or "Owner") Project Manager. All materials will be brought into the building through the loading dock or approved entry and transported using the Owner's assigned elevator.
2. The loading dock or entry is only to be used for loading and unloading. The loading dock or entry will not be used for parking. Vehicles left unattended will be towed at the expense of the Contractor.

B. Parking

1. Unless stated in a Contract, all parking will be at the expense of the Contractor. All vehicles parked on Owner's property must have a parking permit. The Contractor must arrange and secure for all temporary parking permits. Due to limited space, only work vehicles will be allowed at the worksite, and these may enclosed within the Contractor's assigned fenced work area. Contractor shall make every effort to carpool to the worksite when possible. It is the Contractor's responsibility to secure all parking permits or pay the appropriate meter.

C. Staging/Lay Down Area

1. During each phase of Construction, areas required for staging must be submitted to the Owner at least three (3) weeks in advance of the requirement. The date when the area will be reusable by Owner must be included.
2. During construction, the Contractor shall provide all security for its materials, offices, staging and construction parking areas, etc. Owner shall have no responsibility for any of these items. Contractor shall also be responsible for maintaining a safe construction area on Owner's property and offsite as well, including, without limitation, keeping all public and private roadways and parking areas clean, safe and functioning. The Contractor shall only be obligated cleanup of those portions of public or private roadways and parking which have been affected by Contractor's activities.
   (a) Use of lay down area is for the staging and storing of construction related equipment or material for Contractor construction activities only as related to PSU projects.
   (b) Contractor is responsible for making sure the lay down area complies with all local building and fire codes and regulations and all Owner's safety codes and requirements.
   (c) Contractor is responsible for keeping the grounds surrounding the lay down area safe and clean of construction materials, litter, trash, and scrap materials. Continuous housekeeping is required including daily removal of combustible waste and storage of combustible waste in approved metal containers and trash bins with metal lids. Outdoor tool and equipment power cords shall be removed nightly. Clean-up and sweeping to be done on a daily basis at the completion of a work shift.
   (d) Contractor is responsible for their own trash management, including removal of trash from campus. Contractor shall comply with recycling guidelines specified in the Contract Documents.
   (e) Work & safety rules specified in the Contract Documents apply to lay down areas. Construction Personal Protective Equipment is required in the lay down area.
   (f) Owner will not be held liable for any loss or damage to any contractor structures or equipment in the lay down area.
   (g) There is NO SMOKING in the lay down area or inside structures or shipping containers in the lay down area. No smoking signs shall be posted at these locations.
   (h) Contractor is responsible for keeping all fire and emergency access lanes surrounding the lay down area open at all times. Fire lane parking is subject to immediate tow at Contractor's expense. Fire hydrants must be accessible at all times.
   (i) Contractor's portable toilets must be located inside the designated lay down area and maintained to PSU's satisfaction at all times.

(j) Contractors will not be permitted to store any type of construction material on top of their shipping containers or structures for safety reasons. No combustible materials will be permitted to be stored under a storage trailer.
(k) Contractor shall return the lay down area in the same or better condition than when initially used. Payment and/or fees may be withheld until repairs by the Contractor have been completed to PSU's satisfaction.
(l) If outside staging of material is required in unpaved areas, Owner is not responsible for mud, dirt, snow, rain, ice and/or rust on materials.
(m) Materials stored in staging area(s) must be protected from the elements and from damage or degradation as required in contract documents.
(n) Typical temporary construction fencing shall be covered with opaque material to prevent seeing inside the fencing. Construction fencing shall be placed on the interior side of the opaque material.
(o) The lay down area shall be made as small as possible and configured to minimize impact to the daily operations of the campus. Contractor to use lay down area for minimal amount of material inventory as required to provide an efficient construction process.

PART 2 – PRODUCTS, N/A

PART 3 – EXECUTION, N/A

END OF SECTION

SECTION 01 56 39 – TREE AND PLANT PROTECTION

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work of this Section includes preservation and protection of existing trees, shrubs, and lawn to remain.

1.02 GENERAL WORK CONSTRAINTS

A. Unless indicated otherwise on the documents all existing trees, shrubs, and lawn shall remain and be protected.

B. No work shall occur within the area inside the protective fencing.

1.03 COMPENSATION FOR DAMAGE TO EXISTING TREES

A. The Contractor is responsible for compensating the Owner for any and all damage to trees, shrubs, and lawn.

B. Compensation action and amounts shall be as directed and calculated by a certified Arborist selected by the Owner.

PART 2 – PRODUCTS

2.01 TREE PROTECTION AND WORK LIMIT FENCING

A. Protective Fencing: 6 foot tall temporary chain link fencing with temporary concrete post bases.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Provide protective fencing at the limits for construction as indicated on the landscape drawings and as approved in the Field by the Owner.

B. Prior to beginning construction, tour the site with the Owner and outline the location where protective fencing shall be installed.

C. Fencing shall be installed plumb in locations identified in the field by the Owner.

D. Fencing used to define the edge of construction, where it coincides with the location approved by the Owner for plant protection fence, is acceptable for protection fencing.

3.02 MAINTENANCE

A. Maintain all protective fencing plumb, tight, at full height, and where located in the field by District. Replace damaged fencing with new materials as needed.

3.03 REMOVAL

A. Remove protective fencing just prior to the site review for Substantial Completion.

END OF SECTION

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. The requirements specified in this Section relate to general product requirements substitutions by the Contractor, Sub-contractors and Suppliers performing Work under these Contract Documents and includes:
   1. Contractor's Responsibilities
   2. Product Options
   3. Substitution Requests during the Bidding Process
   4. Substitution Requests after the Award of Contract
   5. Substitutions not permitted
   6. Product Delivery, Storage & Handling
   7. Product Installation

1.02 RELATED SECTIONS

A. Additional Product Option and Substitution Request Information may be provided as follows:
   1. PSU General Conditions
   2. Other Sections of these specifications.

1.03 DEFINITIONS

A. "Products" are materials, machinery, components, equipment, fixtures and other systems incorporated into the Project, regardless of whether they were purchased for the Project or taken from the Contractor's previously purchased inventory. It does not include machinery and equipment used in preparation, fabrication, conveying and erection of the Work.

B. "Materials" are products that must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed or installed to form units of Work.

C. "Substitutions" includes proposed changes in products, materials, equipment, and methods of construction required by the Contract Documents.

1.04 REQUESTS FOR SUBSTITUTIONS

A. Requests for substitution of products in place of those specified shall be in accordance with the Public Improvement Agreement, PSU General Conditions, with Supplemental Conditions, and as specified herein. The Contractor assumes responsibility for the requirements as set forth herein. Any cost or time impact shall be at the Contractors expense.

1.05 CONTRACTOR'S RESPONSIBILITIES

A. In requesting substitution, the Contractor shall comply with PSU General Conditions, This includes but is not limited to the following:
   1. Investigate proposed products and determine that they are equal or superior in all respects to products specified.
   2. Provide same guarantee for accepted substitutions as for products specified.
   3. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects and within original time constraints.
   4. Waive all claims for additional costs related to substitutions, which consequently become apparent.

PART 2 – PRODUCTS

2.01 PRODUCT OPTIONS

A. Contractor's Options in selecting products is limited by the requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects. Where products or manufactures are specified by name or manufacturer, they shall be assumed accompanied by the term, "or approved equal". Comply with the Contract Document requirements for Substitutions and submittals to obtain review from Architect and Owner's Authorized Representative for use of substitute products.

PART 3 – EXECUTION

3.01 SUBSTITUTION REQUESTS DURING THE BIDDING PROCESS

A. Substitution requests shall meet the following criteria for review by the Architect and Owner's Authorized Representative:
   1. Substitutions shall be requested using the Substitution Request Form provided herein after this Section.
   2. Complete Substitution Request Form and submit one (1) electronic copy of each request for substitution to proposals@pdx.edu.
   3. Itemize comparison of proposed substitution with product or method specified.
   4. Complete data on each material and system for this project only, substantiating compliance of proposed substitution with the Contract Documents.
   5. Complete evidence including test numbers and supporting reports indicating compliance with referenced standards.
   6. A statement from the Manufacturer(s) of the proposed substitution materials stating that any and all warranties required by the contract documents for the originally specified materials can and will be provided for the substitution materials, and that required warranties shall be issued upon successful completion of the Work.

B. Substitutions shall be requested prior to the Deadline for Request for Change and Protests, and accepted by Addendum prior to the date and time bid materials are due at proposals@pdx.edu.

3.02 SUBSTITUTION REQUESTS AFTER AWARD OF CONTRACT

A. Substitutions will normally not be considered after date of Contract, except when required due to unforeseen circumstances. Within a period of thirty (30) days after date of Contract, the Owner may, at its option, consider formal written requests for substitution of products in place of those specified, when submitted in accordance with the requirements stipulated herein. Substitution requests shall meet the following criteria for review by the Architect and Owner's Authorized Representative:
   1. Submit one (1) electronic copy of each request for substitution using the submittal process specified in Division 01, Submittal Procedures.
   2. Substitutions shall be requested using the Substitution Request Form provided herein.

B. To receive consideration, one or more of the following conditions must be documented in any such request:
   1. The substitution is required for compliance with final interpretation of code requirements or insurance regulations.
   2. The substitution is required due to unavailability of a specified product, through no fault of the Contractor.
   3. The substitution is required because subsequent information disclosed the inability of the specified product to perform properly or to fit in the designated space.
   4. The substitution is required because it has become clearly evident, in the judgment of the Owner that a substitute would be substantially in the best interest of the Owner in terms of cost, time, or other considerations.

C. For products specified only by referenced standards, provide products by any Manufacturer meeting standards specified.

D. For products specified by naming one or more products, provide any product named. If certain conditional requirements are stipulated, each product must comply with these requirements. Requests for approval of substitutions are subject to meeting requirements stipulated above.

E. For products specified by naming a product to match existing products or systems, provide product of the same name. There is no option and no substitution is allowed.

F. For each substitution that is accepted, the Contractor shall coordinate the work of all other trades and modify surrounding conditions as required to complete the work to the satisfaction of the Owners Authorized Representative at no additional cost to the Owner.

3.03 SUBSTITUTIONS NOT PERMITTED

A. Submitted without first requesting approval thereof in accordance with requirements of this Section.

B. Acceptance will require substantial revision of the Contract Documents, except as allowed by Paragraph 3.02 above.

3.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and- other losses.
3. Deliver, handle and store products in accordance with the manufacturer’s recommendations, using means and methods that will prevent damage, deterioration and loss. Control delivery schedules to ensure timely delivery for incorporation into the Work, while minimizing long-term storage at the site and preventing overcrowding of the construction area.
4. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
5. Promptly inspect shipments to assure that products comply with requirements, quantities are correct and products are undamaged.
6. Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

3.05 PRODUCT INSTALLATION

A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

B. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work of this Section includes administrative and procedural requirements for cutting and patching.

1.02 RELATED SECTIONS

A. Additional information regarding cutting and patching requirements may be found in the follows:
   1. PSU General Conditions
   2. Other Sections of these specifications.
   3. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 01 Sections, apply to this Section.

1.03 QUALITY ASSURANCE

A. The Contractor shall perform all cutting and patching in conformance with PSU General Conditions Section F.3 and as specified herein.

B. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio. The Owner's Authorized Representative shall pre-approve all field modifications.

C. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operation life or safety.

D. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. The contractor shall remove and replace construction cut and patched in a visually unsatisfactory manner at no expense to the owner.

PART 2 – PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 – EXECUTION

3.01 INSPECTION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.03 PERFORMANCE

A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B. Cutting:
   1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
   2. Cut existing construction using methods least likely to damage elements retained or adjoining construction.
   3. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   4. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
   5. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
   6. Comply with requirements of applicable Project documents where cutting and patching requires excavating and backfilling.
   7. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter.

C. Patching:
   1. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
   2. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
   3. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   4. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance.
   5. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
   6. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Cleaning:
   1. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01 74 00 – CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL

1.01 DESCRIPTION

A. The Owner requires that this project generate the least amount of waste and trash possible.

1.02 RELATED SECTIONS

A. Additional waste management requirements may be found in the following:
   1. PSU General Conditions
   2. Other Sections of these specifications.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
D. Non-hazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
H. Recycling: The process of sorting, cleansing, treating and reconstituting solid wasted and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
I. Return: To give back reusable items or unused products to vendors for credit.
J. Reuse: To reuse a construction waste material in some manner on the project site.
K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 WASTE MANAGEMENT REQUIREMENTS

A. The contractor shall familiarize himself with the relevant requirements, provide the necessary documentation and instruct all sub-contractors and suppliers regarding energy efficiency, air quality, demolition, recycling, waste management and final cleaning.
B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
D. 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.

E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local requirements, pertaining to legal disposal of all construction and demolition waste materials.
   1. The city of Portland requires all building projects with a permit value of $50,000 or more to separate and recycle certain materials from the job site. The contractor shall be responsible for assuring recycling at the job site and for completing the pre-construction recycling plan form.

PART 2 – PRODUCTS

2.01 REPORTS

A. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues. See Division 01, Submittal Procedures.

B. Submit Waste Disposal Reports with each application for progress payment, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report. Failure to submit Report will delay payment. Prepare Waste Disposal Reports as follows:

C. Submit Report on a form acceptable to Owner.

D. Landfill Disposal: Include the following information:
   1. Identification of material.
   2. Amount, in tons or cubic yards, or trash/waste material from the project disposed of in landfills.
   3. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
   4. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

E. Incinerator Disposal: Include the following information:
   1. Identification of material.
   2. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
   3. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
   4. Included manifest, weight tickets, receipts, and invoices as evidence of quantity and cost.

F. Recycled and Salvaged Materials: Include the following information for each:
   1. Identification of material, including those retrieved by installer for use on other projects.
   2. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
   3. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   4. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Certification by receiving party that materials will not be disposed of in landfills or by incineration.

G. Material Reused on Project: Include the following information for each:
   1. Identification of material and how it was used in the project.
   2. Amount, in tons or cubic yards.
   3. Include weight tickets as evidence of quantity.

H. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 – EXECUTION

3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Designate an on-site person or persons responsible for instructing workers and overseeing documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Architect, and Owner's Authorized Representative.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting
   2. Pre-construction meeting
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to contractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Materials: If, during the course of the Work, the Contractor observes or suspects the existence of Hazardous Materials in the structure or components within the defined scope of work area, the Contractor shall immediately stop Work in the immediate area and notify the Owner's Authorized Representative, who will, under separate contract, facilitate the remove of the hazardous material. The Contractor will be required to schedule ten (10) days of slack or "down" time for the removal of potential unforeseen materials. Any delay caused by asbestos abatement that lasts less than ten (10) days shall not constitute a delay as defined in Section D.2 of the PSU General Conditions and shall not result in any additional compensation to the contractor. If removal of the material takes more than ten (10) days, the Contractor shall be entitled to an extension of the completion date for the Work equal to the number of days required for removal, plus reimbursement for Contractor's cost of the Work for only those days in excess of ten (10).
   1. Hazardous Material abatement in the defined scope of work area was performed in July 2008. A copy of the Asbestos Abatement Inspection Report shall be provided to the contractor prior to beginning work and shall be maintained on the job site throughout the course of work.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 77 00 – EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. This Section specifies administrative and procedural requirements for Contract closeout including, but not limited to:
   1. Project Record Documents
   2. System Start-up, Testing & Adjusting
   3. Operating Instructions and Training
   4. Operations & Maintenance Manuals
   5. Warranties & Bonds
   6. Final Cleaning
   7. Owner's Final Inspection
   8. Spare Parts & Extra Quantities
   9. Substantial Completion
   10. Final Completion
   11. Final Acceptance
   12. Final Review and Payment

B. Project closeout is a term used to describe certain collective project requirements, indicating Work under this Contract that is fulfilled near the end of the Contract time in preparation for Final Completion, as well as Final Payment to the Contractor.

C. Special requirements for individual units of work may be included in appropriate Specification Sections of this Project Manual.

1.02 RELATED SECTIONS

A. Additional Contract closeout requirements may be provided as follows:
   1. PSU General Conditions
   2. Supplemental General Conditions
   3. Division 01, Submittal Procedures
   4. Other Sections of these Specifications.

1.03 DEFINITIONS, N/A

1.04 PREREQUISITES TO FINAL COMPLETION AND PAYMENT

A. The Contractor shall comply with all terms of PSU General Conditions Sections E.6 and I.1, unless otherwise amended herein, prior to filing Notice of Final Completion or requesting Final Payment.

B. The Contractor shall return all keys requested for access to buildings and work areas and obtain a deposit refund, as specified in Division 01, Project Management and Coordination.

C. The Contractor shall notify all Subcontractors in writing of incomplete and/or incorrect items and the anticipated filing of Final Completion. Notify far enough in advance of the completion date that the Work can be completed on schedule. Said Work shall be immediately corrected.

D. Submit to the Owner's Authorized Representative Lien Releases in accordance with PSU General Conditions Section K.

E. The Contractor shall provide the Owner with an unconditional Certificate of Occupancy from the local building officials, in accordance with PSU General Conditions Section K.

F. Notify the Architect in writing that all items are complete and ready for Final Completion review and that the Work product is fully usable.

G. Submit three (3) copies of all record documents for Final Completion review at this time.

H. The Architect will review all documents. The Architect will review all Work that has been certified as complete to the best knowledge of the Contractor. The Architect will also list all remaining incomplete punchlist Work and assign a probable value and time to complete such uncompleted Work.

I. The Architect will review the Work for conformance. Time is of an essence on this project. If the Work is found to be in nonconformance, the Architect will notify the Owner of the nonconforming items and probable value and time for completion. Nonconforming items will require retainage of monies to ensure that the Contractor will complete all Work within the time established by the Agreement and as amended by executed Change Orders.

J. The Contractor shall make the required corrections to the Work expeditiously. Sufficient retainage monies will be held to pay for uncompleted Work, should the Contractor fail to perform. A letter will be addressed to the Contractor noting the project status and the monies available for a partial-final payment upon receipt of billing.

K. When Contract closeout procedures are completed and all punchlist deficiencies have been corrected, final acceptance by the Owner will be documented. The Contractor will receive written notice of acceptance of the Work and notification that final payment may be billed and released. Note that final wage rate submittal and documentation of all BOLI fees are required prior to final payment.

L. The Contractor shall be responsible for all parking citations received in relation with the project from the City of Portland and the Portland State University office of Transportation and Parking. All citations must be paid prior to submission of notice of Final Completion and Request for final Payment.

M. All warranties shall commence and become effective in accordance with Section I of the PSU General Conditions and as modified by Supplemental General Conditions.

PART 2 – PRODUCTS

2.01 GENERAL DESCRIPTION

A. Substantial Completion shall be defined per PSU General Conditions Section A.1, and Notification of Substantial Completion by the Contractor to the Owner shall be through the Architect as specified in the PSU General Conditions, Section K and the Supplemental General Conditions. See Division 01, Submittal Procedures for general Submittal Review Procedure.

B. Submit Certificate of Substantial Completion with accompanying punchlist and date for punchlist completion to the Architect once the Contract Documents have been reviewed, Work has been inspected and all prerequisites to substantial competition have been addressed.

C. Prior to signing the Certificate of Substantial Completion, the Architect will perform one Substantial Completion review of the Work. The Contractor shall pay the cost of additional Substantial Completion reviews of the Work.

2.02 FINAL CLEANING

A. Perform final cleaning of all items of Work prior to Substantial Completion review of the Work. Employ professional cleaners for final cleaning. Clean each surface or unit of work to condition expected from normal commercial building cleaning and maintenance program. Comply with all manufacturer's recommendations. Complete the following prior to requesting Architect's review of the Work for Substantial Completion certification:

1. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.
2. Vacuum all carpeted, fabric and other soft surfaces.
3. Clean all Contractor and Owner provided equipment and fixtures.
4. Clean or replace all filters of operating equipment.
5. Clean debris from roofs, gutters, downspouts and drainage systems impacted by the Work.
6. Clean the Project Site and adjacent areas impacted by the Work, including landscaped and parking areas, or rubbish, litter and other foreign substances. Sweep paved areas to broom clean condition. Remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted to smooth, even-textured surface.
7. Re-clean areas and equipment prior to inspection for Final Completion, if dirtied in completion of punchlist work.

B. Unless otherwise directed by the Architect or Owner's Authorized Representative, remove temporary protective devices and facilities, which were installed during the course of the Work to protect previously completed work from the remainder of the construction to be completed, or to protect the public.

C. Comply with all safety standards and governing regulations for cleaning and dispose of waste materials in accordance with Division 01, Cleaning and Waste management and the PSU General Conditions.

2.03 SYSTEM START-UP, TESTING & ADJUSTING

A. The project has been designed to comply with SEED (State Energy Efficient Design) criteria. Coordinate with the Owner's Authorized Representative the system start-up, testing, adjusting and balancing to comply with the Owner's Commissioning requirements.

B. The Contractor shall coordinate the scheduling for the start-up and testing of various equipment and systems provided by the Contractor and Owner with the Owner's authorized representative.

C. Notify the Owner's Authorized Representative and the Architect a minimum of fourteen (14) calendar days prior to the start-up or testing of each item.

D. The Contractor shall submit to the Owner's Authorized Representative for review and approval, a minimum of fourteen (14) calendar days prior to the start-up or testing, five (5) copies of the following:
   1. A paragraph-by-paragraph program of the Contractor's proposed testing procedure, developed to demonstrate compliance with the contract documents.
   2. Check off sheets for the review of each item of equipment and system.
   3. Each program and check off sheet shall provide the following information:
      (a) Project information required by Division 01, Submittal Procedures.
      (b) Product data information required by Division 01, Submittal Procedures
      (c) Other information as required to fully describe the item
      (d) Provide spaces for testing "Review" sign off by Owner's Authorized Representatives and the Architect's Authorized Representative

E. Verify that each piece of equipment or system has been checked for proper connection of services, lubrication, drive rotation, belt tension, control sequencing or other conditions that could cause damage.

F. Verify that tests, meter readings and specified electrical characteristics agree with those required by equipment or system manufacturers.

G. Verify that wiring, piping and support components for equipment are complete and tested.

H. Execute start-up under the supervision of the Owner's Authorized Representative(s), the responsible manufacturer's representative, Contractor's personnel in accordance with the manufacture's recommendations.

I. Submit five (5) copies of all Installation, Adjustment and Balancing and Testing Reports for each piece of equipment and system in accordance with the Submittal Review Procedures, specified in Division 01, Submittal Procedures.

J. Operating equipment and systems shall be tested in the presence of the Owner's Authorized Representatives and the Architect's Authorized Representative to demonstrate compliance with the Contract Documents and the manufacturer's recommendations:
   1. Testing shall be conducted under operating conditions as specified by the Owner's Authorized Representatives and the Architect's Authorized Representative.
   2. Copies of all test reports shall be included in the Project Record Documents.

K. All elements of systems shall be tested to demonstrate that total systems satisfy all requirements of the Contract Documents. Test each piece of equipment for proper operation, followed by each subsystem, followed by entire system, followed by interfaces with other major systems.

L. The Contractor shall provide all materials and equipment required for equipment and system testing.

M. The Contractor shall perform the following minimal tests and additional tests as required by the Owner's Authorized Representative:
   1. System shall be checked for proper installation, and shall be adjusted and calibrated to verify that it is ready to function as specified.
   2. All system elements shall be checked to verify that they have been properly installed and that all connections have been made correctly.
   3. All discrete elements and sub-systems shall be adjusted and balanced and shall be checked for proper operation.

2.04 OPERATIONS & MAINTENANCE MANUALS

A. The Contractor shall provide Operations and Maintenance Manuals for review and project record documentation in accordance with PSU General Conditions Section K and the Division 01, Submittal Procedures.

B. The Operations and Maintenance Manuals shall contain all the information needed to operate, maintain and repair all systems, equipment, and product finishes provided in the Project. They shall be presented and arranged logically for efficient use by Owner's operation personnel. As a minimum, the information provided shall include, but not be limited to, the following:

1. Table of contents divided specification name and number and sub-divided by product
2. Contact information for all consultants, manufacturers, installer and suppliers including address, e-mail address, phone number, and reference order numbers.
3. Warranties & Bonds as per Division 01, Execution and Closeout Requirements.
4. Product description including, but not limited to, manufacturer, product name or equipment make and model number (and other nameplate data), size and dimensions, color, Material Safety Data Sheets (and related product information), and other pertinent information
5. Product finishes maintenance and cleaning instruction
6. Performance and calibration data for specific product provided (extraneous catalog data must be eliminated)
7. Descriptions and schematic diagrams of system assembly and configuration (including components and interrelations)
8. Manufacturer's recommended equipment operating and maintenance instructions, including routine lubrication and servicing data, start-up and shutdown procedures, and any seasonal or emergency procedures
9. Manufacturer's checklists and methods for troubleshooting
10. Complete parts list with parts numbers indicating common replacement parts and anticipated useful life
11. Training information as per Division 01, Execution and Closeout Requirements and PSU General Conditions Section K.
12. Copies of: as-builts, any certificates from respective manufacturers, suppliers, and Subcontractors; permits and/or licenses, and; equipment maintenance and service contracts

C. Separate manuals shall be provided by the Subcontractors (i.e. titled: MECHANICAL, ELECTRICAL, PLUMBING, etc.) and an additional manual provided by the General Contractor titled CLOSEOUT BOOK for all other information.

D. As per PSU General Conditions Section K, Contractor shall deliver one complete and approved set of Operations and Maintenance Manuals in electronic form and three sets in paper form derived from and organized similarly to the electronic copy.

1. Electronic Operations and Maintenance Manuals shall comply with PDF/A (ISO 19005) or PDF/E (ISO 24517) standards and at a minimum must be full-text searchable, bookmarked similarly to the table of contents, and otherwise indexed or interlinked. File formats not natively supported by PDF shall be embedded into the PDF using the PDF/A-3 standard (ISO 19005-3) using open file formats wherever possible
2. Hard copies shall bound in separate three-ring binders
   (a) Provide a cover slip sheet and a spine sheet typed with the Manual's name (e.g. Mechanical Operations and Maintenance Manual), PSU project name, PSU project number, PSU building locations, A/E name, Contractor name, and date. Label manuals consecutively (e.g. Mechanical 1 of 3).
   (b) Contents of the manual printed by contractor or subcontractors shall be printed on 8.5" x 11" permanent paper (as per latest revision of ANSI/NISO Z39.48-1992)
   (c) Architectural, Mechanical, Electrical, etc. manuals may be combined into one manual, with approval of Owner.

2.05 WARRANTIES & BONDS

A. Provide all executed warranties and bonds, and any certificates from the respective manufacturers, suppliers, and Subcontractors or as specified in other Sections of this project manual.

B. Include all required warranties and bonds in the Operations and Maintenance Manuals in accordance with Item 2.04 herein.

C. List Subcontractor, supplier and manufacturer, with address and telephone number of responsible principles.

D. Verify that documents are in proper form, are of an orderly sequence, contain all information, and are notarized as applicable.
E. Co-execute documents as required.

2.06 TRAINING

A. The Contractor shall coordinate with the Owner's Authorized Representative training sessions for all equipment and systems in accordance with PSU General Conditions Section K.

2.07 SPARE PARTS & EXTRA QUANTITIES

A. The Contractor shall provide spare parts and extra quantities in accordance with PSU General Conditions Section K.
B. The Contractor shall submit in accordance with Division 01, Submittal Procedures, five (5) copies of the following:
   1. Check off sheets for the review of each item of material or product for which extra quantities are required.
   2. Each check off sheet shall provide the following information:
      (a) Project information required by Division 01, Submittal Procedures
      (b) Product information required by Division 01, Submittal Procedures
      (c) Amount of extra parts or quantity required
      (d) Provide spaces for testing "Review" sign off by Owner's Authorized Representatives and the Architect's Authorized Representative
C. Coordinate delivery to the Owner with the Owner's Authorized Representative and submit receipts of delivery corresponding to spare parts and extra quantities check off sheet.

2.08 PROJECT RECORD DOCUMENTS

A. General: Project Record documents include the Contractor's as-built Drawings, as-built Specifications, and as-built Shop Drawings required by the Contract Documents. Project Record documents must be protected from deterioration and stored in a secure fire-resistant location.
B. Submit three (3) copies of the Project Record Documents for review in accordance with Division 01, Submittal Procedures. The Project Record Documents shall be organized to include the following information:
   1. Title and date of Project, Owner's Project Number
   2. Team list
   3. Table of Contents
   4. Specifications
   5. As-Built Drawings (blueprints or photocopies)
   6. Inspection Reports, as applicable
   7. Warranty(ies), as applicable
   8. Operations and Maintenance Instructions
   9. Approved and stamped Shop Drawings, Product Data and Samples as Division 01, Submittal Procedures
C. Bind each copy of the Project Record Documents in a hard cover, three-ring binder with each Section clearly indexed with tabbed divider pages.
D. The project team list shall include the address and phone number of the Owner, Architect, Contractor, inspectors, subcontractors, and the materials manufacturers.
E. Legibly mark each Specification Section to indicate actual as-built conditions. The as-built Specifications shall clearly indicate changes in the Work made by Addendum and/or Change Order, actual materials used, and actual Manufacturer(s) used.
F. Legibly mark the drawings to indicate actual "as-built conditions." The drawings shall clearly indicate changes in the Work made by Addendum and/or Change Order. The Owner shall employ the Architect to modify CAD documents into a "recorded as-built" base for Owner's usage, based on information provided by Contractor.
G. Include inspection reports and Architect's field reports, if applicable.
H. Include a copy of required Warranty(ies) clearly marked to identify the Owner's responsibilities under the terms of the Warranty(ies).

2.09 CORRECTION AND RESUBMITTAL

A. As-built Drawings: Maintain black line prints of the bid set Contract Drawings and approved Shop Drawings. Mark the drawings to show new information that was not shown on the bid set Drawings, and on the approved Shop Drawings, including the actual installation where the installation varies substantively from the work as originally shown. Mark drawings to show conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

1. Organize as-built Drawings in manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on the cover of each set.
2. Mark with reproducible pencil and distinguish between variations in separate categories of the Work. Text size is to be 1/8" minimum. Good basic drafting practice must be applied.
3. Show bid addenda items, Change Orders, and Request for Information (RFI) responses by their number, and date the revisions with a "cloud" around the revision.
4. Keep accurate measurements of below-grade site work, including permanent shoring
5. Show mechanical dampers, valves, reheat boxes, cleanouts, and other equipment and items that require maintenance.
6. Show location of construction-concealed mechanical, electrical and plumbing (MEP) riser installations including, but not limited to, piping, ductwork, and conduits referenced to visible and accessible features.
7. Show field changes of dimensions and details.
8. X-out conditions not constructed and appropriately annotate "not constructed" to convey the actual as constructed condition.

B. As-built Specifications: Maintain one (1) copy of the bid set Contract Specifications showing all addenda, substitutions, Change Orders, and RFIs. Give particular attention to the selection of options, changes in product data, and information on elements engineered by the Contractor and note related as-built Drawing information, as appropriate. Clear, legible documentation must be applied.

C. As-built Shop Drawings: The Contractor shall comply with the following CAD (Computer-Aided Drafting) standards and requirements when preparing as-built record Shop Drawings required by the Contract Documents.

1. Cover sheets shall contain a complete index of all sheets.
2. Standard drafting practice shall be:
   (a) Title block
      (i) All sheets shall have a title block.
      (ii) Title block information is to be on the right side of the sheet.
      (iii) Title blocks shall include the following information:
         1. Date
         2. PSU Project Name
         3. PSU Project Number
         4. PSU Facility Name
         5. Sheet title and description
         6. Sheet number including discipline designator
         7. Contractor or Subcontractor company name
         8. A/E's Seal (whoever prepared the document)
         9. A Key Plan
   (b) Scale and Units:
      (i) All objects are to be drawn at full scale for the assigned unit of measure.
      (ii) All drawings are to have a unit of measure assigned and not set to "unitless."
   (c) External references usage in CAD Documents: External references are not allowed for submittals. All external references are to be bound using the "bind" option, instead of the "insert" option.
   (d) Area of Work: CAD drawings shall include a boundary that defines the area of work, showing only the area where work is performed.

PART 3 – EXECUTION, N/A

END OF SECTION