UNIVERSITY OF OREGON
Willamette Hall
3rd Floor Microscopy Laboratories
Remodel

2011

University of Oregon, EUGENE, OREGON

PROJECT MANUAL

100% CONSTRUCTION DOCUMENTS

Architect:
Rowell Brokaw Architects, P.C.
1 East Broadway, Suite 300
Eugene, Oregon 97401
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1295 Franklin Blvd.
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January 04, 2012

RBA Job # 1126

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WIllamette Hall
3rd Floor Microscopy Laboratories Remodel

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OREGON UNIVERSITY SYSTEM

NOTICE OF RETAINER CONTRACT OPPORTUNITY

The Oregon University System (OUS) is accepting sealed bids for a public improvement project at the University of Oregon Facilities Services Offices until **11:00 AM, Pacific Time, January 23, 2012** for the Willamette Hall 3rd Floor Microscopy Laboratories remodel project located on the campus of the University of Oregon, in Eugene, Oregon. The project includes the renovation of an existing conference room into two small microscope rooms, walling-off a portion of an existing lab room to create another microscope room, the conversion of an existing office into another microscope room, and the subdividing of one other small lab room.

A **mandatory pre-bid conference** will be conducted at **11:00 AM January 12, 2012**. Bidders shall meet with OUS' Representative on the ground floor of the Willamette Hall atrium, at the base of the main stair, for that purpose. Attendance will be documented through a sign-in sheet prepared by the OUS representative. Prime bidders who arrive more than 5 minutes after start of time of the meeting (as stated in the solicitation and by the OUS representative's watch) or after the discussion portion of the meeting (whichever comes first) shall not be permitted to sign in and will not be permitted to submit a bid on the project.

Bids will be received on a lump-sum basis for all of the work. Bid packets may be obtained **on the OUS Procurement Gateway website.**

Bid packets may be examined at Rowell Brokaw Architects, One East Broadway, Ste. 300, Eugene, Oregon, 97401.

All bidders must comply with requirements of the prevailing wage law in ORS 279C.800 through ORS 279C.870. All bidders must be registered with the Construction Contractor's Board at the time of bid submission. No bid will be considered unless fully completed in the manner provided in the "Instructions to Bidders" upon the Bid Form provided and accompanied by Bid Security. OUS encourages bids from Minority, Women, and Emerging Small Businesses.

OREGON STATE BOARD OF HIGHER EDUCATION

By: Frances Dyke
Vice President for Finance and Administration

OREGON UNIVERSITY SYSTEM

RETAINER CONTRACTS EXCEEDING $100,000

INSTRUCTIONS TO BIDDERS

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INSTRUCTIONS TO BIDDERS

Oregon Administrative Rules Chapter 580, Divisions 61 and 63 govern this OUS procurement process.

Article 1. Scope of Work

The work contemplated under this contract with the Oregon State Board of Higher Education, hereinafter referred to as the Owner, includes all labor, materials, transportation, equipment and services necessary for, and reasonably incidental to, the completion of all construction work in connection with the project described in the Project Manual which includes, but is not necessarily limited to, the Advertisement for Bids, Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Public Improvement Agreement Form, Performance Bond, Payment Bond, OUS General Conditions, Supplemental General Conditions, Plans and Specifications.

Article 2. Examination of Site and Conditions

Before making a bid, the bidder shall examine the site of the work and ascertain all the physical conditions in relation thereto. The bidder shall also make a careful examination of the Project Manual including the plans, specifications, and other contract documents, and shall be fully informed as to the quality and quantity of materials and the sources of supply of the materials. Failure to take these precautions will not release the successful bidder from entering into the contract nor excuse the bidder from performing the work in strict accordance with the terms of the contract.

The Owner will not be responsible for any loss or for any unanticipated costs which may be suffered by the successful bidder as a result of such bidder's failure to be fully informed in advance with regard to all conditions pertaining to the work and the character of the work required. No statement made by an officer, agent, or employee of the Owner in relation to the physical conditions pertaining to the site of the work will be binding on the Owner, unless covered by the Project Manual or an Addendum.

Article 3. Interpretation of Project Manual and Approval of Materials Equal to Those Provided in the Specifications

If any bidder contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications or forms of contract documents, or detects discrepancies or omissions, such bidder may submit to the Architect (read "Engineer" throughout as appropriate) a written request for an interpretation thereof at least 10 calendar days prior to the date set for the bid closing.

When a prospective bidder seeks approval of a particular manufacturer's material, process or item of equal value, utility or merit other than that designated by the Architect in the Project Manual, the bidder may submit to the Architect a written request for approval of such substitute at least 10 calendar days prior to the date set for the bid closing. The prospective bidder submitting the request will be responsible for its prompt delivery.

Requests of approval for a substitution from that specified shall be accompanied by samples, records of performance, certified copies of tests by impartial and recognized laboratories, and such other information as the Architect may request.

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

Any interpretation of the Project Manual or approval of manufacturer's material will be made only by an Addendum duly issued. A copy of each Addendum will be mailed or delivered to each bidder receiving a Project Manual and becomes a part thereof. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item.

When the Architect approves a substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

Article 4. Execution of the Bid Form

Each bid shall be made in accordance with the sample Bid Form accompanying these instructions; In the case of a sole individual, the bid form need only be executed as principal by the sole individual. In the case of a partnership, the bid form must be executed by at least one of the partners. In the case of a corporation, the bid form must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. This signature shall be attested by the secretary or assistant secretary of the corporation. The corporation seal should then be affixed to the bid form.; numbers pertaining to base bids shall be stated both in writing and in figures; the bidder's address shall be typed or printed.

The Bid Form relates to bids on a specific Project Manual. Only the amounts and information asked for on the Bid Form furnished will be considered as the bid. Each bidder shall bid upon the work exactly as specified and provided in the Bid Form. The bidder shall include in the bid a sum to cover the cost of all items contemplated by the Contract. The bidder shall bid upon all alternates that may be indicated on the Bid Form. When bidding on an alternate for which there is no charge, the bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates is shown on the Bid Form, the bidder shall indicate whether each is "add" or "deduct."

The Bid Form included in the Project Manual is a sample. One additional copy of the Bid Form may be furnished with the Project Manual. One additional copy of the Bid Bond form may also be provided with the Project Manual. Only one copy needs to be submitted with the bid.

Article 5. Prohibition of Alterations to Bid

Bids which are incomplete, or contain ambiguities or conditions not provided for in the Bid Form, may be rejected.

Article 6. Submission of Bid

Each bid shall be sealed in an envelope, properly addressed to the appropriate project Owner within the Oregon University System, showing on the outside of the envelope the name of the bidder and the name of the project. Bids will be received at the time and place stated in the Advertisement for Bids.

Article 7. Bid Closing and Opening of Bids

All bids must be received by the Owner at the place and time set for the bid closing. Any bids received after the scheduled closing time for receipt of bids will be rejected and returned to the bidder unopened.

At the time of opening and reading of bids, each bid received will be publicly opened and read aloud, irrespective of any irregularities or informalities in such bids.

Article 8. Acceptance or Rejection of Bids by Owner

Unless all bids are rejected, the Owner will award a contract based on the lowest responsive bid from a responsible bidder. If that bidder does not execute the contract, it will be awarded to the next lowest responsible bidder or bidders in succession.

The Owner reserves the right to reject all bids and to waive minor informalities. The procedures for contract awards shall be in compliance with the provisions of Oregon Administrative Rules adopted by the Owner.

The Owner reserves the right to hold the bid and bid security of the three lowest bidders for a period of 30 calendar days from and after the time of bid opening pending award of the contract.

In determining the lowest bidder, the Owner reserves the right to take into consideration any or all authorized base bids as well as alternates or combinations indicated in the Bid Form.

If such bid has not been accepted within 30 calendar days after the opening of the bids, each of the three lowest bidders may withdraw the bid submitted.

Article 9. Withdrawal of Bid

At any time prior to the time and place set for the bid closing, a bidder may withdraw the bid. This will not preclude the submission of another bid by such bidder

prior to the time set for the bid closing.

After the time set for the bid closing, no bidder will be permitted to withdraw its bid within the time frames specified in Article 8 for award and execution, except as provided for in that Article.

Article 10. Execution of Contract, Agreement, Performance Bond and Payment Bond

The Owner will provide the successful bidder with contract forms within 10 calendar days after the award of the Contract. The bidder is required to execute the contract forms as provided, including a performance bond and a payment bond from a surety company licensed to do surety business in the State of Oregon, within 20 calendar days after the award of the contract. The contract forms shall be delivered to the Owner in the number called for and to the location as noted in the Notice of Award.

Article 11. Recyclable Products

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

OREGON UNIVERSITY SYSTEM

RETAINER CONTRACT

BID FORM

OUS CAMPUS: University of Oregon

PROJECT: Willamette Hall 3rd Floor Microscopy Laboratories Remodel

BID CLOSING: 11:00 am, January 23, 2012

FROM: _____
Name of Contractor

TO: Oregon State Board of Higher Education

University of Oregon – Capital Construction Office
1295 Franklin Blvd.
1-541-346-8292

1. The Undersigned (*check one of the following and insert information requested*):

____a. An individual doing business under an assumed name registered under the laws of the State of _____; or

____b. A partnership registered under the laws of the State of _____;
or

____c. A corporation organized under the laws of the State of _____; or

____d. A limited liability corporation organized under the laws of the State of _____;

hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Basic Bid as follows:

_____ Dollars ($_____)

and the Undersigned agrees to be bound by the following documents:

- NOPI – Contract Opportunity
- OUS Retainer Supplement Form
- OUS General Conditions
- Prevailing Wage Rates
- Plans and Specifications
- Instructions to Bidders
- Performance Bond and Payment Bond
- Supplemental General Conditions
- Payroll and Certified Statement Form
- Drawings and Details

- ADDENDA numbered ____ through____, inclusive *(fill in blanks)*

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications:

3. The work shall be completed within the time stipulated and specified in Division 1, Section 01 10 00, of the Specifications.

4. The Undersigned agrees, if awarded the Contract, to execute and deliver to the Oregon State Board of Higher Education, within twenty (20) calendar days after receiving the Contract forms, an Agreement Form, and a satisfactory Performance Bond and Payment Bond each in an amount equal to one hundred (100) percent of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:
_____.
(name of surety company - not insurance agency)
The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

5. The Undersigned certifies that: (1) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (2) The contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety and will not be communicated to such person prior to the official opening of the Bid.

6. The undersigned **HAS, HAS NOT** (*circle applicable status*) paid unemployment or income taxes in Oregon within the past 12 months and **HAS, HAS NOT** (*circle applicable status*) a business address in Oregon.

7. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

8. Contractor's CCB registration number is _____. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction

Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

9. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the contract.

10. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is _____, Policy No. _____, and that Contractor shall submit Certificates of Insurance as required.

11. Contractor's Project Manager for this project is: _____, Office Phone: _____ Cell Phone: _____.

12. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM _____

ADDRESS _____

_____

FEDERAL TAX ID _____

TELEPHONE NO _____

FAX NO _____

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) _____
Authorized Officer of Corporation

(SEAL)

_____
Attested: Secretary of Corporation

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

***** ***END OF BID*** *****

OUS RETAINER CONTRACT SUPPLEMENT
PURSUANT TO OUS RETAINER CONTRACT FOR CONSTRUCTION RELATED SERVICES

Supplement No.:
Project Name:

This Retainer Contract Supplement (the "Supplement") is entered into between:

the "Contractor":

Federal Tax ID No::

and the "Owner": The State of Oregon acting by and through the State Board of Higher Education on behalf of:
University of Oregon
Capital Construction
1295 Franklin Blvd
Eugene, OR 97403

(collectively the "Parties") pursuant to that certain Retainer Contract between the Parties dated July 1, 2010 (the "Retainer Contract"). For good and valuable consideration, the Parties agree as follows:

1. DESCRIPTION OF THE PROJECT. The project to which this Supplement pertains is described as follows: _____ (the "Project").

2. WORK TO BE PERFORMED. The Contractor will perform the following Work on the Project: _____ (the "Work"). The Contractor will perform the Work according to the terms and conditions of this Supplement and the Retainer Contract, including its attachments, which are incorporated into this Supplement by reference.

3. SCHEDULE. The Contractor will perform the Work according to the following schedule: use next

4. COMPENSATION. The Owner will compensate the Contractor for Work in the firm, fixed-price amount of $_____ in accordance with the requirements of the OUS General Conditions.

The cost of the Work under this Supplement, even if this Supplement is later amended to include additional Work, must not exceed the greater of $1,000,000 or the maximum allowable under OAR 580-063-0030.

5. TERM. This Supplement is effective on the date it has been signed by every Party hereto and all required approvals have been obtained (the "Effective Date"). No Work will be performed or payment made prior to the Effective Date. The Contractor will perform its

obligations according to this Supplement, unless terminated or suspended. Termination or suspension does not extinguish or prejudice Owner's right to enforce this Supplement with respect to any breach of Contractor's performance that has not been cured.

6. PERFORMANCE AND PAYMENT BONDS. The performance and payment bond requirements for this Project are as follows:

☐ Prior to execution of a Retainer Contract Supplement Notice to Proceed, Contractor must provide to the contracts officer of the Owner institution at which the Work will take place, a performance bond in a sum equal to the fixed price stated in paragraph 4(a) above, or the maximum not-to-exceed price stated in paragraph 4(b) above, as applicable, and a separate payment bond in the same amount.

☐ This Project has a Contract price of $100,000 or less and Owner has determined that performance and payment bonds will not be required for this Project.

7. MINIMUM WAGE RATES. If the amount of the maximum compensation for all Owner-contracted Work is more than $50,000, Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates and the required public works bond, as outlined in Sections C.1, C.2 and G.2.3 of the OUS General Conditions. The Bureau of Labor and Industries (BOLI) wage rates and requirements set forth in the following BOLI booklet (and any listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Supplement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, _____, which can be downloaded at the following web address:

[http://www.boli.state.or.us/BOLI/WHD/PWR/pwr_book.shtml]

The Work will take place in _____ County, Oregon.

8. TAX COMPLIANCE CERTIFICATION. Contractor hereby affirms, under penalty of perjury, as provided in ORS 305.385(6), that to the best of Contractor's knowledge Contractor is not in violation of any of the tax laws described in ORS 305.380(4). For purposes of this certification, "tax laws" means a state tax imposed by ORS 401.792 to 401.816 and ORS chapters 118, 314, 316, 317, 318, 320, 321 and 323; the elderly rental assistance program under ORS 310.630 to 310.706; and local taxes administered by the Department of Revenue under ORS 305.620.

9. INSURANCE REQUIREMENTS. Contractor shall comply with and obtain the insurance coverage amounts stated in the OUS General Conditions. If a different insurance type or level of coverage is required, it is identified in Supplemental General Conditions.

10. KEY PERSONS.

The Contractor's personnel identified below shall be considered Key Persons and shall not be replaced during the Project without the written permission of Owner, which shall not be

unreasonably withheld. If the Contractor intends to substitute personnel, a request must be given to Owner at least 30 days prior to the intended time of substitution. When replacements have been approved by Owner, the Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the Project concurrently. Once a replacement for any of these staff members is authorized, further replacement shall not occur without the written permission of Owner. The Contractor's Project Staff shall consist of the following personnel:

11. OTHER TERMS. Except as specifically modified by this Supplement, all terms of the Retainer Contract remain unchanged and apply to the Work.

12. EXECUTION AND COUNTERPARTS. This Supplement may be executed in several counterparts, each of which shall be an original, all of which shall constitute but one and the same instrument.

Contractor hereby confirms and certifies that the representations, warranties and certifications contained in the Retainer Contract remain true and correct as of the Effective Date of this Supplement.

IN WITNESS HEREOF, the Parties have duly executed this Supplement as of the dates indicated below.

Contractor	The State of Oregon acting by and through the State Board of Higher Education on behalf of University of Oregon, Owner
Print Name: _____	Print Name: _____
Signature: _____	Signature: _____
Title: _____	Title: _____
Date: _____	Date: _____

OREGON UNIVERSITY SYSTEM

SUPPLEMENTAL GENERAL CONDITIONS

To The

GENERAL CONDITIONS
FOR PUBLIC IMPROVEMENT CONTRACTS

Project Name: Willamette Hall 3rd Floor Microscopy Laboratories Remodel

The following modify the Oregon University System "General Conditions for Public Improvement Contracts", February 1, 2011, (OUS General Conditions) for this Contract. Where a portion of the OUS General Conditions is modified by these Supplemental General Conditions, the unaltered portions shall remain in effect.

RESERVED

OREGON UNIVERSITY SYSTEM

GENERAL CONDITIONS
FOR PUBLIC IMPROVEMENT CONTRACTS

February 1, 2011

INSTRUCTIONS: The attached **Oregon University System General Conditions for Public Improvement Contracts ("OUS General Conditions")** apply to all designated public improvement contracts. Changes to the OUS General Conditions (including any additions, deletions or substitutions) should only be made by attaching Supplemental General Conditions. The text of these OUS General Conditions should not otherwise be altered. These OUS General Conditions have been reviewed as to form by the Oregon Department of Justice. The legal sufficiency and approval requirements of ORS 291.047 remain applicable to individual OUS procurements, unless an exemption has been granted pursuant to that statute and Department of Justice administrative rules at OAR Chapter 137, Division 45.

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OREGON UNIVERSITY SYSTEM
GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS
("OUS General Conditions")

SECTION A
GENERAL PROVISIONS

A.1 DEFINITION OF TERMS

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

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

CHANGE ORDER, means a written order issued by the Owner's Authorized Representative to the Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D, including Owner's written change directives as well as changes reflected in a writing executed by the parties to this Contract and, if applicable, establishing a Contract Price or Contract Time adjustment for the changed Work.

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

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

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

CONTRACT DOCUMENTS, means the Solicitation Document and addenda thereto, Instructions to Offerors, Supplemental Instructions to Offerors, the OUS Public Improvement Agreement Form, OUS General Conditions, Supplemental General Conditions, if any, the accepted Offer, Plans, Specifications, amendments, Change Orders and Construction Change Directives .

CONTRACT PERIOD, as set forth in the Contract Documents, means the total period of time beginning with the issuance of the Notice to Proceed and concluding upon Final Completion.

CONTRACT PRICE, means the total of the awarded Offer amount, as increased or decreased by the price of approved alternates and Change Orders.

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

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

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

DIRECT COSTS, means, unless otherwise provided in the Contract Documents, the cost of materials, including sales tax, cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; worker's compensation insurance; project specific insurance (including, witout limitation, Builder's Risk Insurance and Builder's Risk Installation Floater); bond premiums, rental cost of equipment, and machinery required for execution of the work; and the additional costs of field personnel directly attributable to the Work.

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

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

MWESB REPORT, means an accurate report by the Contractor to the Owner identifying all Minority, Women and Emerging Small Business (MWESB) enterprises, as those terms are defined in ORS 200.005, receiving contracts throughout the course of the Work. An initial MWESB report is required (see Section E.2.9) and MWESB Reports are required annually (see Section E.2.9) and as a condition of final payment (see Section K.1). The initial report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts. The annual reports shall include the total number of contracts and subcontracts awarded to MWESB enterprises, the dollar value of each, and the expenditure toward each contract and subcontract during the previous twelve (12) months. The final report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts including all Change Orders incorporated during the course of the project. The reports shall only include enterprises certified with the State of Oregon as MWESB enterprises and shall include individual identification of each enterprise as a Minority business enterprise, a Women business enterprise, and/or an Emerging Small Business Enterprise, as applicable.

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

OFFER, means a bid in connection with Instructions to Bidders and a proposal in connection with a Request for Proposals.

OFFEROR, means a bidder in connection with Instructions to Bidders and a proposer in connection with a Request for Proposals.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), expenses of Contractor's offices at the job site (e.g. job trailer) including expenses of personnel staffing the job site

office, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means the State of Oregon acting by and through the Oregon State Board of Higher Education, in its own right or on behalf of one of its institutions as identified in the Solicitation Document, also known as the Oregon University System (OUS).

OWNER'S AUTHORIZED REPRESENTATIVE, means those individuals identified in writing by the Owner to act on behalf of the Owner for this project. Owner may elect, by written notice to Contractor, to delegate certain duties of the Owner's Authorized Representative to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these OUS General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

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

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

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

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

SOLICITATION DOCUMENT, means Instructions to Bidders or Offerors or a Request for Proposal or a Request for Quotes.

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

SUBCONTRACTOR, means a Person having a direct contract with the Contractor, or another Subcontractor, to perform one or more items of the Work.

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.4.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Approval of any substitute item shall be solely determined by the Owner's Authorized Representative. The decision of the Owner's Authorized Representative is final.

SUPPLEMENTAL GENERAL CONDITIONS, means those conditions that remove from, add to, or modify these OUS General Conditions. Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

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

A.2 SCOPE OF WORK

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

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

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

(a) Contract amendments, Change Orders and Construction Change Directives, with those of later date having precedence over those of an earlier date;

(b) The Supplemental General Conditions;

(c) The OUS Public Improvement Agreement Form;

(d) The OUS General Conditions;

(e) Division One (General Requirements) of the Specifications;

(f) Detailed Schedules of finishes, equipment and other items included in the Specifications;

(g) Plans and Specifications (other than Division One and the Detailed Schedules to the Specifications);

(h) Large-scale drawings on Plans;

(i) Small-scale drawings on Plans;

(j) Dimension numbers written on Plans which shall prevail and take precedence over dimensions scaled from Plans;

(k) The Solicitation Document, including Instructions to Offerors and Supplemental Instructions to Offerors, and any addenda thereto;

(l) The accepted Offer.

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

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner or Owner's Authorized Representative. Matters concerning and interpretation of requirements of, the Contract Documents will

be decided by the Owner's Authorized Representative, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner's Authorized Representative (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Interpretations and decisions of the Owner's Authorized Representative (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner's Authorized Representative (or Architect/Engineer).

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

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

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

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

A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner's Authorized Representative, including without limitation, any nonconformity with applicable laws, statutes, ordinances, building codes, rules and regulations.

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

A.5 INDEPENDENT CONTRACTOR STATUS

The service or services to be performed under this Contract are those of an independent contractor as defined in ORS 670.600. Contractor represents and warrants that it is not an officer, employee or agent of the Owner as those terms are used in ORS 30.265.

A.6 RETIREMENT SYSTEM STATUS AND TAXES

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

A.7 GOVERNMENT EMPLOYMENT STATUS

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

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

SECTION B
ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

B.1.1 The Owner's Authorized Representative will provide administration of the Contract as described in the Contract Documents (1) during construction (2) until final payment is due and (3) during the one-year period for correction of Work. The Owner's Authorized Representative will act on behalf of the Owner to the extent provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner's Authorized Representative may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.

B.1.2 The Owner's Authorized Representative will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner's Authorized Representative will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner's Authorized Representative will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.

B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall endeavor to communicate with each other through the Owner's Authorized Representative or designee about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by

and with separate contractors shall be through the Owner's Authorized Representative.

B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner's Authorized Representative, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

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

B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.

B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.

B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, and Subcontractors on the project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.3 MATERIALS AND WORKMANSHIP

B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.

B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's expense.

B.3.3 Work done and materials furnished shall be subject to inspection and/or observation and testing by the Owner's Authorized Representative to determine if they conform to the Contract Documents. Inspection of the Work by the Owner's Authorized Representative does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.

B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner's Authorized Representative to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.

B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner's Authorized Representative and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits and licenses, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, the State of Oregon, and its departments, divisions, members and employees.

B.5 COMPLIANCE WITH GOVERNMENT REGULATIONS

B.5.1 Contractor shall comply with all federal, state and local laws, codes, regulations and ordinances applicable to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable:
(i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended; (vi) all regulations and administrative rules established pursuant to the foregoing laws; and (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

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

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

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

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

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

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

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

B.6 SUPERINTENDENCE

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

B.7 INSPECTION

B.7.1 Owner's Authorized Representative shall have access to the Work at all times.

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

B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner's Authorized Representative timely notice of when and where tests and inspections are to be made so that the Owner's Authorized Representative may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner's Authorized Representative.

B.7.4 As required by the Contract Documents, Work done or material used without inspection or testing by the Owner's Authorized Representative may be ordered removed at the Contractor's expense.

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

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

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

B.8 SEVERABILITY

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

B.9 ACCESS TO RECORDS

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

B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Contract is involved in litigation, Contractor shall retain all such records until all litigation is resolved. The Owner and/or its agents shall continue to be provided full access to the records during litigation.

B.10 WAIVER

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

B.11 SUBCONTRACTS AND ASSIGNMENT

B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these OUS General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under this Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.12 SUCCESSORS IN INTEREST

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

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor. If such work takes place within or next to the project site, Contractor will coordinate work with the other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all forces involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner's Authorized Representative will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner's Authorized Representative will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.14 OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. The Contractor of this Contract will fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in section B.13.

B.15 GOVERNING LAW

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

B.16 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Marion County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the State of Oregon on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR BY EXECUTION OF THIS CONTRACT HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16.

B.17 ALLOWANCES

B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

B.17.2 Unless otherwise provided in the Contract Documents:

(a) when finally reconciled, allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

(b) Contractor's costs for unloading and handling at the site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;

(c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (2) changes in Contractor's costs under Section B.17.2(b).

(d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

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

B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner's Authorized Representative if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples which are described below:

(a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any sub-subcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work.

(b) Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

(c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

B.18.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.

B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.

B.18.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.

B.18.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order or Construction Change Directive has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.

B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner's Authorized Representative.

B.19 SUBSTITUTIONS

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

B.20 USE OF PLANS AND SPECIFICATIONS

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

B.21 FUNDS AVAILABLE AND AUTHORIZED

Owner reasonably believes at the time of entering into this Contract that sufficient funds are available and authorized for expenditure to finance the cost of this Contract within the Owner's appropriation or limitation. Contractor understands and agrees that, to the extent that sufficient funds are not available and authorized for expenditure to finance the cost of this Contract, Owner's payment of amounts under this Contract attributable to Services performed after the last day of the current biennium is contingent on Owner receiving from the Oregon Legislative Assembly appropriations, limitations or other expenditure authority sufficient to allow Owner, in the exercise of its reasonable administrative discretion, to continue to make payments under this Contract.

B.22 NO THIRD PARTY BENEFICIARIES

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

SECTION C
WAGES AND LABOR

C.1 MINIMUM WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Documents establishing those conditions, as determined by the Commissioner of the Bureau of Labor and Industries (BOLI), are included as attachments to or are incorporated by reference in the Contract Documents. Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts.

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner's Authorized Representative, on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month. The Contractor and Subcontractors shall preserve the certified

statements for a period of ten (10) years from the date of completion of the Contract.

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

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

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

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

C.3.1 As a condition to Owner's performance hereunder, the Contractor shall:

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

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

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

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

C.3.2 As a condition to Owner's performance hereunder, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor of a Subcontractor by any person in connection with the project as such claim becomes due, the proper officer(s) representing the Owner may pay the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Payment of claims in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

C.3.3 Contractor shall include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, a payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within ten (10) Days out of such amounts as are paid to the Contractor by the public contracting agency under such contract.

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

C.4 PAYMENT FOR MEDICAL CARE

As a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, all sums of which the Contractor agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

C.5 HOURS OF LABOR

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

(a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or

(b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and

(c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

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

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

SECTION D
CHANGES IN THE WORK

D.1 CHANGES IN WORK

D.1.1 The terms of this Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever, without prior written approval of the Owner's Authorized Representative, and then only in a manner consistent with the Change Order provisions of this Section D.1 and after any necessary approvals required by public contracting laws have been obtained. Otherwise, a formal contract amendment is required, which shall not be effective until its execution by the parties to this Contract and all approvals required by public contracting laws have been obtained.

D.1.2 It is mutually agreed that changes in Plans, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, the Owner's Authorized Representative may at any time, without notice to the sureties and without impairing the Contract, require changes consistent with this Section D.1. All Change Order Work shall

be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

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

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

D.1.3 The Owner and Contractor agree that Change Order Work shall be administered and compensated according to the following:

(a) Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for additional Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the additional Work.

(b) If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for Change Order Work. In fixed pricing the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. The mark-ups set forth in D.1.3(c) shall be utilized by the parties as a guide in establishing fixed pricing, and will not be exceeded by Owner without adequate justification. Cost and price data relating to Change Orders shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.

(c) In the event that unit pricing and fixed pricing are not utilized, then Change Order Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. In addition, the following markups shall be added to the Contractor's or Subcontractor's Direct Costs as full compensation for profit, Overhead and other indirect costs for Work directly performed with the Contractor's or Subcontractor's own forces:

On Labor.....	15%
On Equipment.....	10%
On Materials.....	10%

When Change Order Work under D.1.3(c) is invoiced by an authorized Subcontractor at any level, each ascending tier Subcontractor or Contractor will be allowed a supplemental mark-up on each piece of subcontract Work covered by such Change Order as follows:

$0.00 - $5,000.00	10%, and then
Over $5,000.00	5%

Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other forces furnished by the Contractor, including Subcontractors, for Change Order Work. Owner may establish a maximum cost for Change Order Work under this Section D.1.3(c), which shall not be exceeded for reimbursement without additional written authorization from Owner. Contractor shall not be required to complete such Change Order Work without additional authorization.

D.1.4 Any necessary adjustment of Contract Time that may be required as a result of a Change Order must be agreed upon by the parties before the start of the Change Order Work unless Owner's Authorized Representative authorizes Contractor to start the Work before agreement on Contract Time adjustment. Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of the Change Order. If Contractor's request for additional compensation or adjustment of Contract Time is not made within the thirty (30) Day time limit, Contractor's requests pertaining to that Change Order are barred. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

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

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

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

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

D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor is notified that numerous changes may be required and that there will be no compensation made to the Contractor directly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

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

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

(a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.

(b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of neither other parts of the Work nor the completion of the whole Work within the Contract Time.

(c) Do not impact activities on the accepted critical path schedule.

(d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

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

(a) Caused by any actions of the Owner, Owner's Authorized Representative, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.

(b) Caused by any site conditions which differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor shall notify the Owner's Authorized Representative immediately of differing site conditions before the area has been disturbed. The Owner's Authorized Representative will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the Owner's Authorized Representative agree that a differing site condition exists, any additional compensation or additional Contract Time will be determined based on the process set forth in Section D.1.5 for Change Order Work. If the Owner's Authorized Representative disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

(c) Caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.

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

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

(ii) daily rainfall equal to, or greater than, 0.75 inch at any time.

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

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

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

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

(b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.2.1.2 (b), Contractor shall submit a written notification of the delay to the Owner's Authorized Representative within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner's Authorized Representative, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay.

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

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

D.3 CLAIMS REVIEW PROCESS

D.3.1 All Contractor Claims shall be referred to the Owner's Authorized Representative for review. Contractor's Claims, including Claims for additional compensation or additional Contract Time, shall be submitted in writing by Contractor to the Owner's Authorized Representative within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these OUS General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner's Authorized Representative a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim is made in accordance with these time requirements, it shall be waived.

D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time extension requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner's Authorized Representative. The Owner's Authorized Representative and the Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.

D.3.3 The Owner's Authorized Representative will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.

D.3.4 The Owner's Authorized Representative's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

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

In the event that a lawsuit must be filed within this sixty (60) Day period in order to preserve a cause of action, the parties agree that notwithstanding the filing, they shall proceed diligently with the mediation to its conclusion prior to actively prosecuting the lawsuit, and shall seek from the Court in which the lawsuit is pending such stays or extensions, including the filing of an answer, as may be necessary to facilitate the mediation process. Further, in the event settlements are reached on any issues through mediation, the parties agree to promptly submit the appropriate motions and orders documenting the settlement to the Court for its signature and filing.

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

D.3.7 Owner may at any time and at its discretion issue a Construction Change Directive adding to, modifying or reducing the scope of Work. Contractor and Owner shall negotiate the need for any adjustment to compensation or additional Contract Time related to the change, subject to the procedures for submitting requests or Claims for additional compensation or additional Contract Time established in this Section D. Unless otherwise directed by Owner's Authorized Representative, Contractor shall proceed with the Work while any request or Claim for additional compensation or additional Contract Time resulting from Work under a Change Order or Construction Change Directive is pending. Regardless of the review period or the final decision of the Owner's Authorized Representative, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease Work without a written stop work order from the Owner or Owner's Authorized Representative.

SECTION E
PAYMENTS

E.1 SCHEDULE OF VALUES

The Contractor shall submit, at least ten (10) Days prior to submission of its first application for progress payment, a schedule of values ("Schedule of Values") for the contracted Work. This schedule will provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown will demonstrate reasonable, identifiable, and measurable components of the Work.

Unless objected to by the Owner's Authorized Representative, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner's Authorized Representative, Contractor shall revise the schedule of values and resubmit the same for approval of Owner's Authorized Representative.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses. Payments shall be based upon estimates of Work completed and the Schedule of Values. All payments shall be approved by the Owner's Authorized Representative. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest for over due claims at the rate of two-thirds of one percent per month on the progress payment, not including retainage, due the Contractor. Over due claims will be those that have not been paid within forty five (45) days from the latest of:

(a) The date of the receipt of the accurate invoice;

(b) The date of the initial billing statement if no invoice is received;

(c) The date all goods have been received; or

(d) The date the claim is made certain by agreement of the parties or by operation of law.

Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within fifteen (15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. A defective or improper application for payment, if corrected by the Contractor within seven (7) Days of being notified by the Owner, shall not cause a payment to be made later than specified in this section unless interest is also paid. Payment of interest will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor.

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

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

E.2.2 Contractor shall submit to the Owner's Authorized Representative an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Contractor shall include in its application for payment a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the face of each copy thereof, a certificate in substantially the following form:

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

Signed: _____

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

(a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.

(b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.

(c) The material shall be stored in a bonded warehouse and Owner's Authorized Representative shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.

(d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.

(e) Payments shall be made for materials only. The submitted amount of the application for payment shall be reduced by the cost of transportation and for the cost of an inspector to check the delivery at out of town storage sites. The cost of said inspection shall be borne solely by the Contractor.

(f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material stored.

(g) Payment for stored materials shall in no way indicate acceptance of the materials or waive any rights under this Contract for the rejection of the Work or materials not in conformance with the Contract Documents.

(h) All required documentation must be submitted with the respective application for payment.

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

(a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with the Contract Documents,

(b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;

(c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.1);

(d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

(e) damage to the Owner or another contractor;

(f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

(g) failure to carry out the Work in accordance with the Contract Documents; or

(h) assessment of liquidated damages, when withholding is made for offset purposes.

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

(a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by Change Order;

(b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;

(c) Subtract the aggregate of previous payments made by the Owner; and

(d) Subtract any amounts for which the Owner's Authorized Representative has withheld or nullified payment as provided in the Contract Documents.

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

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

E.2.8 If Contractor disputes any determination by Owner's Authorized Representative with regard to any application for payment, Contractor nevertheless shall continue to prosecute expeditiously the Work. No payment made hereunder shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

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

E.3 PAYROLL CERTIFICATION REQUIREMENT

Payroll certification is required before payments are made on the Contract. Refer to Section C.2 for this information.

E.4 DUAL PAYMENT SOURCES

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

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with OAR 580-063-0045.

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

E.5.1.2 Contractor may request in writing:

(a) to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds and securities of equal value with Owner or in a custodial account or other mutually-agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner;

(b) for construction projects over $1,000,000, that retainage be deposited in an interest bearing account, established through the State Treasurer for state agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with earnings from such account accruing to the Contractor; or

(c) that the Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims in the manner and priority as set forth for retainage.

When the Owner has accepted the Contractor's election of option (a) or (b), Owner may recover from Contractor any additional costs incurred through such election by reducing Contractor's final payment. Where the Owner has agreed to Contractor's request for option (c), Contractor shall accept like bonds from Subcontractors and suppliers on the project from which Contractor has required retainages.

E. 5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the final payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of two-thirds of one percent per month on the final payment due Contractor, interest to commence forty five (45) Days after the Work under the Contract has been completed and accepted and to run until the date when final payment is tendered to Contractor. The Contractor shall notify Owner in writing when the Contractor considers the Work complete and Owner shall, within fifteen (15) Days after receiving the written notice, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to

fulfill contractual obligations, the interest provided by this subsection shall commence to run forty five (45) Days after the end of the 15-Day period.

E.5.1.4 Owner will reduce the amount of the retainage if the Contractor notifies the controller of the Owner that the Contractor has deposited in an escrow account with a bank or trust company, in a manner authorized by the Owner's Authorized Representative, bonds and securities of equal value of a kind approved by the Owner's Authorized Representative.

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

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

E.6 FINAL PAYMENT

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

E.6.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner's Authorized Representative (1) a notarized affidavit/release of liens and claims in a form satisfactory to Owner that states that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

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

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

SECTION F
JOB SITE CONDITIONS

F.1 USE OF PREMISES

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

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

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

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

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

F.2.4 Contractor is responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, and materials on the site.

F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials will be conducted so no release will occur that may pollute or become hazardous.

F.2.6 In an emergency affecting the safety of life or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner's Authorized Representative, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner's Authorized Representative. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.

F.3 CUTTING AND PATCHING

F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.

F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

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

F.5 ENVIRONMENTAL CONTAMINATION

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

F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and proper regulatory agencies in a manner that complies with applicable federal, state, and local laws and regulations. Cleanup shall be at no cost to the Owner and be performed by properly qualified personnel.

F.5.1.2 Contractor shall obtain the Owner's written consent prior to bringing onto the Work site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any applicable federal, state, or local statutes, rules or ordinances. Notwithstanding such written consent from the Owner, the Contractor, at all times, shall:

(a) properly handle, use and dispose or all environmental pollutants and hazardous substances or materials brought onto the Work site, in accordance with all applicable federal, state, or local statutes, rules, or ordinances;

(b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Work site; and

(c) promptly clean up, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all applicable federal, state, or local statutes, rules or ordinances.

F.5.2 Contractor shall report all reportable quantity releases to applicable federal, state, and local regulatory and emergency response agencies. Reportable quantities are found in 40 CFR Part 302, Table 302.4 for hazardous substances and in OAR 340-142-0050 for all products addressed therein. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to the Owner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:

(a) Description of items released (identity, quantity, manifest no., and all other documentation required by law.)

(b) Whether amount of items released is EPA/DEQ reportable, and, if so, when it was reported.

(c) Exact time and location of release, including a description of the area involved.

(d) Containment procedures initiated.

(e) Summary of communications about the release Contractor has had with members of the press or State officials other than Owner.

(f) Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.

(g) Personnel injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

F.6.1 Unless disposition of environmental pollution is specifically a part of this Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor discovers or encounters during performance of the Work required by this Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl (PCB), or petroleum, and any substances, materials or wastes regulated in 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or well being of Contractor's or any Subcontractor's work force.

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

F.7 FORCE MAJEURE

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

SECTION G
INDEMNITY, BONDING, AND INSURANCE

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

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

G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner, Owner's Authorized Representative, Architect/Engineer, Architect/Engineer's consultants, and their respective officers, directors, agents, employees, partners, members, stockholders and affiliated companies (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses (including reasonable attorney fees), demands and actions of any nature whatsoever which arise out of, result from or are related to, (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1.2, (b) any accident or occurrence which happens or is alleged to have happened in or about the project site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects, (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract, (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140), and (e) any lien filed upon the project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.

G.1.3 In claims against any person or entity indemnified under this Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

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

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

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

G.3 INSURANCE

G.3.1 Primary Coverage: Insurance carried by Contractor under this Contract shall be the primary coverage, and the Owner's insurance is excess and solely for damages or losses for which the Owner is responsible. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under this contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than $100,000 for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

G.3.3 Builder's Risk Insurance:

G.3.3.1 Builder's Risk: During the term of this Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk form, including earthquake and flood, for an amount equal to the full amount of the Contract. Any deductible shall not exceed $50,000 for each loss, except the earthquake and flood deductible shall not exceed 2 percent of each loss or $50,000, whichever is more. The policy will include as loss payees the Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.2 Builder's Risk Installation Floater: For other than new construction the Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. This insurance shall include as loss payees the State of Oregon, the Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.

G.3.3.4 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

G.3.4 Liability Insurance:

G.3.4.1 Commercial General Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverages that are satisfactory to the State. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the indemnity provided under this Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace), and shall be issued on an occurrence basis. Contractor shall provide proof of insurance of not less than the following amounts:

Bodily Injury/Death:

Amounts not less than the amounts listed in the following schedule:

Per occurrence limit for any single claimant :

From commencement of the Contract term to June 30, 2011:	$1,600,000
July 1, 2011 to June 30, 2012:	$1,700,000
July 1, 2012 to June 30, 2013:	$1,800,000
July 1, 2013 to June 30, 2014:	$1,900,000
July 1, 2014 to June 30, 2015:	$2,000,000

July 1, 2015 and thereafter the adjusted limitation as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 3 (Senate Bill 311).

Per occurrence limit for any number of claimants:

From commencement of the Contract term to June 30, 2011:	$3,200,000
July 1, 2011 to June 30, 2012:	$3,400,000
July 1, 2012 to June 30, 2013:	$3,600,000
July 1, 2013 to June 30, 2014:	$3,800,000
July 1, 2014 to June 30, 2015:	$4,000,000

July 1, 2015 and thereafter the adjusted limitation as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 3 (Senate Bill 311).

Property Damage:

Amounts not less than the amounts listed in the following schedule:

Per occurrence limit for any single claimant:

From commencement of the Contract term to June 30, 2011: $100,100.

Effective as of July 1 of each year the adjusted limitation will be as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 5 (Senate Bill 311).

Per occurrence limit for any number of claimants:

From commencement of the Contract term to June 30, 2011: $500,600.

Effective as of July 1 of each year the adjusted limitation will be as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 5 (Senate Bill 311).

G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Automobile Liability Insurance covering owned, non-owned and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than the following amounts:

Bodily Injury/Death:

Amounts not less than the amounts listed in the following schedule:

Per occurrence limit for any single claimant:

From commencement of the Contract term to June 30, 2011:	$1,600,000.
July 1, 2011 to June 30, 2012:	$1,700,000.
July 1, 2012 to June 30, 2013:	$1,800,000.
July 1, 2013 to June 30, 2014:	$1,900,000.
July 1, 2014 to June 30, 2015:	$2,000,000.

July 1, 2015 and thereafter the adjusted limitation as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 3 (Senate Bill 311).

Per occurrence limit for any number of claimants:

From commencement of the Contract term to June 30, 2011:	$3,200,000.
July 1, 2011 to June 30, 2012:	$3,400,000.
July 1, 2012 to June 30, 2013:	$3,600,000.
July 1, 2013 to June 30, 2014:	$3,800,000.
July 1, 2014 to June 30, 2015:	$4,000,000.

July 1, 2015 and thereafter the adjusted limitation as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 3 (Senate Bill 311).

Property Damage:

Amounts not less than the amounts listed in the following schedule:

Per occurrence limit for any single claimant:

From commencement of the Contract term to June 30, 2011: $100,100.

Effective as of July 1 of each year the adjusted limitation will be as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 5 (Senate Bill 311).

Per occurrence limit for any number of claimants:

From commencement of the Contract term to June 30, 2011: $500,600.

Effective as of July 1 of each year the adjusted limitation will be as determined by the State Court Administrator pursuant to Oregon Laws 2009, chapter 67, section 5 (Senate Bill 311).

G.3.4.3 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of this Contract for a duration of 24 months or the maximum time period available in the marketplace if less than 24 months. Contractor will be responsible for furnishing certification of "tail" coverage as described or continuous "claims made" liability coverage for 24 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Contract. This will be a condition of the final acceptance of Work or services and related warranty (if any).

G.3.5 Additional Insured: The liability insurance coverage, except Professional Liability if included, required for performance of

this Contract shall include the State of Oregon, its departments, divisions, officers, and employees, as Additional Insureds but only with respect to the Contractor's activities to be performed under this Contract.

If Contractor cannot obtain an insurer to name the State of Oregon, its departments, divisions, officers and employees as Additional Insureds, Contractor shall obtain at Contractor's expense, and keep in effect during the term of this Contract, Owners and Contractors Protective Liability Insurance, naming the State of Oregon, its departments, divisions, officers and employees as Named Insureds with not less than a $1,500,000.00 limit per occurrence. This policy must be kept in effect for 12 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.

G.3.6 Notice of Cancellation or Change: There shall be no cancellation, material change, potential exhaustion of aggregate limits or intent not to renew insurance coverages without thirty (30) Days' written notice from the Contractor or its insurer(s) to the Owner. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the State of Oregon, its Owner and their divisions, officers, and employees.

G.3.7 Certificate(s) of Insurance: As evidence of the insurance coverage required by this Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are Additional Insureds or Loss Payees. Insurance coverage required under this Contract shall be obtained from insurance companies or entities acceptable to the Owner that are allowed to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to do an insurance business in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and are approved by the Owner. The certificates will also specify that there shall be no cancellation, material change, potential exhaustion of aggregate limits or intent not to renew insurance coverages without thirty (30) Days' written notice from the insurer(s) to the Owner. To the extent Certificates of Insurance contain words to the effect that Contractor shall "endeavor to send notice of cancellation" or similar language, Contractor shall require its insurer to send such notice by making sure that the words “endeavor to” or similar words are removed from the Certificate. The Contractor shall be financially responsible for all deductibles, self-insured retentions and/or self-insurance included hereunder. Any deductible, self-insured retention and/or self-insurance in excess of $50,000 shall be approved by the Owner in writing prior to execution of the Contract and is subject to Owner's approval.

G.3.8 Retainer Contract Program: For the OUS Retainer Contract Program the term “Contract” as used in this Section G in the phrases “keep in effect during the term of this Contract” and “prior to execution of the Contract” shall mean each Retainer Contract Supplement issued under the Retainer Contract.

SECTION H
SCHEDULE OF WORK

H.1 CONTRACT PERIOD

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

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

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

H.2 SCHEDULE

H.2.1 Contractor shall provide, by or before the pre-construction conference, a detailed schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by significant project components, significant labor trades, and long lead items broken down by building and/or floor where applicable. Each schedule item shall account for no greater than 5 % of the monetary value of the project or 5 % of the available Contract Time. Schedules with activities of less than one Day or valued at less than 1% of the Contract will be considered too detailed and will not be accepted. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. Included within the schedule are the following: Notice to Proceed, Substantial Completion, and Final Completion. Schedules will be updated monthly and submitted with the monthly payment application. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner’s best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.3 PARTIAL OCCUPANCY OR USE

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

SECTION I
CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents,

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

I.2 WARRANTY WORK

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

I.2.2 This provision does not negate guarantees or warranties for periods longer than one year including without limitation such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.

I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until affected Work has been accepted in writing by the Owner's Authorized Representative.

I.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

SECTION J
SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

J.1.1 The Owner and/or the Owner's Authorized Representative has the authority to suspend portions or all of the Work due to the following causes:

(a) Failure of the Contractor to correct unsafe conditions;

(b) Failure of the Contractor to carry out any provision of the Contract;

(c) Failure of the Contractor to carry out orders;

(d) Conditions, in the opinion of the Owner's Authorized Representative, which are unsuitable for performing the Work;

(e) Time required to investigate differing site conditions;

(f) Any reason considered to be in the public interest.

J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension, and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.2 CONTRACTOR'S RESPONSIBILITIES

J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.

J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the project in every respect as though its prosecution had been continuous and without suspension.

J.3 COMPENSATION FOR SUSPENSION

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

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:

(a) If Contractor should voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;

(b) If Contractor should make a general assignment for the benefit of Contractor's creditors;

(c) If a receiver should be appointed on account of Contractor's insolvency;

(d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;

(e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner or its Authorized Representative; or

(f) If Contractor is otherwise in material breach of any part of the Contract.

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

J.5 TERMINATION FOR CONVENIENCE

J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines that termination of the Contract is in the best interest of the public.

J.5.2 The Owner will provide the Contractor with seven (7) Days prior written notice of a termination for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination.

J.6 ACTION UPON TERMINATION

J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.

J.6.2 As directed by the Owner, Contractor shall, upon termination, transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.

SECTION K
CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

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

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner's Authorized Representative prior to submission of any pay request for more than 75% of the Work. No payments beyond 75% will be made by the Owner until the 0 & M Manuals have been received. The O & M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, phone list of consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner's Authorized Representative shall review and return one O & M Manual for any modifications or additions required. Prior to submission of its final pay request, Contractor shall deliver three (3) complete and approved sets of O & M Manuals to the Owner's Authorized Representative.

K.3 AFFIDAVIT/RELEASE OF LIENS AND CLAIMS

As a condition of final payment, the Contractor shall submit to the Owner's Authorized Representative a notarized affidavit/release of liens and claims form in a form satisfactory to Owner, which states that all Subcontractors and suppliers have been paid in full, all disputes with property owners have been resolved, all obligations on the project have been satisfied, all monetary claims and indebtedness have been paid, and that, to the best of the Contractor's knowledge, there are no claims of any kind outstanding against the project. The Contractor shall indemnify, defend (with counsel of Owner's choice) and hold harmless the Owner from all claims for labor and materials finished under this Contract. The Contractor shall furnish complete and valid releases or waivers, satisfactory to the Owner, of all liens arising out of or filed in connection with the Work.

K.4 COMPLETION NOTICES

K.4.1 Contractor shall provide Owner notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance,

and the time within which the Contractor shall finish all items on the punchlist accompanying the Certificate. Both completion notices must be signed by the Contractor and the Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.

K.4.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner's Authorized Representative. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a punch list be prepared by the Owner's Authorized Representative with submission of the request for the Substantial Completion notice.

K.5 TRAINING

As part of the Work, and prior to submission of the request for final payment, the Contractor shall schedule with the Owner's Authorized Representative training sessions for all equipment and systems as required in the individual specifications sections. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner personnel adequate notice. The O & M Manual shall be used as a basis for training. Training shall be a formal session held after the equipment and/or system is completely installed and operational in its normal operating environment.

K.6 EXTRA MATERIALS

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

K.7 ENVIRONMENTAL CLEAN-UP

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental pollution clean-up performed as a part of this Contract has been disposed of in accordance with all applicable rules, regulations, laws, and statutes of all agencies having jurisdiction over such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above.

K.8 CERTIFICATE OF OCCUPANCY

The Contractor shall not be granted Final Completion or receive final payment if the Owner has not received an unconditioned certificate of occupancy from the appropriate state and/or local building officials, unless failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

K.9 OTHER CONTRACTOR RESPONSIBILITIES

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

K.10 SURVIVAL

All warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.

PREVAILING WAGE RATES

for

Public Works Contracts in Oregon

OREGON BUREAU OF LABOR AND INDUSTRIES

Brad Avakian
Commissioner
Bureau of Labor and Industries

Effective: January 1, 2011

http://www.oregon.gov/BOLI/WHD/PWR/pwr_state.shtml

OREGON UNIVERSITY SYSTEM

STANDARD PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No._____
Solicitation _____
Project Name _____

_____(Surety #1)	Bond Amount No. 1:	$_____
_____(Surety #2)*	Bond Amount No. 2:*	$_____
* *If using multiple sureties*	Total Penal Sum of Bond:	$_____

We, _____as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the State of Oregon, Oregon State Board of Higher Education (OSBHE), the sum of (Total Penal Sum of Bond) _____ (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into a contract with the State of Oregon, the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation;

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or

without notice to the Sureties, and shall indemnify and save harmless the State of Oregon, OSBHE, and _____(name of institution and any other Owner agency), and members thereof, its officers, employees and agents, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Principal or its subcontractors, and shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall the State of Oregon, or the above-referenced agency(ies), be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 351, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this _____ day of _____, 20__.

PRINCIPAL: _____

By_____
Signature

_____
Official Capacity

Attest: _____
Corporation Secretary

SURETY: _____
[Add signatures for each surety if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each surety bond]

_____
Name

_____
Signature

_____
Address

_____
City State Zip

_____ _____
Phone Fax

OREGON UNIVERSITY SYSTEM

STANDARD PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No. _____
Solicitation _____
Project Name _____

_____(Surety #1)	Bond Amount No. 1:	$ _____
_____(Surety #2)*	Bond Amount No. 2:*	$ _____
** If using multiple sureties*	Total Penal Sum of Bond:	$ _____

We, _____, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the State of Oregon, Oregon State Board of Higher Education (OSBHE), the sum of (Total Penal Sum of Bond) _____ _____ (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into a contract with the State of Oregon, the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation;

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall indemnify and save harmless the State of Oregon, OSBHE and _____ (name of institution and any other Owner agency), and members thereof, its officers, employees and agents, against any claim for direct or indirect damages of every kind and description that

shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and shall permit no lien nor claim to be filed or prosecuted against the State on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall the State of Oregon, or the above-referenced agency(ies), be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 351, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this _____day of _____, 20__.

PRINCIPAL: _____

By _____
Signature

_____
Official Capacity

Attest: _____
Corporation Secretary

SURETY: _____
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

_____
Name

_____
Signature

_____
Address

_____
City State Zip

_____
Phone Fax

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK COVERED BY THE PROJECT MANUAL AND DRAWINGS

A. Work covered by the Project Manual and Drawings consits of: Remodeling lab and office space in the South-East corner of the third floor of Willamette Hall.

1.03 WORK RESTRICTIONS

A. The contract price shall include all costs, fees and time directly and indirectly associated with access and limitations to traffic routes, delivery, storage and loading areas, and include costs for traffic planning and control, after hours and premium time and off-site storage necessary or resulting from Contract requirements and restrictions.

1.04 SCHEDULING OF WORK

A. Work shall be performed between February 6, 2012 and March 30, 2012.

B. Phasing: Phase 1 work shall be Substantially Complete, prior to the commencement of Phase 2 work. See Drawings for extent of areas encompasing Phase 1 and Phase 2 work.

C. Submit to the Owner for approval, a schedule for the Work to be performed; schedule shall include, when the Work is to begin, and estimated duration of the Work, including estimated partial Substantial Completion date for Phase 1 work. Schedule to be provided to Owner at the pre-construction meeting.

D. Weekly schedule updates are required at each weekly progress meeting.

1.05 CONSTRUCTION ACTIVITY REPORT/WEEKLY CONSTRUCTION MEETING:

A. There will be a weekly construction meeting. Day/Time TBD.

B. Attached to these specifications is the ‘Construction Activity Report’ that is to be filled out by the contractor on a weekly basis and acknowledged by the UO Construction PM.
   1. This form is to be issued from the contractor to the UO PM weekly; preferably prior to each weekly construction meeting.
   2. Not having a construction meeting in a given week does not permit the contractor from not turning in the form to the UO PM
   3. This form is to be used to facilitate discussion at each weekly construction meeting.
   4. The purpose of the form is tracking ALL anticipated changes during the week and documenting construction standing.
   5. Knowing that providing a hard fee at the time a change in scope surfaces is not realistic, the change fee indicated on the form is to be a NTE fee. This will be adjusted and verified through the normal change order process.
   6. Changes to the scope of work (and NTE fee) NOT identified on this form will be at the expense of the contractor
   7. This form will be made available electronically

1.06 CONTRACTOR USE OF PREMISES

A. Contractor shall limit use of the premises for Work and storage to allow for:
   1. Owner occupancy, day and night.

2. Public use, day and night.
3. Security.
4. Safe entry and exit for vehicles and pedestrians.
5. If scaffolding is employed, all entries shall remain clear and accessible at all times.
6. All entries shall be provided with overhead protection.

B. Coordinate all operations with the Owner's Representative during the construction period.

C. Access through the interior of the building shall be coordinated with the Owner's Representative during the construction period.

D. The Contractor will be issued two (2) hang-tag, non-designated parking permits valid for the scheduled duration of the project. The Contractor is responsible for all other parking. Additional parking permits may be obtained through the Department of Public Safety subject to the regulations outlined in the University of Oregon Parking Rules and Regulations, 4th Edition.

E. Any costs, directly or indirectly incurred by the Contractor and related to the availability of parking permits are the responsibility of the Contractor. Any disputes or claims related to parking are subject to the appeals process of the Department of Public Safety.

1.07 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. When moving vehicles or equipment, Contractors are to place one wheel of vehicle on the centerline of the sidewalk, and one wheel om minimum 1" thick plywood palnking laid along side the walkway. Contractor to provide plywood protection over all lawn or planting areas used for vehicle access or Contractor equipment. Photographs will be taken before and after specified Work, to insure proper maintenance of University grounds by the Contractor. Prevent materials from clogging catch basins and yard drains; maintain drains clean and in proper working conditions.

B. If, during the course of demolition Work, the Contractor observes or suspects the existence of asbestos in areas of te structure or components of the building, not noted in drawings or Hazardous Materials Survey, the Contractor shall immediately stop Work in the immediate area and notify the Owner, who will, under separate contract, remove or encapsulate the asbestos. The contractor will be required to schedule ten (10) days of slack or "down" time for the removal of asbestos, without penalty to the Owner, for the delay of Contract.

C. Care shall be used to prevent asphalt, adhesives and other materials from getting on eaves, terra-cotta, and stone work, any painted or stained surfaces, brick walls, sidewalks, lawns, shrubs, etc., and the Contractor shall be responsible for the cleaning of any such accidents.

D. 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.

E. The Contractor shall be responsible for and held liable for any and all damages caused by the Contractor's negligence in protecting existing buildings, adjacent roof areas, sidewalks, paving, concrete, shrubs, lawn areas, trees, equipment, interiors, and contents.

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

G. The Contractor will verify that all rain drains and gutters in the construction areas are in working order and notify the Owner's Representative, in writing, of any rain 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.

H. Debris shall not be allowed to remain around the buildings during performance of Work, but shall be disposed of as rapidly as it accumulates. Debris shall be removed from the rooftop on a daily

basis. On completion of Work, the buildings and grounds shall be left in a condition that is equal of better than the original condition. In case of failure to do so, the Owner may remove rubbish and charge the cost to the Contractor.

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

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

K. Do not walk over existing roof surfaces adjacent to the Work without first protecting same from damage. Protection shall be accomplished by means of firtex panels or approved protection boards as required to keep traffic and other construction activities off these roof areas. Adjacent roof areas are fragile.

L. Contractor is responsible for releases of hazardous materials from equipment, power tools, and vehicles brought on site. Contractor agrees to have resources and capability to monitor, contain, and clean up such releases, including, but not limited to, gasoline, diesel, hydraulic fluid, and oil. Contractor agrees to notify Owner if these or other materials are released at the site.

1.08 OWNER OCCUPANCY

A. The Owner will occupy the premises during the entire period of constructionfor the conduct of normal operations. Cooperate with Owner's Project Manager to minimze schedule conflicts 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.

B. Conduct operations in such a way to ensure the least inconvenience to the general public, including:
   1. Limitations and easements.
   2. Emergency Vehicle access.
   3. Building acces to the public, day and night.
   4. No smoking is allowed in or on University buildings.

1.09 LOCATION AND COSTS FOR TEMPORARY UTILITIES

A. Electrical service for the project limited to 20 amp 120 v circuits will be paid for by the Owner. Connection to the service shall be the responsibility of the Contractor, with the Owner's approval. Coordinate with the Owner's Representative.

B. Water service for the project will be paid for by the Owner. Connection to the service shall be the responsibility of the Contractor, with the Owner's approval. Coordinate with the Owner's Representative.

C. The workers may use the Owner's restroom facilities.

D. Do not interrupt any existing service. Seventy-Two (72) hour prior request and approval from the Owner's Representative will enable the Owner to shut down any utility required by the Work. Contractor employees shall not shut down utilities.

1.10 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accordance with construction schedules; coordinate to avoid conflict with the Work and conditions at the Site.

B. Deliver products in undamged condition in Manufacturer's original containers or packaging with identifying labels intact and legible.

C. Inspect shipments to assure compliance with requirements of Contract Documents and reviewed submittals, and that products are undamaged.

D. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.11 STORAGE

A. Materials shall be stored off site to insure the preservation of their quality and delivered to the jab as needed.

B. Temporary construction storage areas shall be limited to the areas designated by the Owner's Representative and are intended to allow for daily access of materials and equipment only. Security shall be the responsibility of the Contractor.

C. Public safety at temporary storage and access areas shall be the responsibility of the Contractor. Provide temporary means to limit access and ensure safety as required.

D. Interior Storage:
   1. Store with seals and labels intact and legible in weather tight enclosure when subject to damage by the elements.
   2. Maintain required temperature and humidity ranges.

E. Exterior Storage: Store fabricated products above the ground on blocking or skids to prevent soiling or staining. Cover products with impervious breathable sheet coverings when they are subject to deterioration by the elements; provide adequate ventilation to avoid condensation.

F. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.12 SALVAGE

A. All materials to be removed shall become the property of the Contractor. Items specifically defined as "Salvage to Owner" shall be delivered to a campus location as directed by the Owner's Project Manager.

1.13 PRECONSTRUCTION CONFERENCE

A. A pre-construction conference shall predate the start of Work and shall include in the agenda: contract mangement, work schedule, daily reports, recycling, emergency phone numbers, traffic control, parking, hazardous material, storage areas, and other subjects of interest desired by the Contractor, the Owner's Representative, the Manufacturer's Representative, and other participants.

1.14 PERMITS

A. The Owner shall pay for plan check and permit fees. The contractor shall pick up all necessary permits, schedule inspections, and finalize acceptance. The Contractor shall procure and pay for all other required permits, licenses, and inspections for the construciton of the Work, including temporary obstructions, enclosures, opening of streets for pipes, walls, etc., as mentioned in the Specifications. The Contractor shall be responsible for all violations of the law for any cause in connection with the construction of the Work or caused by obstructing streets, or sidewalks or otherwise and shall give all requisite notices to public authorities. Permit drawings and specifications are to be returned to the Owner's Representative at the completion of the Project.

1.15 RESIDENT PROJECT OBSERVER

A. The Owner's project manager will provide on site observation during construction.

1.16 DAILY REPORTS

A. The Contractor shall maintain a written daily record of the project. Each daily report shall contain at minimum the name of the Project, date of the report, the number of the Contractor's employees and their major activities, and a list of Subcontractors on site and their major activities. Copies of the reports for a specific period shall be submitted with the pay request for the smae period.

1.17 GUARANTEE

A. Materials and workmanship shall be guaranteed for a minimum of a one-year period after Final Acceptance by the Owner. Contractor shall repair any failures due to inferior workmanship and/or material, without additional expense to the Owner. COntractor shall promplty repair any damage to existing materials, surfaces or equipment caused during execution of Work.

B. Materials, products or systems provided with guarantees longer than one year shall remain valid, and not be diminished by the requirements of this section.

PART 2 PRODUCTS

2.01 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:
   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 which require off site storage, restoration or renovation. Pay all costs for such Work.

2.02 MATERIALS AND EQUIPMENT

A. Unless otherwise specified, all materials and equipment shall be new, free from defects impairing strength, durability and appearance, and of current Manufacturer. Items specified shall be considered minimum as to quality, function, capacity, and suitability for application intended.

B. Items incorporated into the Work shall conform to applicable specifications and standards designaed, and shall be of size, make, type, and quality specified, unless otherwise approved.

2.03 MANUFACTURED AND FABRICATED PRODUCTS

A. Design, fabricate, and assemle in accordance with current best engineering, industry, and shop practices. Manufacture like parts of duplicate units to standard sizes and guages to make them interchangeable.

B. Two or more items of the same kind shall be identical and made by the same Manufacturer.

2.04 FIRE SUPPRESSION EQUIPMENT

A. Open flames are not permitted on site.

B. Provide equipment of adequate capacity to extinguish minor fires in combustible material on the job site.

C. Maintain equipment in working condition with current inspection certificate attached to each.

D. 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.

2.05 RECYCLING

A. The Contractor is required to consider the recycling of materials and to employ recycling and waste reduction when practically possible. Contractor will submit for review, prior to the start of

Work, a written document describing a proposal of what materials are to be recycled. These should include, but are not limited to, wood, roofing, glass, ferrous metals, nonferrous metals, toilet fixtures, light fixtures, doors, windows, and hardware.

PART 3 EXECUTION

3.01 PREPARATION

A. Inspect existing conditions, project requirements and the Contract Documents. Verify that materials and equipment being furnished meet requirements specified.

3.02 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 Representative to insure 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.

B. Contractor shall not allow any material or debris to free-fall from the roof.

C. Debris shalll be removed fromthe roof in containers or closed chutes or hoses to containers on the ground.

D. Chutes or conveyors may be approved upon inspection by the Owner, however their use may be denied if they are unstable or if excessive dust and debris blows out from them.

3.03 ROOF DRAINAGE

A. Cover all leader boxes, roof drains, etc. to prevent materials and debris from clogging interior drains and downspouts. Open only as weather conditions dictate and at completion of job. Do not flush materials down drains.

B. All drains shall be mainteined in a clean and proper working condition.

3.04 NOTIFICATION

A. If roofing substrate is found to be defective, the COntractor shall notify the Architect in writing of areas not approved for reroofing.

3.05 WORKMANSHIP

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

B. Should the Owner or Architect, in writing, deem anyone on the Work incompetent of unfit for the assigned duties, dismiss the worker immediately or reassign him or her to a different task to which their competence is more suited.

C. Workmanship shall be first class in every respect and all Work performed shall be according to the best trade practices.

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 project and shall attend the preconstruction conference.

3.06 MAINTENANCE

A. Keep facilities well maintained.

3.07 TEMPORARY FACILITIES

A. Relocate temporary facilities as required as the Work progresses and remove at completion of Work. Restore disturbed areas to a condition equal or better than original condition.

3.08 TESTING

A. The Owner reserves the right to perform any testing as may be required to determine compliance with the Project Manual and Drawings. The Contractor will coordinate such testing as required int he Project Manual and Drawings with an Independent Testing Laboratory. Costs for such testing will be the Owner's responsibility unless testing indicates noncompliance. Costs for such testing indicating noncompliance shall be bourne 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.

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RESPONSIBLE PARTIES

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

1.02 DEFINITIONS

A. Request for Information (RFI): A written request from Contractor for an interpretation of Contract Documents. May be issued on Contractor's choice of forms. Architect will respond in writing as required.

B. Proposal Request (PR): A request from Architect to Contractor for changes to Contract Price and/or Contract Period for proposed changes to the Work.

C. Supplementary Instructions (SI): A written order, instruction, or interpretation to Contractor, executed on AIA Form G710, or other similar form designated by Architect, and signed by Architect, which authorizes minor changes in Work not altering Contract Price and/or Contract Period.

D. Construction Change Directive (CCD): A written order to Contractor, executed on AIA Form G714 and signed by Owner and Architect, which amends Contract Documents as described, and authorizes and requires Contractor to proceed with change affecting Contract Price and/or Contract Period, and for inclusion in subsequent Change Order.

E. Change Order: See General Conditions.

F. Construction Issue (CI): The Architect will assign a CI number to each issue requiring written communication. Numbers will be assigned sequentially (i.e. CI #1, CI #2…) by the Architect. The CI numbering is a means of tracking communications and paperwork by issues rather than document type. A CI number will be assigned at the architect's discretion to the following documents: RFI, PR, ASI, CCD, Contractor Initiated Proposal and any issue requiring communication among parties. The Architect shall maintain a spreadsheet log of all CI's indicating the status of each issue. All issues and documents will be referenced by a CI number, by all parties, once a number has been assigned. A CI number, by itself, carries no implication of contract modification, it is merely a filing and reference number.

1.03 OWNER OR ARCHITECT INITIATED CHANGES

A. Proposal requests will include:
   1. Detailed description of change, including change location and products.
   2. Supplementary or revised Drawings and Specifications.
   3. When appropriate, projected time span for making change, and specific statement as to whether or not overtime Work is authorized.
   4. When appropriate, specific time period during which requested price will be considered valid.

B. Such request is for information only, and is not an instruction or authorization to execute the change or an order to stop Work in Progress.

C. The Architect may issue an Architect's Supplemental Instruction for issues not requiring an adjustment in Contract Price or time.

1.04 CONTRACTOR INITIATED CHANGES

A. Change Proposals shall include:

1. Description of proposed change.
2. Statement of reason for making change.
3. Statement of effect upon Contract Price and Contract Period.
4. Statement of effect upon Work of other Contractors.
5. Statement of effect upon Work by Owner.
6. Documentation supporting any change to Contract Price and/or Contract Period.

1.05 CONSTRUCTION CHANGE DIRECTIVE

A. Contractor to proceed with change in Work for subsequent inclusion in future Change Order.

B. Directive will describe Work changes with attachments of revised Contract Documents and the Contractor's proposal defining details of change, and designating any changes in Contract Price and/or Contract Period.

C. Owner and Architect will sign and date Construction Change Directive as authorization for Contractor to proceed with changes.

D. Contractor shall, if Contractor concurs, sign and date Construction Change Directive to indicate agreement with specified terms.

1.06 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Provide supporting documentation for the dollar value of each Proposal with sufficient substantiating data to allow Architect to evaluate proposal.

B. When requested by Architect, submit the following Cost and Time data:
1. Labor required.
2. Equipment required.
3. Products required: Quantity required, Purchase source, Unit cost.
4. Taxes, Insurance and Bonds.
5. Credit for deleted Work similarly documented.
6. Overhead and Profit.
7. Amount of and justification for any change in Contract Period.

C. Support each claim for additional cost, and for Work done on time-and-material/force account basis with documentation as required for lump-sum proposal, plus the following information:
1. Name of Owner's authorized agent who ordered Work, and date of order.
2. Dates and times of Work performed, and by whom.
3. Time records, including summary of hours worked, and hourly rates paid.
4. Receipts and invoices for the following: Equipment used, including dates and time of use; Products used, including quantities; Subcontracts.

D. Notify Architect before proceeding with any Time & Material/Force Account Work. Obtain Architect's signature certifying the Time Sheets and Materials are accurate.

1.07 PREPARATION OF CHANGE ORDERS

A. Change Order will adjust Contract Price and/or Contract Period and may include more than one contract adjustment per Change Order.

1.08 LUMP-SUM/FIXED PRICE CHANGE ORDERS

A. Change Order contents will be based on, either:
1. Architect's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
2. Contractor's Change Proposal as recommended by Architect, and as mutually agreed between Owner and Contractor.

B. Owner and Contractor will sign and date Change Order as authorization for Contractor to proceed with Changes.

1.09 UNIT PRICE CHANGE ORDERS

A. Change Order Work will be based on either:
   1. Architect's definition of required changes.
   2. Contractor's Change Proposal as recommended by Architect.
   3. Survey of completed Work and supporting documentation submitted by the Contractor.

B. Unit Price amounts shall be, those stated in Agreement, if any.

C. When quantities of Items affected by Change Order can be determined prior to start of Work:
   1. Owner and Contractor will sign and date Change Order as authorization for Contractor to proceed with changes.
   2. Contractor shall sign and date Change Order to indicate agreement with specified terms.

D. When quantities of Items affected by Change Order cannot be determined prior to start of Work:
   1. Architect or Owner will issue Construction Change Directive directing Contractor to proceed with change on basis of unit prices, and will cite applicable unit prices.
   2. At change completion, Architect will determine Work cost based upon agreed unit prices and quantities used.
   3. Contractor shall submit documentation to establish quantities of units of each Item and any claim for change in Contract Period.
   4. Owner and Contractor will sign and date Change Order to indicate their agreement with specified terms.

1.10 TIME AND MATERIAL AND FORCE ACCOUNT (COST REIMBURSEMENT) CHANGE ORDERS

A. Architect and Owner will issue Construction Change Directive directing Contractor to proceed with changes.

B. At Change completion, Contractor shall submit itemized accounting of change with supporting data as specified above in "Documentation of Proposals and Claims."

C. Architect will determine allowable cost of such Work, as provided in Contract General Conditions.

D. Owner and Contractor will sign and date Change Order to indicate their agreement with specified terms.

1.11 CORRELATION OF CHANGE ORDERS WITH CONTRACTOR'S OTHER SUBMITTALS

A. Revise Schedule of Values and subsequent Request for Payment Forms to record each Change Order as separate item of Work, and to record adjusted Contract Price.

B. Revise Construction Schedule to reflect each change in Contract Period. Revise Subschedules to show changes for other items of Work affected by Changes.

C. Upon completion of Change Order Work, record pertinent changes in Record Documents.

PART 2 NOT USED

PART 3 NOT USED

END OF SECTION

SECTION 9 01340

SHOP DRAWINGS, PRODUCT DATA, SAMPLES

PART 1 GENERAL

1.01 DESCRIPTION

A. Submit to the Architect shop drawings, samples, and product data (such as Manufacturer's standard schematic drawings and other literature) when required by individual Specification sections.

B. Related work specified elsewhere:
   1. Instructions to Bidders
   2. General Conditions of the Contract.

1.02 QUALITY ASSURANCE

A. Process submittals in ample time for review, as applicable, so as to not delay the work. All submittals shall be received by the Architect within fourteen (14) days of the Award of Contract.

1.03 DEFINITIONS

A. The Architect will mark reviewed materials as follows:
   1. “No Exception Taken” - which means fabrication, manufacture, and/or installation may proceed.
   2. “Make Revisions Noted” - which means fabrication, manufacture, and/or installation may proceed with revisions as noted.
   3. “Revise and Resubmit” - which means fabrication, manufacture, and/or installation may not proceed.
   4. “Rejected” - which means do not proceed. Make arrangements to re-review the proposed work with the Architect as soon as possible.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Review submittals, make necessary corrections, and become familiar with the content of the submittals prior to turning the material over to the Architect. Mark each item with a stamp or by some other means to indicate that such is the case.

B. Accompany submittals with a transmittal letter bearing the project name, Contractor's name, number of items, and other pertinent data.

C. Mark or tag each submittal to show the date and the names of the project, Architect, Contractor, Origination Subcontractor, Manufacturer or Supplier, and Separate Detailer if pertinent. Also, identify the specification section where the particular item is specified in the project manual.

D. Keep one copy of each reviewed item on the job site at all times.

3.02 SPECIFIC REQUIREMENTS, SHOP DRAWINGS

A. Identify shop drawing details by reference to sheet and detail numbers shown on the Drawings.

B. Unless otherwise specified in an individual section, submit three prints of each shop drawing.

C. Be responsible for obtaining and distributing prints of shop drawings to the various suppliers, the Owner, and the Architect once approval is obtained. Make prints of revised shop drawings only from prints which carry the Architects appropriate stamp and endorsement.

3.03 SPECIFIC REQUIREMENTS, SAMPLES

A. Insure that samples are of sufficient size to indicate the general visual effect or color. Where samples must show a range of color, texture, finish, graining or other property, submit sets of pairs illustrating the full scope of this range.

B. One (1) sample or one (1) set of approved samples will be retained by the Architect. Final work will be measured against approved samples.

3.04 SPECIFIC REQUIREMENTS, PRODUCT DATA

A. Modify standard product data to delete information which is not applicable to this project. Supply additional data, if required, to show clearly what is intended.

B. Modify Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data to show the specific product application intended for the project.

C. Unless otherwise specified in an individual Specification Section, submit four (4) copies of each submittal item.

END OF SECTION

SECTION 01 42 19

REFERENCE STANDARDS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Should specified reference standards conflict with Contract Documents, request clarification from the Rowell Brokaw Architects, P.C. before proceeding.

C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Rowell Brokaw Architects, P.C. shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

END OF SECTION

SECTION 01 70 00

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of University of Oregon or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Effect on work of University of Oregon or separate Contractor.
      f. Written permission of affected separate Contractor.
      g. Date and time work will be executed.

1.03 QUALIFICATIONS

A. For survey work, employ a land surveyor registered in Oregon and acceptable to Rowell Brokaw Architects, P.C.. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

1.04 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After University of Oregon occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of University of Oregon's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Rowell Brokaw Architects, P.C. four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Rowell Brokaw Architects, P.C., University of Oregon, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Rowell Brokaw Architects, P.C. of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Rowell Brokaw Architects, P.C. the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Rowell Brokaw Architects, P.C..

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

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

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

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.09 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

3.11 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.12 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

END OF SECTION

SECTION 01 70 10

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

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

1.02 DESCRIPTION

A. The requirements specified in this section relate to all Contractors individually performing under these Contract Documents:
   1. Project Record Documents.
   2. Final Review and Payment.

B. Related work specified elsewhere.
   1. General Conditions.
   2. Section 01 34 00, Shop Drawings, Product Data, Samples.

1.03 PROJECT RECORD DOCUMENTS

A. Three complete sets of Project Record Documents must be submitted within two weeks after substantial completion. Final Payment, Final Acceptance, and Authorization for Final Payment will not be approved until Record Documents have been approved and delivered to the Owner. All related administrative cost accrued beyond this 2 week limit will be transferred to the Contractor.

B. The Project Record Documents shall be organized to include the following information:
   1. Table of Contents
   2. Project Team List
   3. Specifications
   4. Drawings (marked up prints showing as-built conditions)
   5. Inspection Reports, as applicable
   6. Daily Reports
   7. Recycling Report
   8. Warranty(ies) applicable
   9. Biulding Department's Certificate of Final Inspection
   10. Maintenance Instructions
   11. Building Permit Drawings indicating all inspections are complete. (1 copy only)

C. The project record documents shall be bound in a black, hard cover, three ring binder with each Section clearly indexed with tabbed divider pages.

D. The project team list shall include the company name, address, and phone number of the Owner, Architect, Contractor, Inspector, 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 Addenda 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 Addenda or Change Order. Redraw or provide new drawings as required for a complete set of as built drawings.

G. Include inspection reports, if applicable, and Architect's field reports, if applicable.

H. Include a copy of the Warranty clearly marked to identify the Owner's responsibilities under the terms of the Warranty.

I. Include maintenance instructions complete with technical information and name, address, and phone number of the Contractor(s) and Manufacturer(s) of each material and product.

1.04 FINAL REVIEW AND PAYMENT

A. Prior to completion, the Contractor shall inspect the work and make a “punch list” noting all items that are incomplete and/or incorrect.

B. The Contractor shall notify all subcontractors in writing of incomplete and/or incorrect items. Notify far enough in advance of the Completion Date that the work can be completed on schedule. Said work shall be immediately corrected.

C. Should conditions prevail which prohibit some elements of the work from being accomplished, but the work in place will perform the primary function, the Contractor shall record the reason with this “punch list” item requesting temporary delay in completion from the Architect in writing.

D. Notify the Architect in writing that all items are completed and ready for final review or else that the work product is fully useable, but some listed deficiencies remain to be completed. Submit all Record Documents at this time.

E. The Architect will review all documents. When the documents include a Contractor's request for delay in completion, the Architect will review all work which is certified as complete to the best knowledge of the Contractor. The Architect will also review the listed incomplete work and assign a value to such uncompleted work.

F. The Architect will review the work for conformance. If the work is found to be in nonconformance, the Architect will notify the Owner of the nonconforming items. Nonconforming items not affecting the weather protection capabilities of the roof and having no effect on the Roofing Manufacturer's Warranty will enable the Architect to recommend Owner “Occupancy”, which indicates completed work elements will be accepted but requiring retainage of monies and a Contract Change Order to ensure the Contractor will complete all work by a specific date as stated on the Change Order.

G. The Contractor shall make the required corrections to the work expeditiously. Upon Owner Occupancy, 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 informing the Contractor of the project status and the monies available for a semi-final payment upon receipt of billing. The Contractor may be back-charged for reviews of the work that are requested, but discovered to be in nonconformance.

H. The contractor has two (2) weeks from issue of the Punch List to make all required corrections. All related administrative cost accrued beyond the two (2) week limit will be transferred to the contractor.

I. When Contract closeout procedures are completed and all punch list items 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.

J. Upon Contractor's receipt of final acceptance by the Owner, the Contractor shall have two (2) weeks within which to present a final billing to the Owner. All related administrative cost accrued beyond the two (2) week limit will be transferred to the contractor.

K. All guarantees shall commence and become effective beginning on the date of Final Acceptance by the Owner.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

B. Abandonment and removal of existing utilities and utility structures.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.

B. Do not begin removal until receipt of notification to proceed from University of Oregon.

C. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

3.02 EXISTING UTILITIES

A. Coordinate work with Owner's Authorized Representative; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to University of Oregon.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to University of Oregon.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Rowell Brokaw Architects, P.C. before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Remove all misc. existing brackets, hangers, supports, all thread, etc. that are not part of new Work or shown to remain.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. Verify that abandoned services serve only abandoned facilities before removal.
   4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

D. Contractor may not use Owner's dumpsters.

END OF SECTION

SECTION 06 41 00

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Cabinet hardware.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2009.

B. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0.

C. BHMA A156.9 - American National Standard for Cabinet Hardware; Builders Hardware Manufacturers Association; 2010 (ANSI/BHMA A156.9).

D. NEMA LD 3 - High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2005.

E. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress; National Hardwood Lumber Association; 2007.

1.04 SUBMITTALS

A. See Section 01 34 00 - Shop Drawings, Product Data, Samples for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.

C. Product Data: Provide data for hardware accessories.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Custom quality, unless other quality is indicated for specific items.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI Architectural Woodwork Standards for Custom Grade.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Hardwood Lumber: NHLA; Graded in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Grade II/Custom; average moisture content of 5-10 percent; species as allowed by quality standards.
   1. Concealed Surfaces: Species Alder or Poplar.

2.04 PANEL MATERIALS

A. All cabinet construction to be formaldehyde free plywood. Particleboard, MDF and Hardboard are not allowed.

B. Plywood for Non-Decorative Purposes: NIST PS 1, Interior rated adhesives, core of wood plies from listed species unless otherwise indicated, thickness as indicated or as required by application.

C. Glass Sliding Door Panels: Clear tempered glass doors where indicated on drawings, thickness to match sliding door track assembly. Provide door handles of type suitable for application.

2.05 LAMINATE MATERIALS

A. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

B. Provide specific types as scheduled.
   1. Horizontal Surfaces: HGS, 0.048 inch (1.22 mm) nominal thickness, color as selected, finish as selected.
   2. Vertical Surfaces: VGS, 0.028 inch (0.71 mm) nominal thickness, color as selected, finish as selected.
   3. Cabinet Liner: CLS, 0.020 inch (0.51 mm) nominal thickness, color as selected, finish as selected.
      a. Melamine is not allowed.

C. Chemical Resistant Laminate as indicated on Drawings: Wilsonart Chemsurf or approved equal.

2.06 COUNTERTOPS

A. Plastic Laminate Countertops: Plywood substrate covered with HPDL, conventionally fabricated and self-edge banded.

2.07 ACCESSORIES

A. Adhesive: Low VOC and as recommended by fabricator to suit application.

B. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness, color as selected from manufacturer's standards.
   1. Use at all exposed plywood edges.
   2. Use at all exposed shelf edges.

C. Fasteners: Size and type to suit application.

D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel, or chrome-plated finish in exposed locations.

E. Grommets: Standard plastic grommets for cut-outs, in color black.

2.08 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Adjustable Shelf Supports in cabinet boxes: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch (25 mm) spacing adjustments.

C. Adjustable Shelf Supports at walls above laboratory benches: KV 85/185 Series Heavy Duty Standards in Anochrome finish, or approved equal.

D. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers ("U" shaped wire pull, steel with chrome finish, 100 mm centers).

E. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with satin finish.

F. Drawer Slides:
   1. Type: Full extension.
   2. Static Load Capacity: Commercial grade.
   3. Mounting: Side mounted.
   4. Stops: Integral type.

G. Hinges: European style concealed self-closing type, steel with polished finish.

H. Seismic Shelf Rods: Friction fit into pre-drilled holes, 1/4" brushed stainless steel rod type, 24" maximum length.

I. Sliding Door Track Assemblies: Upper and lower track of satin anodized aluminum, with matching shoe equipped with nylon rollers.

2.09 FABRICATION

A. Cabinet Style: Flush overlay.

B. Cabinet Doors and Drawer Fronts: Flush style.

C. Drawer Construction Technique: Dovetail joints.

D. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

E. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

F. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

G. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.

H. Provide cutouts for plumbing fixtures, inserts, outlet boxes, and fixtures and fittings. Verify locations of cutouts from on-site dimensions.

2.10 FACTORY FINISHING

A. Sand work smooth and set exposed nails and screws.

B. For opaque finishes, apply wood filler in exposed nail and screw indentations and sand smooth.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

B. Use fixture attachments in concealed locations for wall mounted components.

C. Use concealed joint fasteners to align and secure adjoining cabinet units.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (1 mm). Do not use additional overlay trim for this purpose.

E. Secure cabinets to floor using appropriate angles and anchorages.

F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

A. Adjust installed work.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

3.05 SCHEDULES

A. Base Cabinetry Laminate: Wilsonart Crisp Zephyr #4858-60.

B. Upper Cabinetry Laminate: Wilsonart Crisp Zephyr #4858-60.

C. Bench Top Shelf and Wall Mounted Shelf Laminate: Wilsonart Black #1595-60.

D. Cabinet Liner: White

END OF SECTION

SECTION 07 90 05

JOINT SEALERS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Sealants and joint backing.

1.03 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2010.

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2008.

C. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2010.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2009.

E. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

1.04 SUBMITTALS

A. Product Data: Provide data indicating sealant chemical characteristics.

1.05 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

PART 2 PRODUCTS

2.01 SEALANTS

A. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.

B. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
   1. Color: Standard colors matching finished surfaces.
   2. Applications: Use for:
      a. Interior wall and ceiling control joints.
      b. Joints between door and window frames and wall surfaces.
      c. Other interior joints for which no other type of sealant is indicated.

C. Acoustical Sealant for Concealed Locations: Permanently tacky non-hardening butyl sealant.
   1. Applications: Use for concealed locations only:
      a. Sealant bead between top stud runner and structure and between bottom stud track and floor.

2.02 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured.

END OF SECTION

SECTION 08 12 13

HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Fire-rated and non-rated steel door frames.

1.03 RELATED REQUIREMENTS

A. Section 08 14 16 - Flush Wood Doors.

1.04 REFERENCE STANDARDS

A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2003.

B. ANSI A250.8 - SDI-100 Recommended Specifications for Standard Steel Doors and Frames; 2003.

C. ANSI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 1998 (R2004).

D. BHMA A156.115 - Hardware Preparation in Steel Doors and Steel Frames; 2006.

E. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 2007.

F. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2010.

G. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

H. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.05 SUBMITTALS

A. See Division 01 of specifications for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store in accordance with NAAMM HMMA 840.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.01 STEEL DOOR FRAMES

A. Requirements for All Frames:
   1. Accessibility: Comply with ANSI/ICC A117.1.

2. Hardware Preparation: In accordance with BHMA A156.115, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
3. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with all the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

B. Interior Door Frames, Non-Fire-Rated: Knock-down type.
1. Grade: Comply with frame requirements specified in ANSI A250.8 for Level 1, 18 gage
2. Finish: Factory primed, for field finishing.

C. Interior Door Frames, Fire-Rated: Knock-down type.
1. Grade: Comply with frame requirements specified in ANSI A250.8 for Level 1, 18 gage
2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C ("positive pressure").
   a. Provide units listed and labeled by UL.
   b. Attach fire rating label to each fire rated unit.
3. Finish: Factory primed, for field finishing.

2.02 ACCESSORY MATERIALS

A. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

2.03 FINISH MATERIALS

A. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

3.02 INSTALLATION

A. Install in accordance with the requirements of the specified door grade standard and NAAMM HMMA 840.

B. In addition, install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Coordinate installation of hardware.

E. Coordinate installation of electrical connections to electrical hardware items.

3.03 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch (1.5 mm) measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 14 16

FLUSH WOOD DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Flush wood doors; flush configuration; fire rated, non-rated, and special function.

1.03 RELATED REQUIREMENTS

A. Section 08 80 00 - Glazing. Rated safety glass.

1.04 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2009.

B. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0.

C. ITS (DIR) - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.

D. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2010.

E. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association; 2008.

F. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

G. UL 10B - Standard for Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.05 SUBMITTALS

A. See Division 01 specifications for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Specimen warranty.

D. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, identify cutouts for glazing.

E. Samples: Submit two samples of door veneer, 6"x6" in size illustrating wood grain, stain color, and sheen.

F. Manufacturer's Installation Instructions: Indicate special installation instructions.

G. Warranty, executed in University of Oregon's name.

1.06 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

C. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire rated class as indicated.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.08 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 DOORS AND PANELS

A. All Doors: See drawings for locations and additional requirements.
   1. Quality Level: Custom Grade, in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at all locations.
   2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with NFPA 252, UL 10B, or UBC Standard 7-2-94 ("neutral pressure"); UL or WH (ITS) labeled without any visible seals when door is open.
   3. Wood veneer facing with factory transparent finish where indicated on drawings.

2.02 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type staved lumber core (SLC), plies and faces as indicated above.

B. Fire Rated Doors: Mineral core, Type FD, plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.03 DOOR FACINGS

A. Wood Veneer Facing for Transparent Finish: To match existing doors in corridor, veneer grade as specified by quality standard, plain sliced, book veneer match, running assembly match; unless otherwise indicated.

2.04 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

E. Provide edge clearances in accordance with the quality standard specified.

2.05 FACTORY FINISHING - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 5 - Finishing for Grade specified and as follows:

B. Factory finish doors in accordance with custom quality standard:

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.
   1. Install fire-rated doors in accordance with NFPA 80 requirements.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Use machine tools to cut or drill for hardware.

D. Factory prep doors for hardware baded on Owner provided hardware schedule.

E. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

A. Conform to specified quality standard for fit and clearance tolerances.

B. Conform to specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Hardware for wood doors.

B. Lock cylinders for doors for which hardware is specified in other sections.

C. Thresholds.

D. Weatherstripping, seals and door gaskets.

1.03 REFERENCE STANDARDS

A. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2010.

B. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Door hardware to be Owner Furnished Contractor Installed.

B. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

PART 2 PRODUCTS

2.01 DOOR HARDWARE - GENERAL

A. Provide all hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.

B. Provide all items of a single type of the same model by the same manufacturer.

C. Provide products that comply with the following:
   1. Applicable provisions of federal, state, and local codes.
   2. Fire-Rated Doors: NFPA 80.
   3. All Hardware on Fire-Rated Doors: Listed and classified by UL as suitable for the purpose specified and indicated.
   4. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.

D. All Door Hardware, except Security Access Controls, to be Owner-Furnished, Contractor-Installed.

2.02 HINGES

2.03 LOCKS AND LATCHES

A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.
   1. Hardware Sets indicate locking functions required for each door.
   2. If no hardware set is indicated for a swinging door provide an office lockset.
   3. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
   4. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.

B. Latches: Provide a latch for every door that is not required to lock, unless specifically indicated "push/pull" or "not required to latch".

2.04 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

A. Provide products that comply with the following:
   1. Applicable provisions of federal, state, and local codes.

B. Finishes: Identified in schedule at end of section.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Use templates provided by hardware item manufacturer.

C. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.

D. Mounting heights for hardware from finished floor to center line of hardware item: As listed in Schedule, unless otherwise noted:

3.03 ADJUSTING

A. Adjust work under provisions of Section 01 70 00.

B. Adjust hardware for smooth operation.

3.04 SCHEDULE

A. See Hardware Sets.

HARDWARE SETS

4.01 GROUP 1: SWING DOOR, LAB FUNCTION, NON-RATED.

A. **SCHEDULE: LAB 372B, LAB 373B.**
   1. Butts: (3) ea Ives 5BBI 4.5x4.5.
   2. Lockset: Schlage ND70 Series Rhodes with interchangeable Core Function, 626.
   3. Floor Stop: Ives, FS436.
   4. SIlencers: (4) ea Ives SR64.
   5. Kick Plate: Ives 8400, 10x34.

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Metal channel ceiling framing.

D. Acoustic insulation.

E. Gypsum wallboard.

F. Joint treatment and accessories.

1.03 REFERENCE STANDARDS

A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)

B. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.

C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002 (Reapproved 2007).

D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2009a.

E. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2006.

F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2009a.

G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2008.

H. ASTM C 954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2007.

I. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.

J. ASTM C 1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2009.

K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2009a.

L. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2005.

M. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2010.

N. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2009.

O. ICC (IBC) - International Building Code; 2009.

P. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Fire Rated Assemblies: Provide completed assemblies complying with applicable code.
   1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
   2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
   3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL Fire Resistance Directory.

2.02 METAL FRAMING MATERIALS

A. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (240 Pa).
   1. Exception: The minimum metal thickness and section properties requirements of ASTM C 645 are waived provided steel of 40 ksi (275 MPa) minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E 72 using assemblies specified by ASTM C 754.
   2. Studs: "C" shaped with flat or formed webs with knurled faces.
   3. Runners: U shaped, sized to match studs.
   4. Ceiling Channels: C shaped.
   5. Furring: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).

B. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
   1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
   2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
   3. Deflection and Firestop Track:
      a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.

2.03 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   3. Thickness:
      a. Vertical Surfaces: 5/8 inch (16 mm).
      b. Ceilings: 5/8 inch (16 mm).

2.04 ACCESSORIES

A. Acoustic Insulation: ASTM C 665; preformed glass fiber, friction fit type, unfaced. Thickness to fill wall cavity.

B. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
   1. Types: As detailed or required for finished appearance.

C. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.

D. Screws for Attachment to Steel Members Less Than 0.03 inch (0.7 mm) In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type; cadmium-plated for exterior locations.

E. Screws for Attachment to Steel Members From 0.033 to 0.112 inch (0.8 to 2.8 mm) in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.

C. Studs: Space studs as permitted by standard.
   1. Extend partition framing to structure where indicated and to ceiling in other locations.
   2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
   3. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.04 BOARD INSTALLATION

A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.

B. Corner Beads: Install at external corners, using longest practical lengths.

3.06 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 5: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

END OF SECTION

SECTION 09 51 00

ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.03 REFERENCE STANDARDS

A. ASTM C 635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2009b.

B. ASTM E 1264 - Standard Classification for Acoustical Ceiling Products; 2008.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning.

C. Product Data: Provide data on suspension system components.

D. Samples: Submit two samples illustrating material and finish of acoustical units.

E. Additional Stock of Ceiling Tiles: Submit 10% of installed square footage to Owner at project completion for Owner inventory.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

A. Manufacturers:
   1. Armstrong World Industries, Inc: www.armstrong.com.
   2. CertainTeed Corporation: www.certainteed.com.
   3. USG: www.usg.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Acoustical Units - General: ASTM E1264, Class A.

C. Acoustical Panels: Painted mineral fiber, ASTM E 1264 Type III, with the following characteristics:
   1. Size: 24 x 48 inches (600 x 1200 mm).
   2. Edge: Reveal edge.
   3. Surface Color: White.
   4. Surface Pattern: Perforated, regularly spaced large holes.
   5. Design Standard Product: Radar Clima Plus by USG.
   6. Suspension System: Exposed grid.

2.02 SUSPENSION SYSTEM(S)

A. Manufacturers:
   1. Same as for acoustical units.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Suspension Systems - General: ASTM C 635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

2.03 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Perimeter Moldings: Same material and finish as grid.
   1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.

C. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 INSTALLATION - SUSPENSION SYSTEM

A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

B. Install after major above-ceiling work is complete. Coordinate location of hangers with other work.

C. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

D. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

F. Support fixture loads using supplementary hangers located within 6 inches (150 mm) of each corner, or support components independently.

G. Do not eccentrically load system or induce rotation of runners.

H. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

3.02 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

G. Install grid and acoustical units along room perimeter with an equal/equal layout at walls and with a minimum 6" tile width unless indicated otherwise.

END OF SECTION

SECTION 09 65 00

RESILIENT FLOORING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient base.

C. Installation accessories.

1.03 REFERENCE STANDARDS

A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2008.

B. RFCI - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; 1998.

1.04 SUBMITTALS

A. See Section 01 34 00 - Shop Drawings, Product Data, Samples for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Additional Stock of Rubber Flooring: Submit 10% of installed square footage to Owner at project completion for Owner inventory.
   1. Additonal stock to be provided as single full width roll.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect roll materials from damage by storing on end.

PART 2 PRODUCTS

2.01 SHEET FLOORING

A. Rubber Flooring: Nora Rubber Flooring: Noraplan Environcare. Color to be Windflower #2930.
   1. All seams to be heat welded.

2.02 RESILIENT BASE

A. Base: Roppe P150, 4", Color to be selected by Owner from manufacturer's full range.

2.03 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seaming Materials: Waterproof; types recommended by flooring manufacturer.

C. Moldings, Transition and Edge Strips: Same material as flooring.

D. Filler for Coved Base: Plastic.

E. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Verify that concrete sub-floor surfaces are dry enough and ready for resilient flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F710; obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Remove existing flooring and flooring adhesives.

B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.

C. Prohibit traffic until filler is cured.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install in accordance with manufacturer's instructions.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Fit joints tightly.

E. Set flooring in place, press with heavy roller to attain full adhesion.

F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

H. Scribe flooring to walls, columns, floor outlets, and other appurtenances to produce tight joints.

3.04 SHEET FLOORING

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns carefully at seams.

B. Double cut sheet at seams.

C. Lay flooring with tightly butted seams, without any seam sealer.

D. Finish seams as recommended by Manufacturer.

E. Coved Base: Install as detailed on drawings, using coved base filler as backing at floor to wall junction. Extend sheet flooring vertically to height indicated, and cover top edge with metal cap strip.

3.05 RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.

B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's instructions.

3.07 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

C. Surfaces to be finished are indicated in this section and on the Drawings.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Master Painters and Decorators Association; 2004.

1.04 SUBMITTALS

A. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).

B. Samples: Submit three paper "drop" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.

1.05 MOCK-UP

A. Provide wall panel, 4 feet long by 4 feet wide, illustrating coating color, texture, and finish.

B. Mock-up may remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Provide all paint and coating products from the same manufacturer to the greatest extent possible.

2.02 MATERIALS - GENERAL

A. Volatile Organic Compound (VOC) Content:
   1. Provide coatings that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.03 PAINT SYSTEMS

A. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.

B. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.

2.04 INTERIOR PAINT SYSTEMS

A. Concrete Vertical and Overhead Surfaces:
   1. Applications include but are not limited to walls and ceilings.
   2. INT 3.1A Latex: Latex Primer Sealer MPI #3, Latex MPI #43, 44, 52, 53, 54 or 114.

B. Structural Steel and Metal Fabrications:
   1. INT 5.1A Quick Dry Enamel: Q.D. Primer MPI #76, Q.D. Enamel MPI #81 or 96.
   2. MPI #126 intumescent paint where required for fire rating at structural steel.

C. Plaster and Gypsum Board:
   1. Applications include but are not limited to walls, ceilings, soffits, and bulkheads.
   2. : INT 9.2M Institutional Low Odor/VOC: Latex Primer Sealer MPI #50, Institutional Low Odor/VOC MPI #143, 144, 145, 146, 147 or 148.

PART 3 EXECUTION

3.01 SCOPE -- SURFACES TO BE FINISHED

A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.

B. Paint the surfaces described in PART 2, indicated on the Drawings, and as follows:
   1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
   2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
   3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.

4. Paint back sides of access panels and removable and hinged covers to match exposed surfaces.
5. Paint interior surfaces of air ducts and convector and baseboard heating cabinets with flat, nonspecular black paint where visible through registers, grilles, or louvers.
6. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

C. Do Not Paint or Finish the Following Items:
1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
2. Items indicated to receive other finish.
3. Items indicated to remain naturally finished.
4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.

3.02 EXAMINATION

A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials; report incompatible primer conditions and submit recommended changes for Rowell Brokaw Architects, P.C.'s approval.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Plaster and Gypsum Board: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

E. Measure the ph factor of concrete, masonry, and mortar before starting any finishing process, using the method specified in MPI Architectural Painting Manual.
1. Report results in writing to Rowell Brokaw Architects, P.C. before starting work.
2. If results of test indicates need for remedial action, provide written description of remedial action. If a different primer or paint systems is required, state the total cost of the change. Do not proceed with remedial action or change without receiving written authorization from Rowell Brokaw Architects, P.C..

3.03 PREPARATION

A. Prepare surfaces as specified in MPI Architectural Painting Specification Manual and as follows for the applicable surface and coating; if multiple preparation treatments are specified, use as many as necessary for best results; where the Manual references external standards for preparation (e.g. SSPC standards), prepare as specified in those standards; comply with coating manufacturer's specific preparation methods or treatments, if any.

B. Coordinate painting work with cleaning and preparation work so that dust and other contaminants do not fall on newly painted, wet surfaces.

C. Surface Appurtenances: Prior to preparing surfaces or finishing, remove electrical plates, hardware, light fixtures, light fixture trim, escutcheons, machined surfaces, fittings, and similar items already installed that are not to be painted.
1. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before preparation and finishing.
2. After completing painting in each space or area, reinstall items removed using workers skilled in the trades involved.

D. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.

E. Marks: Seal with shellac those which may bleed through surface finishes.

F. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete, Cement Plaster and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

H. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

I. Plaster Surfaces to be Painted: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

J. Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

K. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

3.04 APPLICATION

A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
   1. Remove, refinish, or repaint work not complying with requirements.

B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.

C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.
   1. Brush Application: Use brushes best suited for the type of material applied; use brush of appropriate size for the surface or item being painted; produce results free of visible brush marks.
   2. Roller Application: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
   3. Spray Application: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
   4. Where application method is listed in the MPI Manual for the paint system that application method is required; otherwise any application method recommended by manufacturer for material used and objects to be painted is acceptable.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
   1. Number of coats and film thickness required are the same regardless of application method.

2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
3. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive dry film thickness equivalent to that of flat surfaces.

E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.
1. Before applying finish coats, apply a prime coat of material recommended by manufacturer, unless the surface has been prime coated by others; where evidence of suction spots or unsealed areas in first coat appear, recoat primed and sealed surfaces to ensure finish coat with no burn through or other defects due to insufficient sealing.
2. Apply first coat to surface that has been cleaned, pretreated, or otherwise prepared as soon as practical after preparation and before subsequent surface deterioration.
3. Do not apply succeeding coats until the previous coat has cured as recommended by manufacturer.
4. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat will not cause the undercoat to lift or lose adhesion.
5. If manufacturer's instructions recommend sanding to produce a smooth, even surface, sand between coats.
6. Before applying next coat vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

3.05 CLEANING AND PROTECTION

A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from site.

C. Protect other work, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting as approved by Rowell Brokaw Architects, P.C..

D. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in MPI Manual.

3.06 SCHEDULE - COLORS

A. Typical Wall and Ceiling Color: Benjamin Moore 2151-70 'Powder Sand', or match

B. Accent Wall Color, West walls of Rms 111A & 115A: Benjamin Moore HC-146 'Wedgewood Grey', or match.

END OF SECTION

SECTION 10 11 01

VISUAL DISPLAY BOARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Markerboards.

1.02 REFERENCE STANDARDS

A. ASTM A424 - Standard Specification for Steel, Sheet, for Porcelain Enameling; 2009a.

B. PS 1 - Structural Plywood; 2007.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's data on chalkboard, markerboard, tackboard, tackboard surface covering, trim, and accessories.

C. Shop Drawings: Indicate wall elevations, dimensions, joint locations, special anchor details.

PART 2 PRODUCTS

2.01 VISUAL DISPLAY BOARDS

A. Whiteboard WB-1: Porcelain enamel on steel, laminated to core.
   1. Color: White.
   2. Metal Face Sheet Thickness: 0.024 inch, 24 gage (0.61 mm).
   3. Core: Plywood, manufacturer's standard thickness, laminated to face sheet.
      a. Formaldehyde Free.
   4. Backing: Aluminum foil, laminated to core.
   5. Size: As indicated on drawings.
   6. Frame: Extruded aluminum, with concealed fasteners.
   7. Frame Finish: Anodized, natural.
   8. Accessories: Provide chalk tray and map rail.

2.02 MATERIALS

A. Porcelain Enameled Steel Sheet: ASTM A424, Type I, Commercial Steel, with fired-on vitreous finish.

B. Plywood: PS 1, Grade C-D, softwood.

C. Foil Backing: Aluminum foil sheet, 0.005 inch (0.13 mm) thick.

D. Adhesives: Type used by manufacturer.

2.03 ACCESSORIES

A. Temporary Protective Cover: Sheet polyethylene, 8 mil (0.2 mm) thick.

B. Chalk Tray: Aluminum, manufacturer's standard profile molded ends; concealed fasteners, same finish as frame.

C. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

3.02 INSTALLATION

A. Install boards in accordance with manufacturer's instructions.

B. Secure units level and plumb.

3.03 CLEANING

A. Clean board surfaces in accordance with manufacturer's instructions.

B. Cover with protective cover, taped to frame.

C. Remove temporary protective cover at date of Substantial Completion.

END OF SECTION

SECTION 10 56 17

WALL MOUNTED SHELVING AND CYLINDER RESTRAINTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shelf standards, brackets, and accessories.

B. Shelves.
   1. See drawings for locations and configurations.

C. C. Cylinder Restraint System

1.02 RELATED REQUIREMENTS

A. Section 06 41 00 - Architectural Wood Casework: Laminate Counter Tops and Cabinets.

B. REFERENCE STANDARDS
   1. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

C. SUBMITTALS
   1. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   2. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Shelf Standards and Brackets:
   1. Knape & Vogt Manufacturing Company: www.knapeandvogt.com.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Slotted Framing Channel:
   1. Unistrut: P1000.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 MATERIALS

A. Heavy Duty Shelf Standards: Double-slotted channel standards for brackets adjustable in 1 inch (25 mm) increments along entire length of standard, drilled and countersunk for screws.
   1. Load Capacity: Recommended by manufacturer for loading of 300 to 680 pounds (135 to 310 kg) per pair of standards.
   2. Material: Steel.
   3. Lengths: As indicated on drawings.
   4. Finish: Electroplated, chrome-look.
   5. Brackets: Double tab type, locking into slots; size to suit shelves; same finish as standards.
   6. Bracket Quantity: Provide one bracket for each 12 inches (305 mm) of standard length, or as indicated on drawings.

B. Laminate Faced Shelves: Plywood covered with high pressure decorative laminate on both sides.
   1. Plastic Edge Banding:Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness, color to match shelf laminate]. Use at all exposed shelf edges.
   2. Substrate Thickness: 3/4 inch (19 mm), nominal.
   3. Laminate: NEMA LD 3 Type HGL.
   4. Laminate Color: Black.

C. Cylinder Restraint Assembly:
   1. Slotted Framing Channel
      a. Gage: 12ga
      b. Depth: 1 5/8" x 1 5/8"
      c. Finish: Zinc-Coated, Pregalvanized
   2. Slotted Framing Channel, Fitting, Swivel Hangers, and End Caps: Framing as specified above, of length sufficient to restrain number of cylinders indicated. Provide two swivel hangers per cylinder per wall bracket.
   3. Chain and Associated Hardware: Provide 1/4 inch diameter welded chain fitted with one threaded connector chain link at each end, and one harnass clip: McMaster-Carr Supply Company, Suncor Stainless Inc. or approved substitution. All chain and hardware shall be Type 304 or 316 stainless steel. Chain shall be long enough to secure 9 inch cylinder.
   4. Provide two assemblies per cylinder to anchor at a high and low point.
   5. Cylinder Restraint components shall be factory finish.

D. Fasteners: Screws as recommended by manufacturer for intended application or as otherwise required by project conditions.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Mount standards to solid backing capable of supporting intended loads.

C. Install brackets, shelving, and accessories.

END OF SECTION

SECTION 12 24 00

ROLLER SHADES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide Instructions, maintenance instructions, details.

C. Shop Drawings: Indicate plans, elevations, sections, product details, installation details, operational clearances, and relationship to adjacent work.

D. Provide samples of shade material and color options for architect's selection.

E. LEED Report: Submit recycled content information and extraction/manufacture locations as specified in Section 01 3515.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. NFPA Flame-Test: Passes NFPA 701.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hunter Douglas Contract
   1. Product: Manual Roller Shades

B. Draper.
   1. Product: LightBloc Manual FlexShade

C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 Manually Roller Shades: (Premium Quality).

A. Chain: #10 Stainless Steel

B. Fabric: Phifer SheerWeave

C. Color: Architect to select from manufacturer's full range.

D. Openness: 0%

E. Brackets: Standard.

F. Side Rails: U-Profile Extruded Aluminum.

G. Mounting Hardware: Nickel-plated steel or Clear Anodized.

2.03 FABRICATION

A. Shade measurements shall be accurate to within +/- 1/8" or as recommended in writing by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

3.02 PREPARATION

A. Coordinate the installation of blocking to support shade.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

END OF SECTION

SECTION 22 10 05

PLUMBING & HYDRONIC PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe, pipe fittings, valves, and connections for piping systems.
   1. Compressed Air.
   2. Heating Hot Water.

1.2 REFERENCE STANDARDS

A. University of Oregon Campus Construction Standards; third edition, May 2011

B. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2001 (R2005).

C. ASTM B 42 - Standard Specification for Seamless Copper Pipe, Standard Sizes; 2002.

D. ASTM B 88 - Standard Specification for Seamless Copper Water Tube; 2003.

1.3 SUBMITTALS

A. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

B. Project Record Documents: Record actual locations of valves.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with University of Oregon standards.

B. Valves: Manufacturer's name and pressure rating marked on valve body.

1.5 REGULATORY REQUIREMENTS

A. Perform Work in accordance with Oregon plumbing codes.

1.1 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary protective coating on cast iron and steel valves.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.1 COMPRESSED AIR AND HEATING HOT WATER PIPING, ABOVE GRADE

A. Copper Tube: ASTM B 88 (ASTM B 88M), Type L, Hard Drawn.
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
   2. Joints: Solder, lead free, ASTM B 32, 95-5 tin-antimony.

2.2 PIPE HANGERS AND SUPPORTS

A. Compressed Air:

1. Copper Pipe Support: Copper plated adjustable clevis or J pipe hanger.

B. Heating Hot Water:

1. Copper Pipe Support: Adjustable clevis or J pipe hanger.

2.3 BALL VALVES

A. Manufacturers:
1. Conbraco Industries; www.conbraco.com.
2. Nibco, Inc; www.nibco.com.
3. Milwaukee Valve Company; www.milwaukeevalve.com.
4. Also acceptable: Crane, Jenkins, Stockham, Hammond.
5. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

B. Construction, 4 Inches (100 mm) and Smaller: MSS SP-110, Class 150, 400 psi (2760 kPa) CWP, bronze, two piece body, stainless steel balls, full port, reinforced teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, solder ends with union.

2.4 LABORATORY BALL VALVES

A. Manufacturers:
1. WaterSaver Faucet Co; www.wsflab.com
2. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

2.5 GATE VALVES

A. Manufacturers:
1. Conbraco Industries: www.conbraco.com.
2. Nibco, Inc: www.nibco.com.
3. Milwaukee Valve Company: www.milwaukeevalve.com.
4. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

B. Up To and Including 2 Inches (50 mm):
1. Bronze body, bronze trim, screwed bonnet, non-rising stem, lockshield stem, inside screw with backseating stem, solid wedge disc, alloy seat rings, solder ends.

2.6 BALANCING VALVES

A. Manufacturers:
1. ITT Bell & Gossett: www.bellgossett.com.
2. Griswold Controls: www.griswoldcontrols.com.
3. Taco, Inc: www.taco-hvac.com.
4. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

B. Construction: Class 125, Brass or bronze body with union on inlet and outlet, temperature and pressure test plug on inlet and outlet.

PART 3 EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs.

B. Remove scale and dirt, on inside and outside, before assembly.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide brass connections where jointing dissimilar metals.

C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

D. Install piping to maintain headroom, conserve space, and not interfere with use of space.

E. Group piping whenever practical at common elevations.

F. Provide clearance in hangers and from structure and other equipment for access to valves.

G. Provide access where valves and fittings are not exposed.

H. Install valves with stems upright or horizontal, not inverted.

I. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9.
   2. Support horizontal piping as scheduled.
   3. Install hangers to provide minimum 1/2 inch (15 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   6. Provide copper plated hangers and supports for copper piping.

3.3 APPLICATION

A. Install unions downstream of valves and at equipment.

B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

3.4 SCHEDULES

A. Pipe Hanger Spacing:
   1. Copper Piping:
      a. Pipe size: 1/2 inches to 3/4 inches:
         1) Maximum hanger spacing: 5 ft.
         2) Minimum hanger rod diameter: 1/4 inches.

END OF SECTION

SECTION 23 05 00

MECHANICAL SCOPE OF WORK

MICROSCOPY LABORATORY REMODEL

PART 1 GENERAL

1.00 OVERVIEW

1.1 The Owner is converting several rooms of an existing physics lab into smaller lab spaces on the third floor of Willamette Hall at the University of Oregon. Existing furnishings shall be removed prior to the scope of this work. A new interior wall will be installed to separate Conference Room 372A into two smaller lab spaces. Interior walls will also be erected in room 373 to creating a new lab space within the existing lab. New controls will be added to Lab Rooms 372A, 372B, 373A, 373B, & 363 to allow a stable room temperature to be maintained to +/- 1˚F. The existing supply and exhaust ductwork and heating hot water system will be modified in Room 372 and 373 to accommodate the new load requirements for these lab spaces. In addition, new compressed air outlets will be provided in the five lab rooms.

1.2 The following scope of work to be performed by the Contractor is presented for the purpose of complementing or clarifying the Drawings, Specifications, and other Contract Documents; but shall not limit the definition of work as described herein nor shall it constitute a complete list of the Work of the Contract.

1.3 Clarifications of the technical aspects of this specification and the drawings are available from Evergreen Engineering, Eugene, Oregon, (541) 484-4771, Mr. Patrick Sandow, Project Manager.

1.4 Cutting and Welding – In the event that hot work is required, the Owner shall be contacted prior to performing the hot work. All Owner hot work requirements must be adhered to during the project.

1.5 The Contractor shall:

1.5.1 Accept the site in its existing condition at the time of commencement of the Work. A site visit by the Contractor is required to assure a firsthand understanding of this Scope of Work.

1.4.2 Submit to the Owner for approval a list of temporary buildings, if any, that the Contractor intends to bring onto the site.

1.4.3 Before commencing any work, submit for review and approval of the Owner a detailed schedule (simple bar graph) showing the commencement, the order, and the completion dates for the various parts of this Work. The Work shall be performed in accordance with the approved detailed schedule.

1.4.4 Transport to the site Contractor's construction materials and equipment required for the performance of the Work; storing and locating such materials in areas designated by the Owner.

1.4.5 Provide first aid facilities to meet the requirements of state and local regulating agencies having jurisdiction at the site.

1.4.6 Provide necessary portable lighting as required by the Contractor.

1.5 Before starting any work that will have an affect on existing utilities (electrical, sewer, water, etc.) and that will temporarily discontinue or disrupt service to the existing building or equipment, Contractor will notify the Owner three days in advance and obtain the Owner's approval before proceeding with this phase of the Work. Owner will shut down and/or lock out all installed equipment or systems when work is being performed in or near energized equipment.

1.6 Maintain a clean work area. Containment of dust and fumes is required.

1.7 All finished portions of the installation shall be submitted for inspection by the Owner or his representative.

1.8 Work will conform to the conditions specified on the drawings and specifications. Adjustments or modifications of work affecting functional design of work shall be submitted to Owner for review and approval.

1.9 As-Built Drawings. The Contractor shall at all times maintain one complete set of drawings, identifying substantial changes as a result of on-site coordination. The drawings shall include vendor drawings. Before completing the project, the Contractor shall transmit one set of drawings to the Owner.

1.10 Refer to Section 01 1000 General Requirements for additional working conditions.

PART 2 PRODUCTS

2.0 GENERAL

2.1 All material furnished under this specification shall be new and first quality.

2.2 Fabrication methods shall follow the best accepted practice within the industry. Fabrication shall be performed in a workmanlike manner. Poor workmanship, even though structurally sound, shall be cause for rejection where appearance is a justifiable consideration.

2.3 All nuts, bolts, and caulking will be supplied by the successful bidder.

2.4 At the time of final clean-up, all finish surfaces shall be free of scratches and other surface blemishes, and all repaired surfaces shall be equal to the original finish and repairs shall not be visible.

PART 3 SCOPE OF WORK

3.00 GENERAL

3.01 Remove existing thermostats; cap, not crimp, pneumatic tubing at main header and remove abandoned tubing, and control valves serving rooms 372A, 373A, 363 and

replace with new digital controls. The new controls will be an independent system serving each zone and will not be tied into a building management system.

3.2 In room 363, install new 6" exhaust duct for laser power supply heat removal as shown on M2.2.

3.3 Remove existing 8" supply duct, 12x6 transfer duct, and reheat coil serving room 372A and replace with new 10" supply duct, (2) supply diffusers, (2) exhaust registers, 8" flex duct and reheat coil as shown on M2.3.

3.4 Install new reheat coil, heating hot water piping, ductwork, (1) supply diffuser, transfer duct, (1) return register and controls (thermostat, controller, HHW control valve) serving new lab room 373B as shown on M2.4.

3.5 Extend existing 30x14 exhaust duct and register serving room 373 to new wall of lab room 373B as shown on M2.4.

3.6 Install new compressed air piping and lab ball valves in rooms 372A, 372B, 373A, 373B and 363.

3.7 Perform a pre-construction and post construction air balance, and adjust the heating hot water flow for the two new coils.

SECTION 23 05 93

TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Testing, adjustment, and balancing of air systems.

B. Testing, adjustment, and balancing of hydronic systems.

1.2 REFERENCES

A. AABC MN-1 - AABC National Standards for Total System Balance; Associated Air Balance Council; 2002.

B. ASHRAE Std 111 - Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems; American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.; 1988 (R 1997).

C. NEBB (TAB) - Procedural Standards for Testing Adjusting Balancing of Environmental Systems; National Environmental Balancing Bureau; 2005, Seventh Edition.

D. SMACNA (TAB) - HVAC Systems Testing, Adjusting, and Balancing; Sheet Metal and Air Conditioning Contractors' National Association; 2002.

1.3 SUBMITTALS

A. See Section 01 30 00 (01300) - Administrative Requirements, for submittal procedures.

B. Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.

C. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
   1. Submit under provisions of Section 01 40 00 (01400).
   2. Provide final copies for Architect and for inclusion in operating and maintenance manuals.
   3. Provide reports in soft cover, letter size, 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.
   4. Include actual instrument list, with manufacturer name, serial number, and date of calibration.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. Perform total system balance in accordance with one of the following:
   1. AABC MN-1, AABC National Standards for Total System Balance.
   2. NEBB Procedural Standards for Testing Adjusting Balancing of Environmental Systems.
   3. SMACNA HVAC Systems Testing, Adjusting, and Balancing.

B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.

3.2 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:

1. Temperature control systems are installed complete and operable.
2. Access doors are closed and duct end caps are in place.
3. Air outlets are installed and connected.
4. Hydronic systems are flushed, filled, and vented.
5. Service and balance valves are open.

B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.

3.3 INSTALLATION TOLERANCES

A. Air Outlets and Inlets: Adjust outlets and inlets in space to within plus or minus 10 percent of design.

B. Hydronic Systems: Adjust to within plus or minus 10 percent of design.

3.4 RECORDING AND ADJUSTING

A. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.

3.5 AIR SYSTEM PROCEDURE

A. Adjust distribution systems to provide required or design supply, return, and exhaust air quantities.

3.6 SCOPE

A. Test, adjust, and balance the following:
1. Air Inlets and Outlets

3.7 MINIMUM DATA TO BE REPORTED

A. Supply Air/Exhaust Air:
1. Identification/location
2. Design air flow
3. Actual air flow

B. Heating Hot Water:
1. Identification/location
2. Design water flow
3. Actual water flow

END OF SECTION

SECTION 23 07 19

HVAC PIPING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Piping insulation.

B. Jackets and accessories.

1.2 REFERENCE STANDARDS

A. ASTM C 533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation; 2007.

B. ASTM C 547 - Standard Specification for Mineral Fiber Pipe Insulation; 2007.

C. ASTM C 552 - Standard Specification for Cellular Glass Thermal Insulation; 2007.

D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2008.

1.3 SUBMITTALS

A. See Section 01 30 00 (01300) - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

A. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E 84, NFPA 255, or UL 723.

2.2 GLASS FIBER

A. Manufacturers:
   1. Knauf Insulation: www.knaufusa.com.
   2. Johns Manville Corporation: www.jm.com.
   3. Owens Corning Corp: www.owenscorning.com.
   4. CertainTeed Corporation: www.certainteed.com.
   5. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

B. Vapor Barrier Jacket: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E 96/E 96M of 0.02 perm-inches (0.029 ng/Pa s m).

PART 3EXECUTION

3.1 EXAMINATION

A. Verify that piping has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Exposed Piping: Locate insulation and cover seams in least visible locations.

C. Glass fiber insulated pipes conveying fluids above ambient temperature:
   1. Provide standard jackets, with or without vapor barrier, factory-applied or field-

applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples.

2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

D. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions.

3.3 SCHEDULE

A. Heating Systems:
   1. Heating Water Supply and Return: all sizes - 1" thickness

END OF SECTION

SECTION 23 09 13

INSTRUMENTATION AND CONTROL DEVICES FOR HVAC

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Control Units

B. Power Module

C. Control Valves

D. Input Sensors

E. Miscellaneous Accessories.

1.2 REFERENCES

A. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); National Electrical Manufacturers Association; 2003.

B. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilation Systems; National Fire Protection Association; 2002.

1.3 SUBMITTALS

A. Product Data: Provide description and engineering data for each control system component. Provide data for each system component and software module.

B. Shop Drawing Package consisting of:
   1. Legend summary.
   2. Control schematics
   3. Control panel layout drawings
   4. Control panel and field termination details
   5. Equipment submittals

C. Manufacturer's Instructions: Provide O&Ms for all manufactured components.

D. Project Record Documents: Accurately record operating sequence and actual location of control components, including panels, thermostats, and sensors.

E. Operation and Maintenance Data: Include inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.

F. Warranty: Submit manufacturer’s warranty and ensure that forms have been filled out in Owner s name and registered with manufacturer.

1.4 WARRANTY

A. Correct defective Work within a one-year period after Substantial Completion..

1.5 MAINTENANCE SERVICE

A. This area covered by prior agreement with University.

PART 2PRODUCTS

2.1 MANUFACTURERS

A. Siemens

B. Other Acceptable Manufacturers: Functional Devices. See Section 01 60 00 - Product Requirements.

2.2 EQUIPMENT - GENERAL

A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

2.3 CONTROL UNITS

A. Heating Coil Controller: supply by control contractor.

2.4 POWER MODULE

A. 120V-24VAC, 60Hz suitable for supplying power to the new HVAC load.

2.5 VALVES AND OPERATORS

A. Heating Hot Water: Powermite 599 Series Globe Valve, 24VAC Electric Operator, fail closed .

2.6 INPUT SENSORS

A. Temperature Sensors:
   1. Room Sensors per Siemens standards.
   2. Room sensor cable per Siemens standards.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that systems are ready to receive work.

C. Beginning of installation means installer accepts existing conditions.

D. Sequence work to ensure installation of components is complementary to installation of similar components in other systems.

E. Coordinate installation of system components with installation of mechanical systems equipment, such as air reheat coils.

F. Ensure installation of components is complementary to installation of similar components.

3.2 INSTALLATION

A. Provide review and comment of sequences of operation for mechanical systems under Siemens APOGEE control. Install in accordance with manufacturer's instructions.

B. Control contract to be sole sourced to Siemens. Contact person is Dave Yarborough, cell phone: (503) 880-6750.

C. Control contractor will supply all devices listed in items 2.03 through 2.06.

D. Electrical contractor (Div26) shall receive, store, and install all control contractor- (Div 23) supplied devices listed in items 2.03 through 2.06.

E. Provide programming.

F. Create the point database.

G. Provide point-to-point check-out prior to termination at panels.

H. Check out and test all field devices after installation.

I. Provide completed commissioning documents.

J. Campus IT switches are provided and installed by others.

K. Control contractor will provide all sensors, actuators, switches, relays, control panels as applicable per drawings for a complete system.

L. Exclude all 120v power wiring.

M. Demolition of existing pneumatic controls to be included.

END OF SECTION

SECTION 23 31 00

HVAC DUCTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Metal ductwork.

B. Nonmetal ductwork.

1.2 REFERENCE STANDARDS

A. University of Oregon Campus Construction Standards; third edition, May 2011

B. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2007.

C. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; National Fire Protection Association; 2002.

D. SMACNA (DCS) - HVAC Duct Construction Standards - Metal and Flexible; Sheet Metal and Air Conditioning Contractors' National Association; 2005.

1.3 PERFORMANCE REQUIREMENTS

A. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.4 SUBMITTALS

A. Product Data: Provide data for duct materials.

B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum five years of documented experience.

1.6 REGULATORY REQUIREMENTS

A. Construct ductwork to NFPA 90A standards.

1.7 FIELD CONDITIONS

A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.

B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.1 MATERIALS

A. Galvanized Steel Ducts: Hot-dipped galvanized steel sheet, ASTM A 653/A 653M FS Type B, with G60/Z180 coating.

B. Flexible Ducts/Hose:
   1. Manufacturers:
      a. Thermaflex; www.thermaflex.net

1) Product: G-KM Flexible duct
b. Hi-Tech Duravent; www.hitechduravent.com
c. Hose Craft USA; www.hosecraftusa.com
d. Substitutions: See Section 01 60 00 (01600) - Product Requirements.
2. Materials of construction:
a. Coated substrate or polymer supported by outward cast helically wound spring steel wire.

C. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts and formaldehyde resistivity.
2. VOC Content: Not more than 250 g/L, excluding water.
3. Surface Burning Characteristics: Flame spread of zero, smoke developed of zero, when tested in accordance with ASTM E 84.
4. For Use With Flexible Ducts: UL labeled.
5. Acceptable Products:
a. www.tremcosealants.com; Product: Trempro 656.
b. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

D. Hanger Rod: ASTM A 36/A 36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.2 DUCTWORK FABRICATION

A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

B. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline.

C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

D. Provide standard 45 degree lateral wye takeoffs unless otherwise indicated where 90 degree conical tee connections may be used.

2.3 DUCT MANUFACTURERS

A. Metal-Fab, Inc; www.mtlfab.com.

B. SEMCO Incorporated; www.semcoinc.com.

C. United McGill Corporation; www.unitedmcgill.com.

D. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

2.4 MANUFACTURED METAL DUCTWORK AND FITTINGS

A. Manufacture in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.

C. Install and seal metal and flexible ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

D. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

E. Use double nuts and lock washers on threaded rod supports.

F. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

3.2 SCHEDULES

A. Ductwork Material:
   1. Low Pressure Supply: Galvanized Steel.
   2. Return and Relief: Galvanized Steel.
   3. General Exhaust: Galvanized Steel.

B. Ductwork Pressure Class:
   1. Supply: 1/2 inch (125 Pa)
   2. Return and Relief: 1/2 inch (125 Pa).
   3. General Exhaust: 1/2 inch (125 Pa).

END OF SECTION

SECTION 23 33 00

AIR DUCT ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Duct access doors.

B. Volume dampers.

1.2 REFERENCE STANDARDS

A. University of Oregon Campus Construction Standards; third edition, May 2011

B. SMACNA (DCS) - HVAC Duct Construction Standards - Metal and Flexible; Sheet Metal and Air Conditioning Contractors' National Association; 2005.

1.3 SUBMITTALS

A. Product Data: Provide for shop fabricated assemblies including volume dampers.

B. Project Record Drawings: Record actual locations of access doors.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

PART 2 PRODUCTS

2.1 DUCT ACCESS DOORS

A. Manufacturers:
1. Nailor Industries Inc; www.nailor.com.
2. Ruskin Company; www.ruskin.com.
3. SEMCO Incorporated; www.semcoinc.com.
4. Substitutions: See Section 01 60 00 (01600) - Product Requirements.

B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.

C. Fabrication: Rigid and close-fitting of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ducts, install minimum 1-inch-thick (25 mm) insulation with sheet metal cover.
1. Less Than 12 inches (300 mm) Square: Secure with sash locks.
2. Up to 18 inches (450 mm) Square: Provide two hinges and two sash locks.
3. Up to 24 x 48 inches (600 x 1200 mm): Three hinges and two compression latches with outside and inside handles.
4. Larger Sizes: Provide an additional hinge.

D. Access doors with sheet metal screw fasteners are not acceptable.

2.2 VOLUME DAMPERS

A. Manufacturers:
1. Ruskin Company.: www.ruskin.com.
2. Tamco

3. Greenheck
4. Substitutions: See Section 01 60 00 (01600)

B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.

C. Single Blade Dampers: Fabricate for duct sizes up to 6 x 30 inch (150 x 760 mm).

D. End Bearings: Except in round ducts 12 inches (300 mm) and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon or sintered bronze bearings.

E. Quadrants:
1. Provide locking, indicating quadrant regulators on single and multi-blade dampers.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install accessories in accordance with manufacturer's instructions, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Refer to Section 23 31 00 for duct construction and pressure class.

B. Provide duct access doors for inspection and cleaning before and after filters, coils. Provide minimum 8 x 8 inch (200 x 200 mm) size for hand access. 18x18 inch (450 x 450 mm) size for shoulder access, and as indicated. Provide 4 x 4 inch (100 x 100 mm) for balancing dampers only. Review locations prior to fabrication.

C. Provide balancing dampers at points on supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Install minimum 2 duct widths from duct take-off..

END OF SECTION

SECTION 26 01 00

GENERAL ELECTRICAL PROVISIONS

Part 1 - GENERAL

1.01 CONTRACT CONDITIONS

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

B. The Drawings and Specifications are complimentary and what is called for by one shall be as binding as if called for by both.

C. The Contractor shall inspect the job site prior to bidding and become familiarized with existing conditions which will affect the work.

D. Prior to start of work, obtain "As built," "Record," or other Drawings showing existing conditions or underground utilities.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Comply with requirements herein where other Divisions call for Work under this Division of Specifications. Electrical Work required by other Divisions not shown on Electrical Drawings or specified in this Division of Specification shall be provided by trade or sub-trade requiring Electrical Work.

1.03 DESCRIPTION OF SYSTEM

A. Electrical Drawings are diagrammatic and do not necessarily show all raceways, wiring, number and types of fittings required.

B. Provide all related Electrical Work specified herein and diagramed or scheduled on Electrical Drawings. All work shall conform to applicable national, state, and local codes. Contractor is responsible for installation of complete and operating electrical systems.

1.04 QUALITY ASSURANCE

A. Qualifications of Installers:
   1. For actual fabrication, installation and testing of Work of this Section, use only thoroughly trained and experienced personnel familiar with requirements for this Work and with installation recommendations of Manufacturers of specified items.

B. Design Criteria:
   1. Conform Work with conditions shown and specified.
   2. Where adjustments or modifications of Work are necessary for fabrication and installation of items, or for resolution of conflicts between items, make such adjustments at no added expense to Owner.
   3. Submit adjustments or modifications of Work affecting functional or aesthetic design of Work to Architect for review.
   4. Pay for equipment relocations or modifications necessitated by failure to advise Architect of conflicts or coordinate work.

C. Select equipment to meet design conditions stated. Contractor is responsible for meeting technical data and performance requirements of system.

D. Satisfy requirements of regulatory agencies or codes having jurisdiction over project. Provide U.L. labels for all equipment falling under testing capabilities of U.L.

E. Procure licenses and permits, and pay fees, deposits, assessments and tax charges required for Electrical Work.

F. Arrange for and pay for inspections and tests required by codes and ordinances during construction.

1.05 REFERENCE STANDARDS

A. The following specifications and standards, except as hereinafter modified, are incorporated herein by reference and from a part of this specification to the extent indicated by the references thereto. Except where a specific date is given, the issue in effect (including amendments, addenda, revisions, supplements, and errata) on the date of Invitation for Bids shall be applicable. In text such specifications and standards are referred to by basic designation only.
   1. Underwriters Laboratories (UL).
   2. National Fire Protection Association (NFPA), Specifically:
      a. NFPA 70 - National Electric Code.
      b. NFPA 72 - National Fire Alarm Code.
   3. National Electrical Safety Code.
   4. International Building Code (IBC) with State of Oregon Amendments.
   5. International Fire Code (IFC) with State of Oregon Amendments.
   6. National Electrical Manufacturer's Association (NEMA).
   7. American National Standards Institute (ANSI).
   8. National Electrical Testing Associations (NETA).
   9. Occupational Safety and Health Administration (OSHA).
   10. City, County, and State Codes and Ordinances.

B. Provide shop drawings and product data in accordance with Division 1.

C. Submittal material sent by facsimile machine will not be accepted.

D. Post Contract Award:
   1. Prepare and submit as follows:
      a. Provide complete drawings, diagrams, illustrations, performance charts, brochures, and/or other data which adequately describes product to enable thorough evaluation.
      b. Number of copies, method of distribution, format and schedule for submission; per Supplementary Conditions or Division 1.

E. Provide product data for materials and equipment as required by individual sections.

F. Provide Shop Drawings for materials and equipment as required by individual sections.

1.06 SUBSTITUTIONS

A. Substitution requests will not be considered unless they are submitted in writing, in accordance with Instructions to Bidders, Supplementary Instructions to Bidders, and Division 1.

B. Products specified herein are so specified to establish a minimum level of product quality. Except where indicated that no substitutions are allowable, equivalent quality products may be submitted to the Architect for approval.

C. Substitution requests will not be considered unless they include the following:
   1. Model numbers of proposed substitutions.
   2. Options which are required to make the proposed substitution comply with Specifications.

3. Summary of modifications of the Work which are required to accommodate the proposed substitution.

1.07 RECORD DRAWINGS

A. Provide in accordance with Division 1.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Make inspection of equipment for possible damage at time of delivery to avoid future delays in construction due to replacement or repair.

B. Protect against damage, theft and deterioration.
   1. Store in original factory containers.
   2. Do not expose equipment to dust, powder, abrasive, wetness, excessive dampness or temperature extremes, unless equipment approved for that use.

C. In event of damage, immediately make all repairs and/or replacements necessary to approval of Architect, at no additional expense to Owner.

1.09 PROTECTION

A. Suitably protect any unfinished Work from potential physical damage.

B. Do not leave unfinished Work unattended, which would pose life safety hazard.

C. Protect other Work against damage and discoloration caused by Work of this Section.

1.10 COORDINATION

A. Provide coordination for the Work of this Division in accordance with Division 1.

B. Report any discrepancies discovered between existing job conditions and Work to be installed. Fully resolve such discrepancies prior to continuation of work.

C. Coordinate sequencing of equipment installation and energizing with other trades.

D. Consult Architect prior to installing equipment in area which obviously exceeds, or will exceed, ambient operating requirements such as for temperature and humidity.

1.11 ALTERNATIVES AND ALLOWANCES

A. Refer to Division 1 for possible effect upon Work of this Section.

1.12 WARRANTY

A. Warrant all Work included in this Specification for period of one year from date of substantial completion, under provisions of Division 1.

B. During warranty period, remedy without delay or expense to Owner any defects providing, in judgment of Engineer, that such defects are not result of misuse or abuse on part of Owner.

C. Warrant that all equipment and installations are in compliance with OSHA regulations.

Part 2 - PRODUCTS

2.01 MATERIAL

A. Provide new material and equipment items that are standard products of Manufacturers regularly engaged in production of such materials and equipment. Architect reserves right to reject items not in accordance with Specifications.

B. For each type of equipment, use same manufacturer throughout.

C. Provide corrosion protection for ferrous metalwork exposed to weather by hot dip galvanizing, or factory painted finish suitable for outdoor installations.

D. Verify all materials are acceptable to Authority having jurisdiction, as suitable for the use intended.

Part 3 - EXECUTION

3.01 COMPLETION

A. Complete each system as shown or specified herein and place in operation, except where only roughing-in or partial systems are called for.

B. Outlets or equipment shown on the plans, with no supply conduit or conductors indicated, shall be completed in the same methods and manner as similar or like outlets or equipment shown on the drawings.

3.02 SCHEDULING OF WORK

A. Schedule Work with all other Contractors to maintain job progress schedule, and avoid conflicts in installation of Work by various trades.

B. Coordinate with General Contractor to provide adequate access for installing large equipment.

3.03 SLEEVES AND OPENINGS

A. Provide through floors and walls for Electrical Work.

B. Coordinate with General Contractor and other trades involved.

C. Patch and seal around all openings, both sides of material penetrated where possible.

3.04 CUTTING AND PATCHING

A. See Division 1.

B. Inform General Contractor of all openings required in building construction for installation of Work.

C. Where access within or behind existing surfaces is required by the work of this Section, remove, cut, patch reinstall, and refinish surfaces and assemblies as required to restore them to their previous and/or scheduled finish condition.

3.05 MANUFACTURER'S INSTALLATION DETAILS

A. Follow exactly, where available.

3.06 ACCESSIBILITY OF EQUIPMENT

A. Install equipment accessible for operation, maintenance or repair as required by NEC.

B. Inaccessible Equipment:
   1. Where the Owner's representative determines that the Contractor has installed equipment not conveniently accessible for operation and maintenance, equipment shall be removed and reinstalled as directed, at no additional cost to the Owner.
   2. "Conveniently accessible" is defined as being capable of being reached without the use of ladders, or without climbing or crawling under or over obstacles such as motors, pumps, belt guards, transformers, piping and ductwork.

3.07 COORDINATION

A. Coordinate all light fixture and device locations with other trades to avoid possible conflicts with ducts, sprinkler piping, and other obstacles affecting installation.

B. Coordinate conduit, junction boxes, supporting equipment, etc. Affecting normal operating and maintenance activities related to mechanical equipment, piping, valves, accessories, etc.

3.08 TESTS

A. Fully test and adjust equipment installed under this specifications prior to Owner's personnel instruction. Each system shall be left in proper operation free of faults, shorts or unintentional grounds.

B. Do not test or operate for any other purpose, such as checking motor rotation, any item of equipment until fully checked in accordance with Manufacturer's instructions.

3.09 CLEANING OF ELECTRICAL INSTALLATION

A. See Division 1.

B. Prior to acceptance of building, thoroughly clean all exposed portions of electrical installation.

C. Remove all nonessential labels and traces of foreign substances.

D. Use only cleaning solution approved by Manufacturer.

E. Avoid any damage to finished surfaces.

3.10 EQUIPMENT CONNECTIONS

A. Provide a complete electrical connection for all items of equipment including incidental wiring, materials, devices and labor necessary for a complete operating system. The location and method for connecting to each item of equipment shall be verified prior to rough-in. The voltage and phase of each item of equipment shall be checked before connecting. Motor rotations shall be made in the proper direction. Pump motors are not to be test run until liquid is in the system and proper lubrication to all bearings in unit is checked.

B. Conduit, wire and circuit breaker sizes for mechanical and similar equipment are based on the equipment ratings of one manufacturer. The equipment actually furnished may have entirely different electrical characteristics. Conduit, wire and circuit breakers shall not be ordered or installed until exact electrical requirements are obtained. Responsibility for this coordination rests with the Contractor.

END OF SECTION

SECTION 26 05 19

WIRE AND CABLE

Part 1 - GENERAL

1.01 SECTION INCLUDES

A. Building wire.

B. Cable.

C. Wiring connections and terminations.

1.02 SUBMITTALS

A. Submit shop drawings and product data under the provisions of Section 26 01 00.

B. Submit manufacturer's instructions.

Part 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - WIRE

A. Rome

B. General Cable

C. Anaconda-Erickson

D. Southwire

E. General Electric

F. Excell

G. Substitutions: Under provisions of Section 260100.

2.02 BUILDING WIRE

A. Feeders and Branch Circuits 4 AWG and Smaller:
   1. Copper conductor.
   2. 600 volt insulation.
   3. THHN/THWN Not less than 98% conductivity.
   4. Stranded conductor.

B. Color Coding:
   1. 120/208 Volt System:
      a. A phase - black.
      b. B phase - red.
      c. C phase - blue.
      d. Neutral - white.
      e. Travelers - lavender.
      f. Switch leg - orange.
      g. Ground - green.
   2. Maintain color coding from beginning of run to end.

Part 3 - EXECUTION

3.01 GENERAL WIRING METHODS

A. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 16 AWG for control wiring.

B. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 75 feet.

C. Place an equal number of conductors for each phase of a circuit in same raceway or cable.

D. No shared neutrals. Provide one neutral for each phase conductor in branch circuits.

E. Splice only in junction or outlet boxes.

F. Neatly train and lace wiring inside boxes, equipment, and panelboards using cable ties.
   1. Manufacturer: T&B Ty-Rap, or approved.

3.02 WIRING INSTALLATION IN RACEWAYS

A. Pull all conductors into a raceway at the same time.

B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

C. Pull wiring in a manner that will avoid kinking or abrasion of the insulation.

D. Use only approved lubricants when pulling conductors.

E. Do not exceed pulling tension or bending radius recommended by wire manufacturer.

F. Equipment Grounding Conductors:
   1. Provide a separate, insulated equipment grounding conductor in lighting and receptacle branch circuits.
   2. Terminate each end on a grounding lug, bus, or bushing.
   3. Provide individual ground wire in flexible conduit and non-metallic raceways.

3.03 CABLE INSTALLATION

A. Provide protection for exposed cables where subject to damage.

B. Support cables 12" minimum above accessible ceilings.

C. Use spring metal clips or plastic cable ties to support cables from structure or ceiling suspension system.

D. Include bridle rings or drive rings.

E. Use suitable cable fittings and connectors.

F. Install cables in conduits where installed in walls or other inaccessible spaces.

3.04 WIRING CONNECTIONS AND TERMINATIONS

A. Splice only in accessible junction boxes.

B. #8 Copper Wire and Smaller:
   1. Use solderless spring connectors with insulating covers.
   2. Manufacturer: Buchanan, Ideal, Scotch, or approved.
   3. Connection by means of wire binding screws or studs and nuts having upturned lugs or equivalent shall be permitted for No. 10 solid or smaller conductors only.

C. Thoroughly clean wires before installing lugs and connectors.

D. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.

E. Terminate spare conductors with electrical tape.

3.05 FIELD QUALITY CONTROL

A. Inspect wire and cable for physical damage and proper connection.

B. Torque test conductor connections and terminations to manufacturer's recommended values.

C. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

3.06 WIRE AND CABLE INSTALLATION SCHEDULE

A. Interior Locations: Building wire in continuous metallic raceways, as shown on Drawings.

B. Cross marks for power and lighting branch circuits installed in raceways indicate quantity of number 12 copper branch circuit conductors unless otherwise noted. Where no cross marks appear on power or lighting circuits it shall be understood to provide two (2) number 12 conductors for lighting and three number 12 conductors for receptacle circuits.

C. Conductor sizes indicated, such as home run annotations, shall be maintained through out entire circuit length.

END OF SECTION

SECTION 26 05 30

CONDUIT

Part 1 - GENERAL

1.01 SECTION INCLUDES

A. Electrical metallic tubing and fittings.

B. Flexible metal conduit and fittings.

C. Surface metal raceway.

Part 2 - PRODUCTS

2.01 ELECTRIC METALLIC TUBING (EMT)

A. Zinc coated by hot dip galvanizing or sherardizing.

B. Manufacturer: Allied Tube and Conduit, Triangle PWC Inc., or approved.

2.02 FLEXIBLE CONDUIT

A. Galvanized steel or aluminum, abrasion resistant.

B. Manufacturer: Anamet (Type DE-710), Triangle PWC, Inc. (Type 710), or approved.

2.03 CONNECTIONS AND FITTINGS

A. Especially for purpose used.

B. Same material and finish as raceway.

2.04 COUPLINGS AND CONNECTORS FOR ELECTRICAL METALLIC TUBING (EMT)

A. Exterior / Interior: Raintight compression type, employing split corrugated ring and tightening nut.

B. Interior: Set-screw type shall be permitted:
   1. Screws must be visible and accessible after installation.

C. Manufacturer: Appleton, Raco, Thomas & Betts, or approved.

D. Cast connectors and couplings are not allowed.

2.05 CONDUIT HANGERS AND SUPPORTS

A. One-hole or two-hole push-on straps or one-hole clamps.
   1. Manufacturer: Appleton, Raco, Thomas & Betts, or approved.

B. Fastener designed for the purpose may be used in wood or metal stud construction or for support from ceiling tees, ceiling support wires, channel, or beams.
   1. Manufacturer: Caddy, B-Line, or approved.

C. No Drive-nail type anchors in concrete or masonry. Use plastic anchors with screws or para-bolts (sleeve anchor studs).

2.06 ACCEPTABLE MANUFACTURERS - SURFACE RACEWAYS

A. Wiremold 2400 or 3000, as noted.

B. Hubbell.

C. Thomas and Betts.

D. Substitutions: Under provisions of Section 16010.

2.07 SURFACE RACEWAY

A. Surface Metal Raceway: Sheet metal or extruded aluminum channel with fitted cover, suitable for use as surface metal raceway.

B. Fittings: Entrance end fittings, radius inserts, couplings, elbows, and connectors designed for use with raceway system.

C. Boxes and Extension Rings: Designed for use with raceway systems.

Part 3 - EXECUTION

3.01 CONDUIT SIZING AND ARRANGEMENT

A. Size conduit for Type THW conductors. Minimum conduit size for home runs to panelboards is 3/4 inch. Individual branch circuits to device or fixture locations may be run in 1/2 inch conduit.

B. Arrange conduit to maintain headroom and present a neat appearance.

C. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.

D. Maintain minimum 6 inch clearance between conduit and mechanical piping if practical. Coordinate installation with other trades. Maintain 12 inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.

E. Maintain 12 inch clearance above removable ceiling tiles.

F. Run minimum ¾" conduit from each network faceplate location to existing cable tray in accessible ceiling area.

3.02 CONDUIT SUPPORT

A. Arrange conduit supports to prevent distortion of alignment by wire pulling operations.

B. Fasten conduit using galvanized straps, lay-in adjustable hangers, clevis hangers, or bolted split stamped galvanized hangers.

C. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps.
   1. Provide space for 25 percent additional conduit on conduit racks.

D. Do not fasten conduit with wire or perforated pipe straps.

E. Remove all wire used for temporary conduit support during construction, before conductors are pulled.

F. Exposed conduit and tubing attached directly to building surface, use one hole galvanized steel pipe clamps.

G. Conduit and tubing in metal stud walls shall be supported by fasteners approved for the purpose.

H. Conduits rising vertically between studs shall be supported by approved fasteners attached to supports horizontally secured between studs for multiple runs and shall be offset and attached to vertical stud, by an approved fastener, for single runs.

I. Wire suspension systems above suspended ceilings:
   1. Support conduits above suspended ceilings from structure.
   2. Provide a dedicated support wire system for conduits.
   3. Use fasteners and support hardware designed for the purpose.
   4. Do not support conduits from ceiling support wires.

J. Hanger Spacing:
   1. Do not exceed 8 foot 0 inches on center.
   2. Provide one hanger adjacent to each outlet box, and one hanger within 12 inches on each side of a change in direction.

K. Conduits not permitted to be supported from ducts, pipes or other systems foreign to electrical installation.

L. Support conduit as close to ceiling structure as practical. Coordinate conduit location with other trades.

M. Attachment of one hole straps on horizontal runs shall be from above.

3.03 CONDUIT INSTALLATION

A. Cut conduit square using a saw; de-burr cut ends.

B. Bring conduit to the shoulder of fittings and couplings and fasten securely.

C. Use conduit hubs or sealing locknuts for fastening conduit to cast boxes, and for fastening conduit to sheet metal boxes in damp or wet locations.

D. Install no more than the equivalent of four 90 degree bends between boxes.

E. Use conduit bodies to make sharp changes in direction, as around beams.

F. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 1-1/4 inch size.

G. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point.

H. Avoid condensation between moist warm locations and cool locations by blocking air flow in conduit with "Duct Seal" or similar material.

I. Thoroughly clean interior of conduits.

J. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.

K. Provide No. 12 AWG insulated conductor or suitable pull string in empty conduit, except sleeves and nipples.

L. Install expansion joints where conduit crosses building expansion or seismic joints.

3.04 CONDUIT PENETRATIONS

A. Fire-Rated Walls and Floors: Seal conduit penetrations using one of the following methods:
   1. Provide mechanical fire-stop fittings with UL listed fire rating equal to wall or floor rating.
   2. Seal opening around conduit with UL listed foamed silicone elastomer compound.

B. Non Fire-Rated Walls: Silicone RTV foam membrane permitted.

3.05 FLEXIBLE CONDUIT

A. Use limited to the following:

1. Lighting fixture pigtails to remote junction box in accessible ceilings.
2. Interior motor connections.
3. At building expansion joints.
4. Vibrating or movable equipment connections.
5. Flexible conduit may not be installed in stud walls in new construction.
6. Flexible conduit may be fished in stud walls.

B. Provide separate ground conductor full length of flexible conduit or outside of conduit.

3.06 ELECTRICAL METALLIC TUBING

A. Dry locations where not subject to damage.

B. Concealed in non-masonry/concrete walls or ceiling.

C. Exposed runs above 8 feet in non-protected areas.

D. In poured concrete, masonry walls or above grade slabs.

E. May not be used in or under concrete slab or underground.

3.07 INSTALLATION - SURFACE RACEWAY, MULTI-OUTLET ASSEMBLY

A. Routing of raceways and multi-outlet assemblies:
1. In general route surface metal raceways at locations to minimize the architectural impact of the surface.
2. Avoid installing surface raceway across open wall or ceilings.
3. Install runs adjacent to architectural elements.
4. Install vertical runs on walls adjacent to door/window frames, casework or adjacent to inside corners.
5. Route horizontal runs on walls at top of base molding.
6. Route on ceilings adjacent to walls where ever possible.

B. Use flat-head screws to fasten channel to surfaces.

C. Mount plumb and level.

D. Use suitable insulating bushings and inserts at connections to outlets and corner fittings.

E. Maintain grounding continuity between raceway components to provide a continuous grounding path.

F. Fastener Option: Use clips and straps suitable for the purpose.

G. Provide quantity of branch circuits to multi-outlet assemblies as indicated on Drawings.

END OF SECTION

SECTION 26 05 32

OUTLET AND JUNCTION BOXES

Part 1 - GENERAL

1.01 SECTION INCLUDES

A. Wall and ceiling outlet boxes.

B. Floor boxes.

C. Pull and junction boxes.

1.02 RELATED SECTIONS

A. Section 26 27 26 - Wiring Devices

1.03 PROJECT CONDITIONS

A. Verify Field measurements are as shown on drawings.

1.04 SUBMITTALS

A. Submit product data under provisions of Section 26 01 00.

B. Provide product data showing configurations, finishes, dimensions, and manufacturer's instructions.

Part 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - OUTLET BOXES

A. Bowers.

B. Raco/Bell.

C. Steel City.

D. Thomas and Betts

E. Substitutions: under provisions in Section 260100.

2.02 OUTLET BOXES

A. Sheet Metal Outlet Boxes: Galvanized steel

B. Cast Boxes: Aluminum or cast feralloy, deep type, gasketed cover, threaded hubs.

2.03 ACCEPTABLE MANUFACTURERS - PULL AND JUNCTION BOXES

A. Circle AW.

B. Hoffman.

C. Rittal.

D. Substitutions: under provisions of Section 26 01 00.

2.04 PULL AND JUNCTION BOXES

A. Sheet Metal Boxes: Galvanized steel.

B. Sheet Metal Boxes Larger Than 18 Inches in Any Dimension: Hinged enclosure.

Part 3 - EXECUTION

3.01 COORDINATION OF BOX LOCATIONS

A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance.

B. Electrical box locations shown on Contract Drawings are approximate. Verify location of floor boxes and outlets with Owner prior to rough-in.

C. Locate and install boxes to allow access. .

3.02 OUTLET BOX INSTALLATION

A. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24 inch separation in acoustic-rated walls.

B. Locate boxes in masonry walls to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat openings for boxes.

C. Provide knockout closures for unused openings.

D. Support boxes independently of conduit.

E. Support boxes above suspended ceilings from structure. Provide dedicated support wires for boxes as required by NEC 300

F. Use multiple-gang boxes where more than one device are mounted together: do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.

G. Install boxes in walls without damaging wall insulation.

H. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes with architectural drawings.

I. Position outlets to locate luminaires as shown on reflected ceiling plans.

J. In inaccessible ceiling areas, position outlets and junction boxes within 6 inches of recessed luminaire, to be accessible through luminaire ceiling opening.

K. Provide recessed outlet boxes in finished areas: secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

L. Align wall-mounted outlet boxes for switches, thermostats, and similar devices.

END OF SECTION

SECTION 26 05 53

ELECTRICAL IDENTIFICATION

Part 1 - GENERAL

1.01 SECTION INCLUDES

A. Nameplates.

B. Wire and cable markers.

C. Pull box and junction box identification.

D. Device plate identification.

1.02 RELATED SECTIONS

A. Section 26 27 26 - Wiring Devices.

Part 2 - PRODUCTS

2.01 MATERIALS

A. Nameplates:
   1. Engraved three-layer laminated plastic.
   2. White letters.
   3. Black background.

B. Wire and Cable Markers:
   1. Heat shrink thermo-labels. Brady or Panduit.

C. Labels:
   1. Adhesive Film Labels: Machine printed, in black on clear background, by thermal transfer or equivalent process.

Part 3 - EXECUTION

3.01 INSTALLATION

A. Degrease and clean surfaces to receive nameplates.

B. Install nameplates parallel to equipment lines.

C. Secure nameplates to equipment fronts using screws or drive rivets.
   1. Secure nameplate to inside face of recessed panelboard doors in finished locations.
   2. Secure nameplate to inside face of panelboard doors in unfinished locations.

D. Use stick-on characters for identification of individual wall switch and receptacle cover plates.

3.02 WIRE IDENTIFICATION

A. Provide wire markers on each conductor in panelboards pull boxes, and at load connection.

B. Identify with branch circuit or feeder number for power and lighting circuits.

C. Identify control wire number as indicated on equipment manufacturer's shop drawings.

3.03 NAMEPLATE ENGRAVING SCHEDULE

A. Identify all electrical distribution and control equipment and disconnect switches at loads served.

B. Letter Height:
   1. 1/8 inch for individual switches and loads served.
   2. 1/4 inch for distribution and control equipment identification.
   3. 1/8 inch identifying voltage rating and source.

3.04 PULL BOX AND JUNCTION BOX IDENTIFICATION

A. Identify each junction box with complete system description. Examples:
   1. Telephone / Network.
   2. 208 V system.

B. Optional] Methods:
   1. Neat hand lettering with permanent black marker.
   2. Engraved nameplates.
   3. Stick on labels.

C. Locations:
   1. On outside of box cover where concealed.
   2. In exposed box locations, locate on inside of box cover.
   3. Identify main pull boxes by number and indicate numbers on record drawings.

3.05 DEVICE PLATE IDENTIFICATION:

A. 1/8 inch letter height.

B. Black letter color.

C. Location:
   1. Bottom center of device plate for single gang and bottom center of device for multiple gang outlets.
      a. Provide branch circuit identification (such as "C-37" to indicate Panel “C” Circuit #37) at bottom center of device plate.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

Part 1 - GENERAL

1.01 SECTION INCLUDES

A. Wall switches.

B. Occupancy Sensors

C. Receptacles.

D. Device plates and box covers.

1.02 RELATED SECTIONS

A. Section 26 05 32 - Outlet, Pull and Junction Boxes.

B. Section 26 05 53 - Electrical Identification.

1.03 SUBMITTALS

A. Submit product data under provisions of Section 26 01 00.

B. Provide product data showing configurations, finishes, dimensions, and manufacturer's instructions.

1.04 SUBSTITUTIONS

A. Products specified herein are so specified to establish a minimum level of product quality as determined by the engineer. Except where indicated no substitutions are allowable, equivalent quality products may be submitted to the Architect for approval, under provisions of Section 26 01 00.

Part 2 - PRODUCTS

2.01 OCCUPANCY SENSORS

A. Approved manufacturers:
   1. Wattstopper.

B. Compatible with electronic loads.

C. No minimum load requirement.

D. Wall mounted Dual Techology
   1. 180 degree sensing
   2. 1000 square foot coverage
   3. Adjustable sensitivity and time delay
   4. Wattstopper DT 200

2.02 ACCEPTABLE MANUFACTURERS - WALL SWITCHES AND RECEPTACLES

A. Hubbell.

B. Leviton.

C. Arrow Hart..

2.03 WALL SWITCHES

A. AC general use quiet type switch with toggle handle. Gray.

B. 20 amp rating, 120-277 volts.

C. Self-grounding type

D. Hubbell 1221 Series.

2.04 RECEPTACLES

A. Convenience and straight blade receptacles.
   a. Specification Grade
   b. Gray

2.05 ACCEPTABLE MANUFACTURERS WALL PLATES

A. Hubbell.

B. Leviton.

C. P&S/LeGrand.

D. Substitution: under provisions of Section 26 01 00.

2.06 WALL PLATES

A. Decorative Cover Plate:
   1. Smooth stainless steel, 302 alloy with brushed finish.

Part 3 - EXECUTION

3.01 INSTALLATION

A. Switches:
   1. Wall switches 48 inches above floor to top of box.
   2. OFF position down, unless otherwise noted.
   3. Derate ganged dimmer switches as instructed by manufacturer.
   4. Dimmer switches shall not use common neutral with other circuits.

B. Receptacles:
   1. 18 inches above floor, unless otherwise noted.
   2. 6 inches above counters, unless otherwise noted.
   3. 3 inches above backsplash, unless otherwise noted.
   4. Grounding pole on bottom.
   5. Verify exact height and orientation of outlets with Architectural Details prior to rough-in.
   6. Provide 20 amp rated receptacles.

C. Plates:
   1. Decorative plates on switch, receptacle, and blank outlets in finished areas.
   2. Install device and wall plates flush and level.
   3. Where outlets are adjacent to each other at same mounting heights, install under common device plate, except when outlets are of different voltages, such as telephone and duplex receptacle, unless otherwise noted.

D. Communication Outlets:
   1. Provide junction box with mudring at each network faceplate location. Provide wiremold box where mounted on concrete walls.

2. Stub ¾" conduit with bushings at both ends from mudring location to accessible ceiling space.
3. Provide new J ring supports at locations shown on drawings for communication wiring.

3.02 OCCUPANCY SENSORS

A. Interconnect sensors with power supplies using cable. Install cable in raceways above corridor ceiling.

B. Install sensors and accessories per manufacturer's recommendations.

C. Select and locate sensors to provide 100% area coverage.

D. Adjust sensor to turn off area lighting circuit(s) if unoccupied for a period of 15 minutes.

E. Provide conduit and wiring as required for circuiting area lighting circuit(s) to power pack.

END OF SECTION

SECTION 26 50 00

LIGHTING FIXTURES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide a typical lighting fixture, complete with lamps, at each lighting outlet shown.

1.02 SECTION INCLUDES

A. Interior luminaires and accessories.

B. Lamps.

C. Ballasts.

1.03 RELATED SECTIONS

A. Section 26 27 26- Wiring Devices.

1.04 SUBMITTALS

A. Submit product data under provisions of Section 26 01 00.

B. Include outline drawings, lamp and ballast data, support points, weights, and accessory information for each luminaire type.

C. Submit manufacturer's installation instructions under provisions of Section 26 01 00.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 26 01 00. Store and protect products under provisions of Section 26 01 00.

1.06 JOB CONDITIONS

A. Existing Conditions:
   1. Prior to ordering lighting fixtures, verify finish material in locations where lighting fixtures are mounted.
   2. Prior to ordering lighting fixtures, verify conditions for mounting lighting fixtures and select proper mounting hardware.
   3. Verify fire rating of new and existing ceilings.

Part 2 - PRODUCTS

2.01 INTERIOR LUMINAIRES AND ACCESSORIES

A. See attached Luminaire Schedule.

B. Stems and cables for Pendant Mounting:
   1. Provided as part of light fixture assembly, length as required for mounting height.
   2. For stem mounted fixtures provide 45 degree ball aligner and canopy.
   3. Finishes and Manufacturer: Same as for lighting fixture, unless otherwise noted.

2.02 BALLASTS (FLUORESCENT NON-DIMMING TYPE)

A. Type - Solid state electronic.
   1. Designed to operate specified lamp.
   2. Lamp / ballast assembly to meet Nema Premium High Efficiency standards.
   3. Programmed Rapid start.
   4. High frequency operation >20 MHZ.
   5. Less than 10% THD.
   6. See Luminaire Schedule on Drawings for number of lamps controlled by single ballast.

Part 3 - EXECUTION

3.01 INSTALLATION

A. Install lamps in luminaires and lampholders.

B. Fixture Support:
   1. Light fixtures mounted in or on suspended ceilings shall be positively attached to the suspended ceiling system.
   2. Support surface-mounted and pendant-mounted luminaires directly from building structure and attach to main runners of ceiling grid T structure.
   3. Support all pendant fixtures and all other incandescent, fluorescent, and HID fixtures in excess of 50 lbs independently of outlet box from roof, floor, or ceiling structure above. Use approved hanger, lag screws, lag bolts, toggle bolts, or cinch anchors to support fixture plus 100 lbs at each support.
   4. Provide two #12 gauge steel wire seismic supports connected to structure for light fixtures less than 50 lbs. Seismic supports may be installed slack.
   5. Coordinate with other trades for additional framing or support, if required to properly install recessed, surface, and pendant mounted fixture in various ceiling suspension systems.

3.02 RELAMPING

A. Relamp luminaires which have failed lamps at completion of work.

3.03 ADJUSTING AND CLEANING

A. Align luminaires and clean lenses and diffusers at completion of work. Clean paint splatters, dirt, and debris from installed luminaires.

B. Touch up luminaire finish at completion of work.

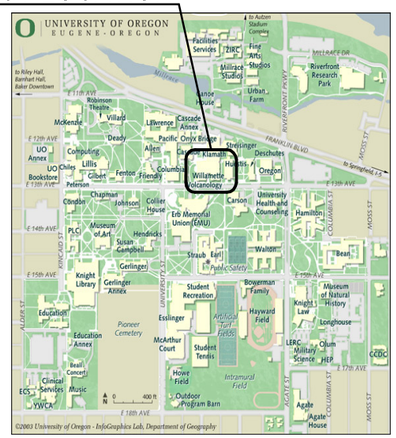
3.04 PREPARATION

A. Field Measurements:
   1. Coordinate fixture location with final Architectural design.

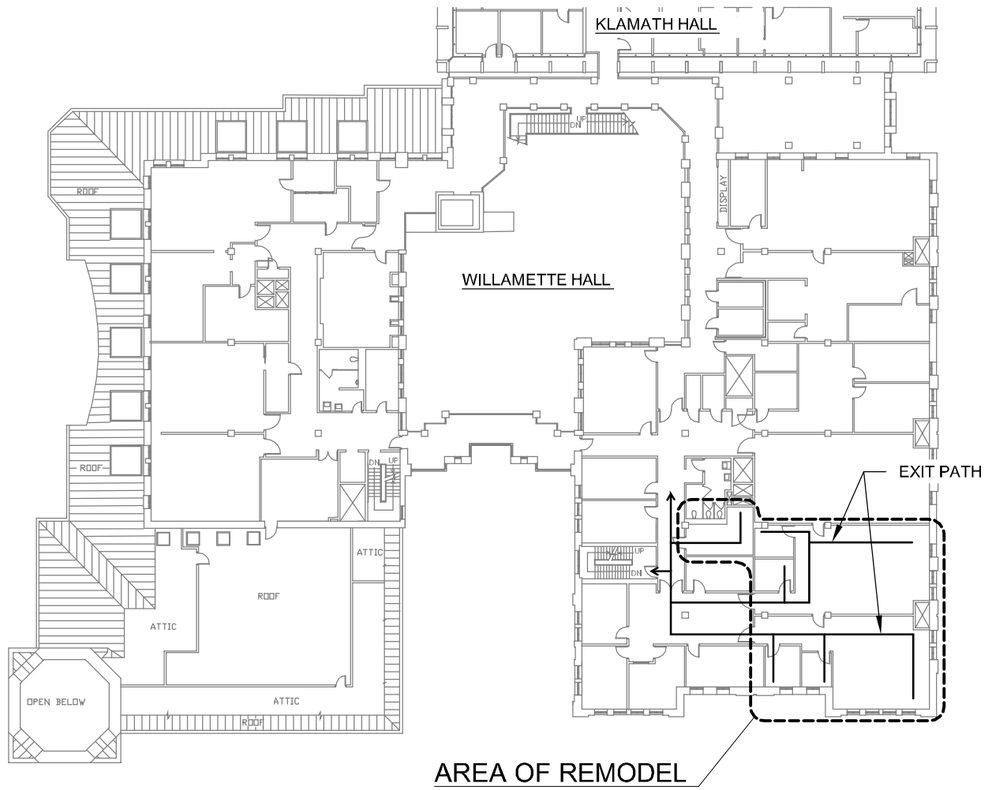
B. Noisy Ballasts:
   1. Architect shall determine which ballasts are excessively noisy and to be replaced at no cost to owner.
   2. Check: Ballasts shall be tightly fastened to fixture and have no loose connections.

END OF SECTION

PROJECT LOCATION



1 G0.1 — VICINITY MAP
Scale: N.T.S.



2 G0.1 — WILLAMETTE HALL ORIENTATION / EXITING PLAN
Scale: 1"=40'-0"

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH LOCAL CODES, OREGON STATE CODES, AMENDMENTS, RULES, REGULATIONS, ORDINANCES, LAWS, ORDERS, APPROVALS, ETC. THAT ARE REQUIRED BY GOVERNING AUTHORITIES. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY. REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE CURRENTLY APPLICABLE EDITIONS OR PUBLICATIONS OF THE FOLLOWING:
   1. 2010 EDITION OSSC
   2. OREGON ADMINISTRATIVE CODE
   3. NATIONAL FIRE PROTECTION ASSOCIATION
   4. STATE OF OREGON 2011 ELECTRICAL SPECIALTY CODE
   5. STATE OF OREGON 2011 PLUMBING SPECIALTY CODE
   6. STATE OF OREGON 2010 MECHANICAL SPECIALTY CODE
   7. STATE OF OREGON 2010 FIRE CODE.

2. CONTRACTOR SHALL EXAMINE AND VERIFY CONDITIONS OF THE JOB SITE. ANY DISCREPANCY BETWEEN DRAWINGS AND EXISTINGCONDITIONS SHOULD BE RECORDED IN WRITING AND REPORTED TO THE ARCHITECT FOR RESOLUTION PRIOR TO COMMENCEMENT OF WORK.

3. ALL DIMENSIONS NOTED IN FLOOR PLANS AND SECTIONS ARE TO FINISH UNLESS NOTED OTHERWISE. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICT PRIOR TO SUBSEQUENT WORK.

4. DO NOT SCALE DRAWINGS.

5. MATERIAL CHOICES, FIXTURES, ADHESIVES, AND FINISHES NOT SPECIFIED SHALL BE PRE APPROVED BY OWNER AND ARCHITECT.

6. ALL CHANGE ORDERS SHALL BE WRITTEN AND SHALL BE APPROVED BY ARCHITECT AND OWNER PRIOR TO EXECUTION OF WORK.

7. WOOD IN CONTACT WITH CEMENT OR MASONRY SHALL BE PRESSURE TREATED.

8. PROVIDE ACCESS TO CONCEALED VALVES, DAMPERS, CONTROLS, ELECTRONIC JUNCTION BOXES, ETC. OBTAIN ARCHITECTS APPROVAL IN LOCATING ACCESS DOORS PRIOR TO INSTALLING.

9. PIPING, CONDUIT, ROUGH-IN AND SIMILLAR WORK SHALL BE CONCEALED UNLESS NOTED OTHERWISE.

10. SITE TO BE BROOM CLEANED AT END OF DAY DAILY.

PROJECT SCOPE:
PROJECT INVOLVES THE RENOVATION OF FIVE EXISTING ROOMS ON THE THIRD FLOOR OF WILLAMETTE HALL, CREATING 4 NEW MICROSCOPY LAB ROOMS AND MODIFYING ANOTHER ROOM TO ACOMODATE NEW EQUIPMENT. WORK INCLUDES MINOR DEMOLITION (REMOVAL OF A SECTION OF WALL, REMOVAL OF OLD LIGHTING FIXTURES, CASEWORK, AND FINISHES), NEW WALLS DEFINING THE MICROSCOPY LABS, NEW FINISHES, LIGHTING, AND MINOR MODIFICATION TO HVAC, PLUMBING AND ELECTRICAL SYSTEMS.

PROJECT PHASING:
PROJECT WILL BE COMPLETED IN TWO PHASES. PHASE 1 INCLUDES WORK IN RMS 363, 372, & 372A, AND SHALL BE COMPLETED AND READY FOR OWNER TO OCCUPY PRIOR TO COMMENCEMENT OF PHASE 2, WHICH INCLUDES WORK IN RMS 373, 373A & 373B.

MEP SCOPE NOTE:
-DRAWINGS SHOW DESIGN INTENT FOR REMODELED MECHANICAL, AND ELECTRICAL SYSTEMS. ANY ADDITIONAL DRAWINGS, CALCULATIONS, OR DOCUMENTATION REQUIRED FOR MECHANICAL OR ELECTRICAL PERMITS TO BE DESIGN BUILD BY SUB-CONTRACTORS.

HAZARDOUS MATERIALS NOTE:
-ANY NECESSARY ABATEMENT OF HAZARDOUS MATERIALS IN THE AFFECTED SPACES TO BE COMPLETED BY OWNER PRIOR TO COMMENCEMENT OF THIS PROJECT.

CODE SUMMARY:
- OCCUPANCY TYPE 'B', EDUCATION ABOVE 12TH GRADE
- CONSTRUCTION TYPE IB, SPRINKLED
- CONFERENCE RM 372A (174 SF, OLF 100, 12 OCCUPANTS) DIVIDED INTO TWO MICROSCOPY LAB ROOMS:
  - RM 372A (86 SF, OLF 100, 1 OCCUPANT)
  - RM 372B (83 SF, OLF 100, 1 OCCUPANT)

  OTHERWISE, NO CHANGE OF USE OR OCCUPANCY
- NO CHANGE OF BUILDING AREA OR USEABLE FLOOR AREA
  AFFECTED PROJECT AREA: APROX. 675 SQ FT
- MAX. EXIT TRAVEL DISTANCE WITHIN PROJECT: 96FT
  ALLOWED: 300FT (W/SPRINKLER INCREASE)
- MAX COMMON PATH WITHIN PROJECT: 96FT
  ALLOWED: 100FT (W/GROUP B OCCUPANCY SPRINKLER INCREASE)
- ACCESSABILITY: BUILDING HAS ACCESSIBLE ENTRIES, BATHROOMS, AND ELEVATOR

PROJECT INFO:

BUILDING LOCATION:
UNIVERSITY OF OREGON
1390 FRANKLIN BLVD.
TAX MAP/LOT: 17033200-00100

BUILDING OWNER:
UNIVERSITY OF OREGON
CONTACT: DAVID WARD
FACILITIES SERVICES
1276 UNIVERSITY OF OREGON
EUGENE, OR 97403-1276
PH: (541) 346-2147 FX: (541) 346-6769
E: rdward@uoregon.edu

ARCHITECT:
ROWELL BROKAW ARCHITECTS, P.C.
CONTACT: KEN HUTCHINSON
1 EAST BROADWAY, STE. 300
EUGENE, OR 97401
PH: (541) 485-1003 FX: (541) 485-7344
E: ken@rowellbrokaw.com

MECHANICAL ENGINEER:
EVERGREEN ENGINEERING
CONTACT: PATRICK SANDOW
P.O. BOX 21530
EUGENE, OR 97402
PH: (541) 484-4771

ELECTRICAL ENGINEER:
PARADIGM ENGINEERING
CONTACT: JIM KRUMSICK
85193 APPLETREE DRIVE
EUGENE, OR 97405
PH: (541) 345-7813

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M1.4	PHASE 2 DEMO PLAN RM 373
M2.2	PHASE 1 NEW HVAC PLAN RM 363
M2.3	PHASE 1 NEW HVAC PLAN RM 372, 372A, 372B
M2.4	PHASE 2 NEW HVAC PLAN RM 373, 373A, 373B
P2.0	PH 1 NEW PLUMBING PLAN RM 363, 372, 372A & 372B
P2.1	PH 2 NEW PLUMBING PLAN RM 373, 373A & 373B
FP1.0	PHASE 1 FIRE PROTECTION RMS 372A & 372B
E1.0	SYMBOL LIST, DRAWING INDEX
E2.0	ELECTRICAL DEMOLITION PLAN
E2.1	ELECTRICAL POWER AND SIGNAL PLAN
E2.2	ELECTRICAL LIGHTING PLAN

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

PROJECT #: 1126
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PROJECT:
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SHEET:
A0.1

GENERAL DEMO NOTES:
1. SEE INTERIOR ELEVATIONS FOR ADDITIONAL DEMO NOTES.

KEY NOTES:

(1) - DEMO (E) SHELVES, (E) SHELF STANDARDS TO REMAIN.

(2) - DEMO (E) CARPETING AND RCB.

(3) - DEMO (E) CASEWORK AND BUILT-IN SHELVING.

(4) - REMOVE TAPESTRY HANGER BOARD.

(5) - (N) OPENING IN (E) WALL.

(6) - RELOCATE (E) FULL-HT CABINET, (SEE PLAN SHEET A2.1, NOTE 4).

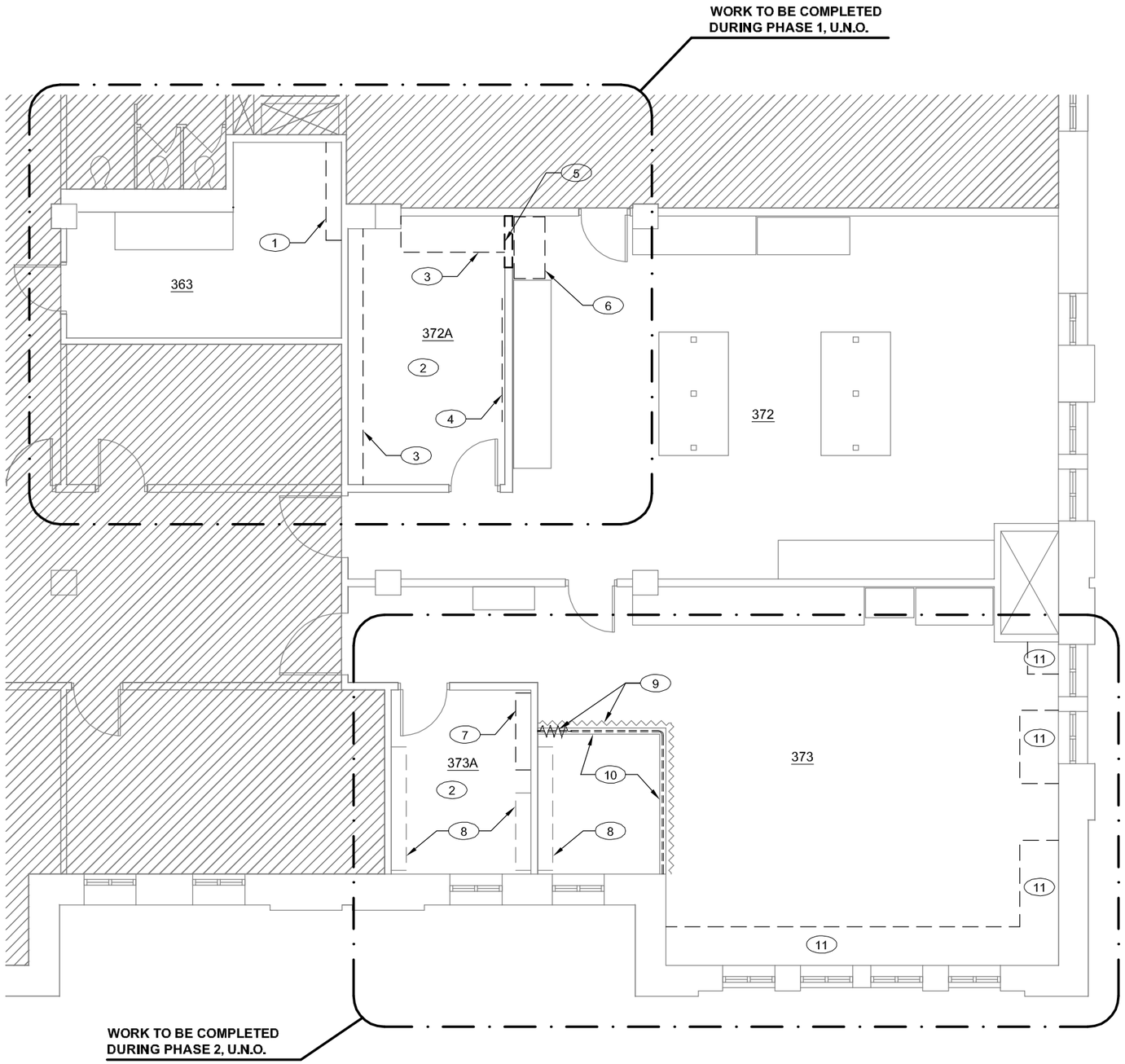
(7) - DEMO (E) SHELVING.

(8) - REMOVE (E) SHELVING, STORE FOR RE-INSTALLATION AFTER WALL PAINTING.

(9) - REMOVE (E) CURTAIN, TRACK, AND VALENCE CURTAIN, ABOVE. RELOCATE TO RM 363, (SEE SHEET A2.2, NOTES 5, 10, 11). **WORK TO BE PERFORMED DURING PHASE 1.**

(10) - DEMO (E) FRAMING, ABOVE.

(11) - DEMO (E) COUNTER TOPS.



1 / A1.1 DEMO PLAN
Scale: 1/8"=1'-0"

N

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

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SHEET:
A1.1

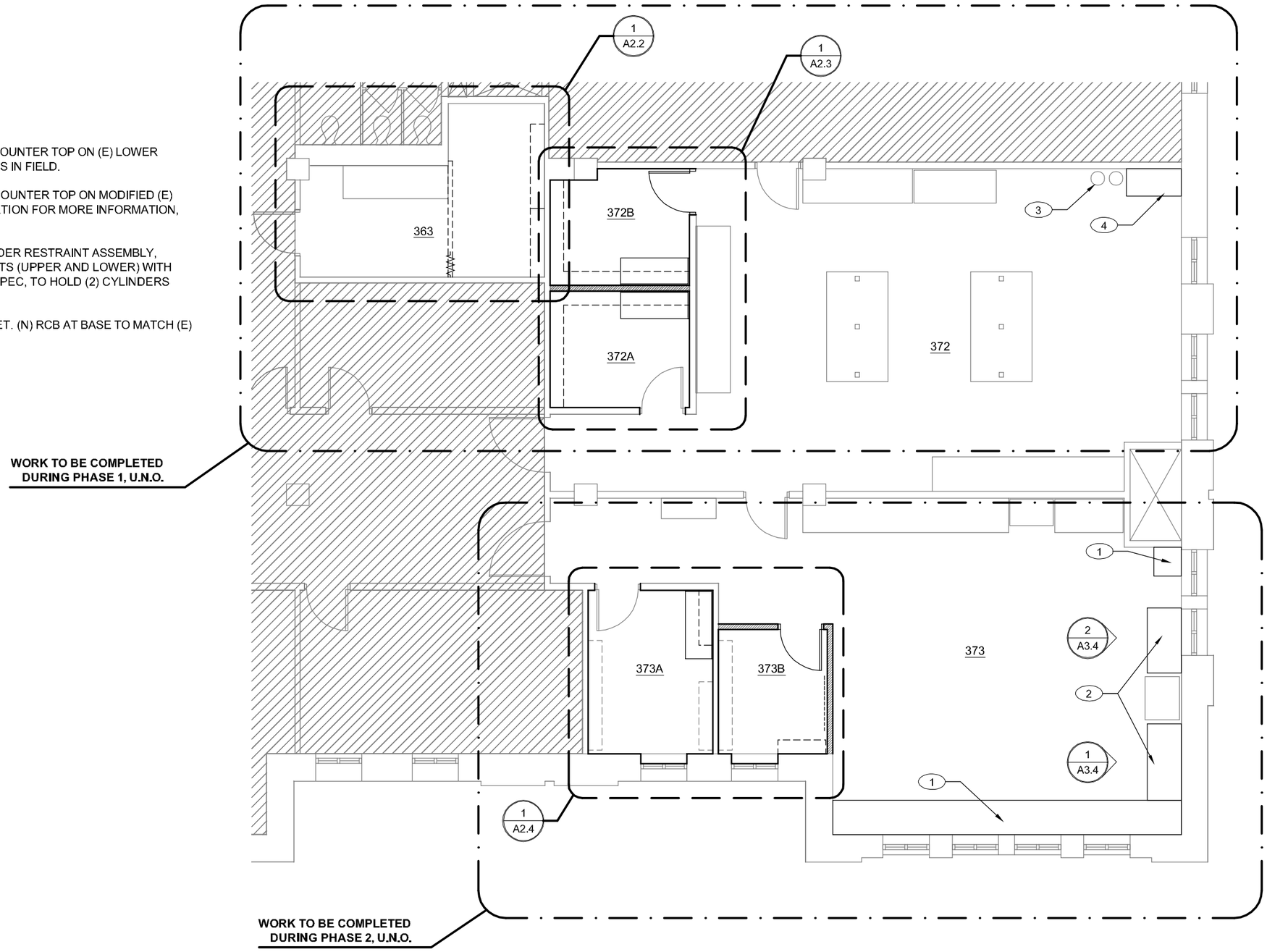
KEY NOTES:

1. - (N) ACID RESISTANT P-LAM COUNTER TOP ON (E) LOWER CABINETS, VERIFY DIMENSIONS IN FIELD.

2. - (N) ACID RESISTANT P-LAM COUNTER TOP ON MODIFIED (E) LOWER CABINETS. SEE ELEVATION FOR MORE INFORMATION, VERIFY DIMENSIONS IN FIELD.

3. - LOCATION OF (N) GAS CYLINDER RESTRAINT ASSEMBLY, UNISTRUT MOUNTING BRACKETS (UPPER AND LOWER) WITH CYLINDER HOLDERS PER UO SPEC, TO HOLD (2) CYLINDERS (CYLINDERS O.F.O.I.).

4. - RELOCATED FULL-HT CABINET. (N) RCB AT BASE TO MATCH (E) BASE AT WALL.



1 A2.1 AREA FLOOR PLAN

Scale: 1/8"=1'-0"

N

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JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

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SHEET:

A2.1

GENERAL PLAN NOTES:

1. DIMENSIONS ARE TO FACE OF FINISH, U.N.O.; CASEWORK PLAN DIMENSIONS ARE TO EDGE OF COUNTER TOP, SEE DETAILS FOR OVERHANG DIM.

2. (E) = EXISTING, (N) = NEW.

KEY NOTES:

(1) - (E) CASEWORK TO REMAIN.

(2) - CLEAN (E) FLOORING.

(3) - (N) ADJUSTABLE WALL-MONTED SHELVING ON (E) SHELF STANDARDS.

(4) - (N) ADJUSTABLE WALL-MONTED SHELVING ON (N) SHELF STANDARDS TO MATCH (E) STANDARDS.

(5) - CURTAIN RELOCATED FROM RM373, MODIFY CURTAIN TO FIT WIDTH OF NEW FRAMING.

(6) - METAL FRAMING AND CURTAIN TRACK OVERHEAD.

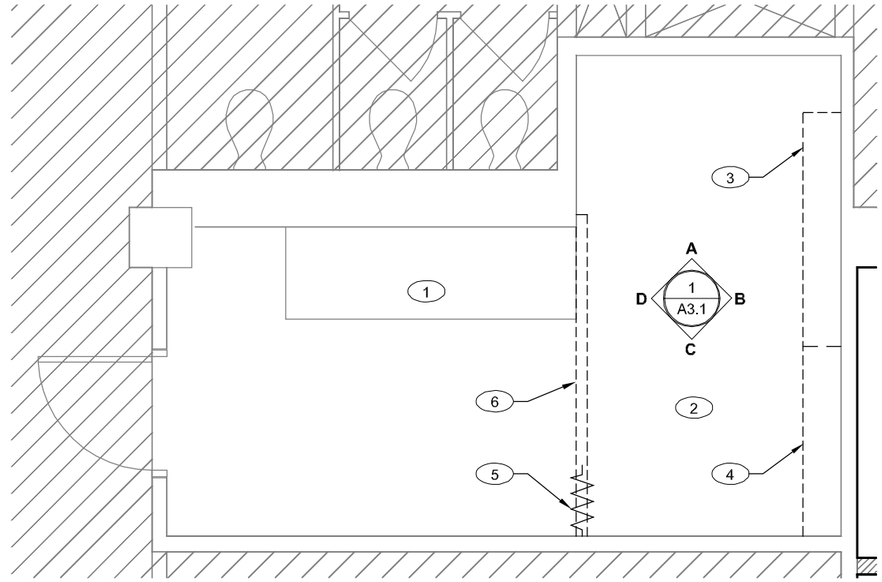
(7) - (E) LIGHT FIXTURE, SEE ELECTRICAL.

(8) - RELOCATED (E) LIGHT FIXTURE, SEE ELECTRICAL.

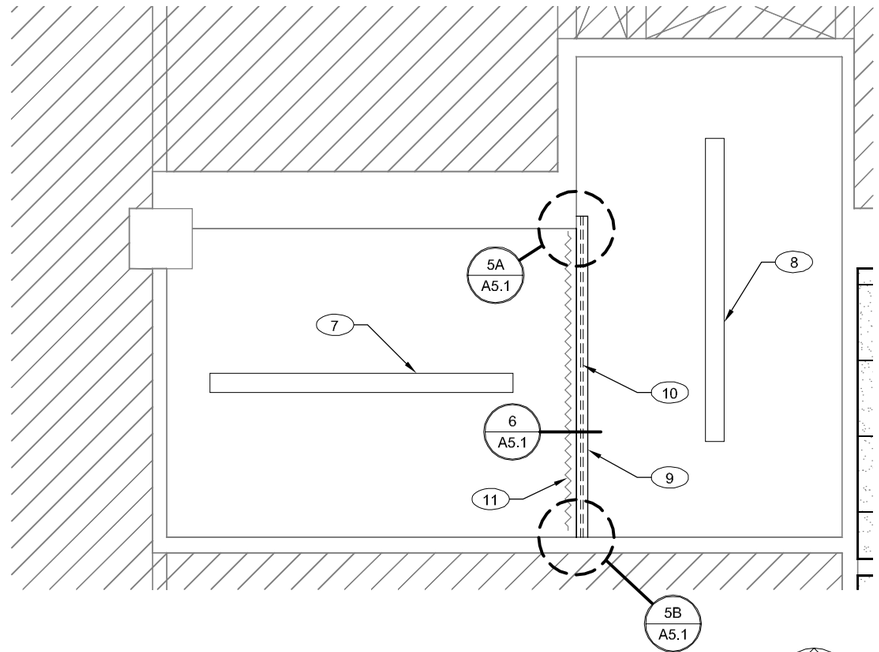
(9) - (N) METAL FRAMING TO SUPPORT CURTAIN TRACK AT 9'-5" ABOVE FLOOR, EXTEND FRAMING TO STRUCTURE, CONTRACTOR TO VERIFY ATTACHMENT OF STUD TOP TRACK TO SLAB.

(10) - CURTAIN TRACK RELOCATED FROM RM 373.

(11) - VALENCE CURTAIN RELOCATED FROM RM 373, MODIFY CURTAIN TO FIT WIDTH OF NEW OPENING, CUT AND SEAL VALENCE AROUND PIPE AND/OR DUCT PENETRATIONS, FINISH ALL CUT EDGES AND NEW OPENINGS.



1 / A2.2 FLOOR PLAN - RM 363
Scale: 1/4"=1'-0"



2 / A2.2 RCP - RM 363
Scale: 1/4"=1'-0"

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JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

PROJECT #: 1126
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SHEET:
A2.2

GENERAL PLAN NOTES:

1. PATCH FLOORS TYP. AT (E) PENETRATIONS, DEMO'ED CASEWORK, AND DAMAGED AREAS AS REQUIRED TO PROVIDE SUITABLE SUBSTRATE FOR NEW FLOORING, TYP.

2. PAINT ALL WALLS, TYP.; COLOR TO BE DETERMINED BY OWNER; PATCH WALLS FOR PAINTING, TYP. WHERE DEMO HAS OCCURED, AND AT (E) HOLES, PENETRATIONS, ETC.

3. DIMENSIONS ARE TO FACE OF FINISH, U.N.O.; CASEWORK PLAN DIMENSIONS ARE TO EDGE OF COUNTER TOP, SEE DETAILS FOR OVERHANG DIM.

4. (E) = EXISTING, (N) = NEW.

KEY NOTES:

(1) - (N) FRAMED WALL, CONSTRUCTION:
- 5/8" TYPE 'X' GYP BD, EXTEND TO 6" ABOVE FINISHED CEILING.
- 4" METAL STUDS AT 16" O.C., EXTEND TO STRUCTURE, PROVIDE DEFLECTION TRACK AT TOP, FRAME AROUND (E) DUCTS.
- FILL WALL CAVITY WITH ACOUSTIC BATT INSULATION.
- 5/8" TYPE 'X' GYP BD, EXTEND TO 6" ABOVE FINISHED CEILING.

(2) - (N) RESILIENT FLOORING.

(3) - (N) ACID RESISTANT PLASTIC LAMINATE COUNTER TOP AND BACKSPLASH.

(4) - (N) WALL-MOUNTED ADJUSTABLE SHELVING.

(5) - TOUCH-UP PAINT AROUND NEW DOOR TO BLEND WITH EXISTING WALL.

(6) - MOUNT (N) DOOR FRAME TIGHT TO (E) WALL.

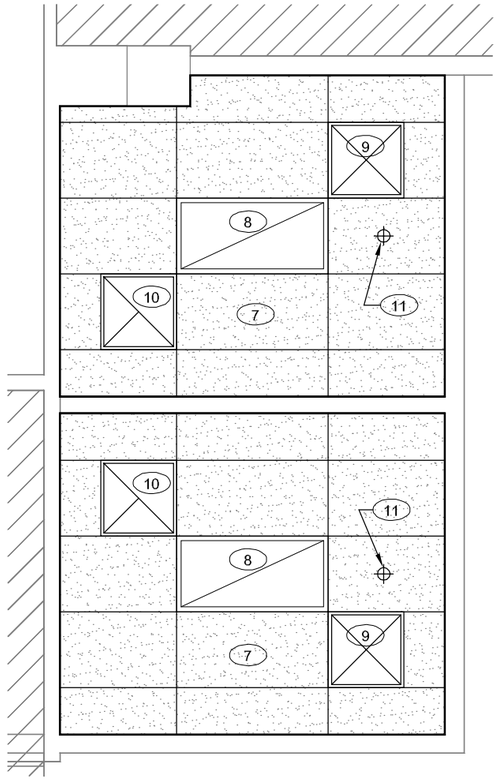
(7) - (N) SUSPENDED ACOUSTIC TILE CEILING AT 8'-6" AFF, SEE 1/A5.1 FOR CEILING DETAIL.

(8) - (N) RECESSED LIGHT FIXTURE, SEE ELECTRICAL.

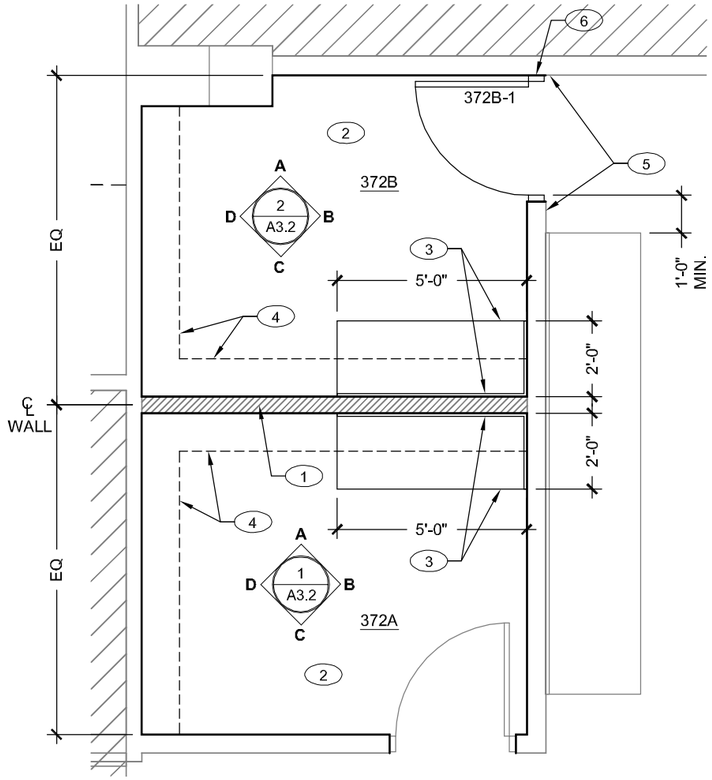
(9) - (N) HVAC SUPPLY, SEE MECHANICAL.

(10) - (N) HVAC RETURN, SEE MECHANICAL.

(11) - (N) QR SPRINKLER HEAD, SEE MECHANICAL.



2 / A2.3 RCP - RMS 372A & 372B
Scale: 1/4"=1'-0"



1 / A2.3 FLOOR PLAN - RMS 372A & 372B
Scale: 1/4"=1'-0"

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

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SHEET:

A2.3

GENERAL PLAN NOTES:

1. PATCH FLOORS TYP. AT (E) PENETRATIONS, DEMO'ED CASEWORK, AND DAMAGED AREAS AS REQUIRED TO PROVIDE SUITABLE SUBSTRATE FOR NEW FLOORING, TYP.

2. PAINT ALL WALLS, TYP.; COLOR TO BE DETERMINED BY OWNER; PATCH WALLS FOR PAINTING, TYP. WHERE DEMO HAS OCCURED, AND AT (E) HOLES, PENETRATIONS, ETC.

3. DIMENSIONS ARE TO FACE OF FINISH, U.N.O.; CASEWORK PLAN DIMENSIONS ARE TO EDGE OF COUNTER TOP, SEE DETAILS FOR OVERHANG DIM.

4. (E) EXISTING, (N) NEW CONSTRUCTION.

KEY NOTES:

(1) - (N) FRAMED WALL, CONSTRUCTION:
- 5/8" TYPE 'X' GYP BD, EXTEND TO STRUCTURE.
- 4" METAL STUDS AT 16" O.C., FRAME WALL ON TOP OF (E) FLOORING, EXTEND TO STRUCTURE, PROVIDE DEFLECTION TRACK AT TOP, FRAME AROUND (E) DUCTS.
- FILL WALL CAVITY WITH ACOUSTIC BATT INSULATION.
- 5/8" TYPE 'X' GYP BD, EXTEND TO STRUCTURE.

(2) - ALIGN FINISH FACE OF (N) WALL WITH (E) WALL.

(3) - LOCATE (N) WALL TO ALIGN WITH DEMO'ED OVERHEAD (E) CURTAIN TRACK FRAMING.

(4) - PAINT OUTSIDE OF (N) WALL TO MATCH ADJACENT (E) WALLS.

(5) - MOUNT (N) DOOR FRAME 3" FROM INSIDE CORNER OF (N) WALL.

(6) - CLEAN (E) FLOORING.

(7) - (N) RESILIENT FLOORING.

(8) - (N) ACID RESISTANT PLASTIC LAMINATE COUNTER TOP AND BACKSPLASH.

(9) - RE-INSTALL (E) WALL-MOUNTED ADJUSTABLE SHELVING IN ORIGINAL LOCATION

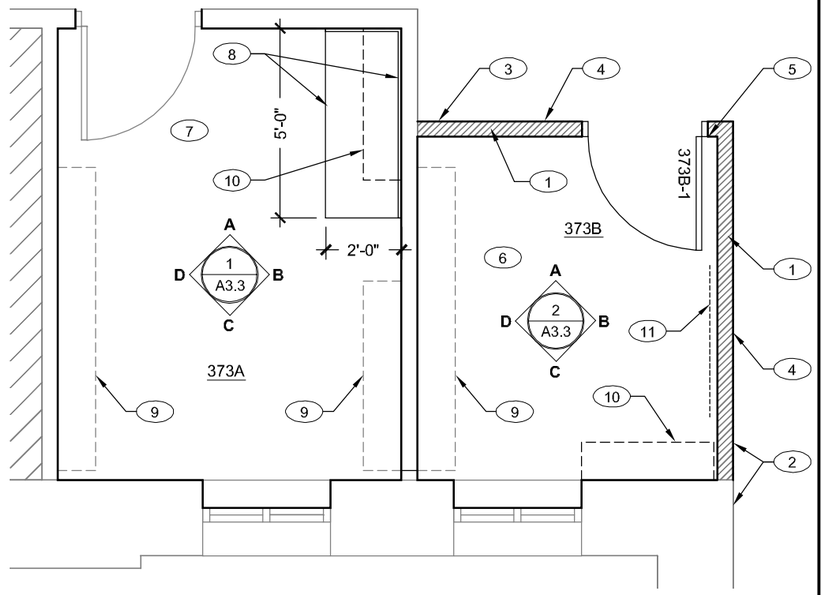
(10) - (N) GLASS-FRONTED UPPER CABINET.

(11) - (N) WHITEBOARD, SEE ELEVATION.

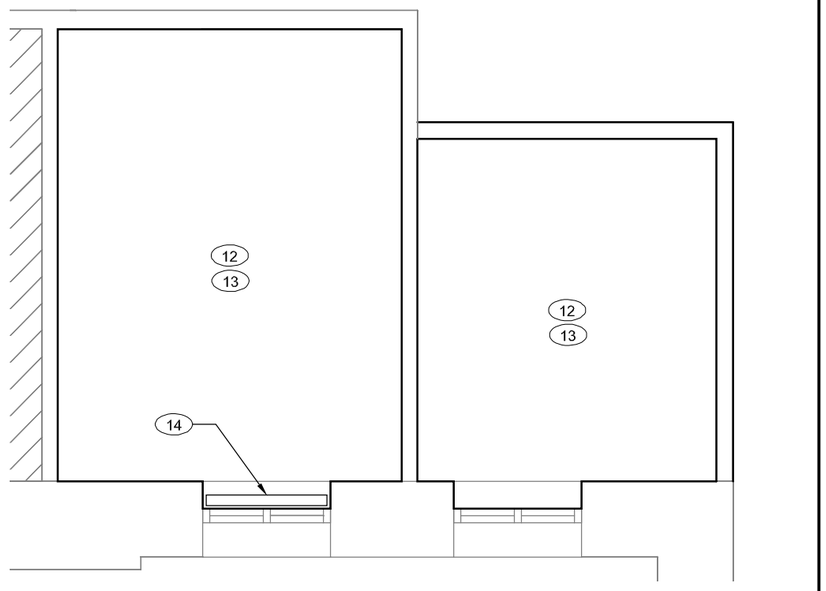
(12) - OPEN TO STRUCTURE, SEE ELECTRICAL FOR LIGHTING.

(13) - PAINT CEILING, INCLUDING (N) AND (E) EXPOSED DUCTS.

(14) - (N) BLACK-OUT ROLLER SHADE, SEE DETAIL.



1 / A2.4 FLOOR PLAN - RMS 373A & 373B
Scale: 1/4"=1'-0"



2 / A2.4 RCP - RMS 373A & 373B
Scale: 1/4"=1'-0"

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

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SHEET:
A2.4

GENERAL ELEVATION NOTES:

1. ALL SHELF STANDARDS AND COUNTER BRACKETS TO ALIGN WITH (E) STUDS WHERE POSSIBLE, MAINTAIN EVEN SPACING OF STANDARDS AND BRACKETS ACROSS WIDTH OF SHELVING OR COUNTER TOP, MAX SHELF SPAN 24", MAX COUNTER TOP SPAN 36".

2. (E) EXISTING, (N) NEW CONSTRUCTION.

3. FOR (E) ELEMENTS TO BE REMOVED AND RE-INSTALLED, MATCH ORIGINAL MOUNTING HEIGHT AND LOCATION.

KEY NOTES:

(1) - (E) SHELVING TO REMAIN.

(2) - (E) CASEWORK TO REMAIN.

(3) - (E) RCB TO REMAIN, TYP.

(4) - (E) RACEWAY TO REMAIN, SEE ELECTRICAL.

(5) - (N) WALL-MOUNTED ADJUSTABLE P-LAM SHELVING, SEE 4/A5.1 FOR DETAIL.

(6) - (E) SHELF STANDARDS.

(7) - RELOCATE (E) SHELF STANDARD FROM CORNER.

(8) - (N) SHELF STANDARDS, TYPE AND SPACING TO MATCH EXISTING.

(9) - (N) METAL FRAMING TO SUPPORT CURTAIN TRACK.

(10) - CURTAIN TRACK RELOCATED FROM RM 373.

(11) - CURTAIN RELOCATED FROM RM 373.

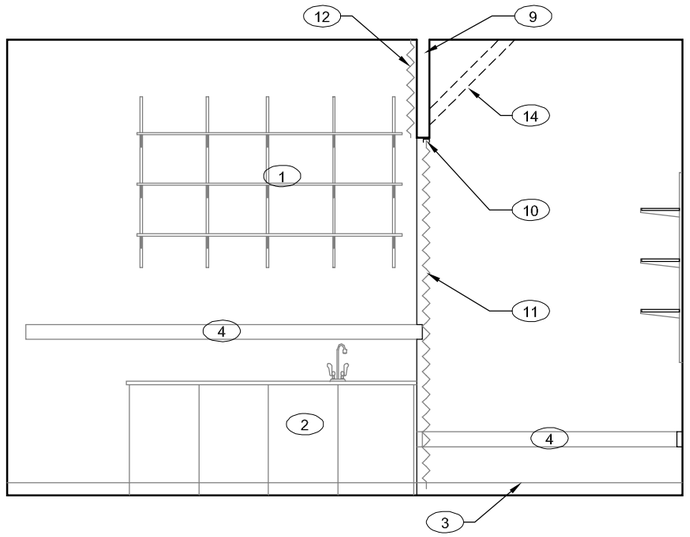
(12) - VALENCE CURTAIN RELOCATED FROM RM 373.

(13) - DIAGONAL METAL FRAMING BRACE AT MIDSPAN OF FRAMING.

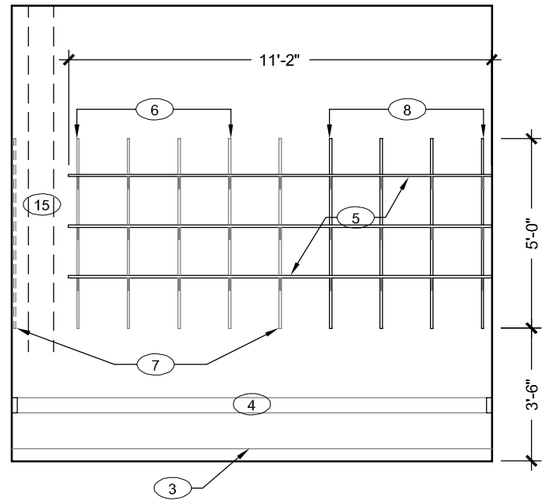
(14) - DIAGONAL BRACE IN FOREGROUND SHOWN DASHED.

(15) - LOCATION OF (N) EXHAUST DUCT FOR LASER, SEE MECHANICAL.

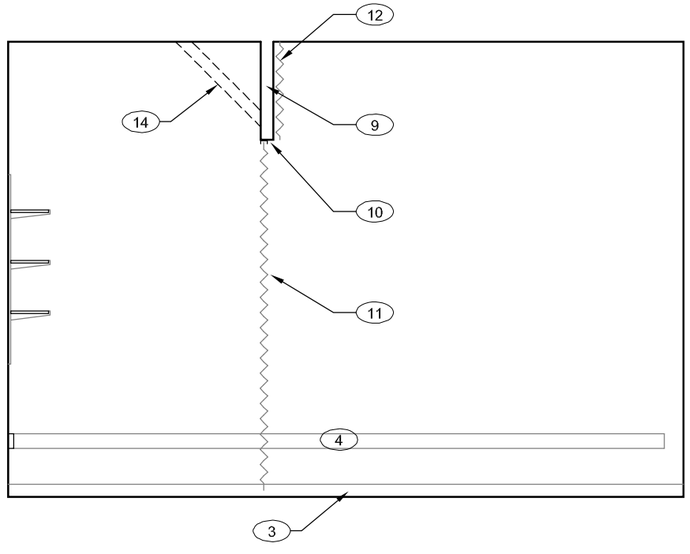
(16) - CONTINUOUS 2" X 3" BENT METAL ANGLE TO BLOCK LIGHT AT END OF CURTAIN, FASTEN 2" LEG TO WALL, PROVIDE CRIMPED EDGE AT 3" LEG, NOTCH AROUND (E) RACEWAYS, PAINT TO MATCH (E) WALL



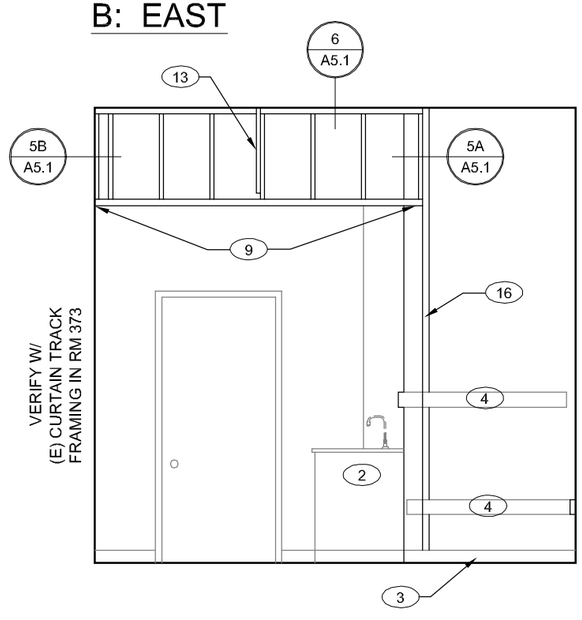
A: NORTH



B: EAST



C: SOUTH



D: WEST

1
A3.1

ELEVATIONS 363

Scale: 1/4" = 1'-0"

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

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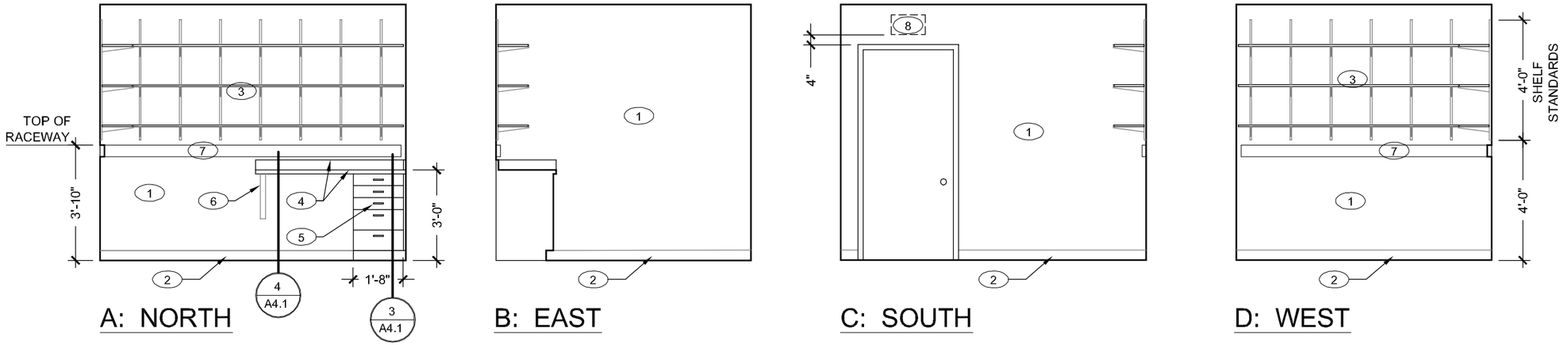
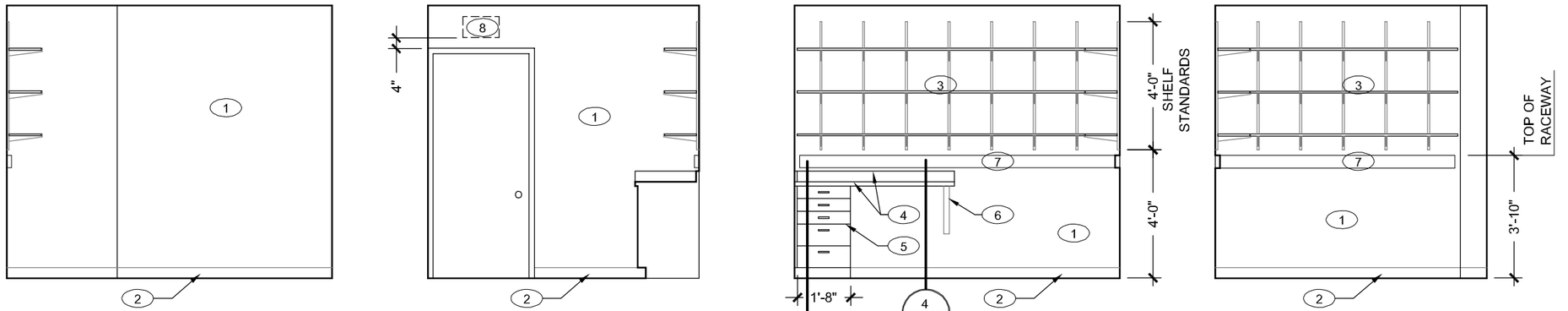
A3.1



A: NORTH | B: EAST | C: SOUTH | D: WEST

1 A3.2 ELEVATIONS 372A

Scale: 1/4" = 1'-0"



A: NORTH | B: EAST | C: SOUTH | D: WEST

2 A3.2 ELEVATIONS 372B

Scale: 1/4" = 1'-0"

GENERAL ELEVATION NOTES:

1. ALL SHELF STANDARDS AND COUNTER BRACKETS TO ALIGN WITH (N) OR (E) STUDS WHERE POSSIBLE, MAINTAIN EVEN SPACING OF STANDARDS AND BRACKETS ACROSS WIDTH OF SHELVING OR COUNTER TOP, MAX SHELF SPAN 24", MAX COUNTER TOP SPAN 36".

2. (E) EXISTING, (N) NEW CONSTRUCTION.

3. FOR (E) ELEMENTS TO BE REMOVED AND RE-INSTALLED, MATCH ORIGINAL MOUNTING HEIGHT AND LOCATION.

KEY NOTES:

1. - PAINT WALLS, TYP.
2. - (N) RCB, TYP.
3. - (N) WALL-MOUNTED ADJUSTABLE P-LAM SHELVING, SEE 4/A5.1 FOR DETAIL.
4. - P-LAM COUNTER TOP AND BACKSPLASH.
5. - P-LAM CASEWORK.
6. - COUNTER TOP SUPPORT BRACKET.
7. - (N) RACEWAY, SEE ELECTRICAL.
8. - "LASER ON" SIGN AT OUTSIDE OF DOOR, CENTER OVER DOOR, SEE ELECTRICAL.

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
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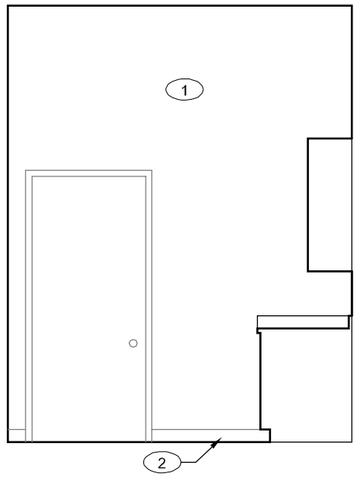
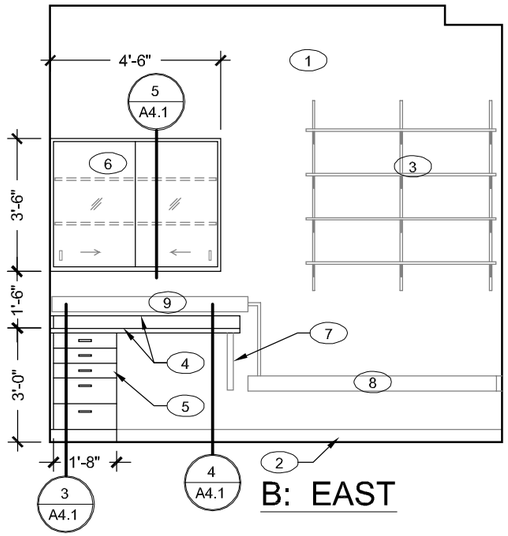
SHEET:

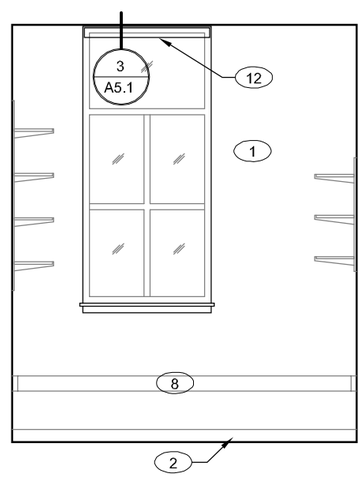
A3.2



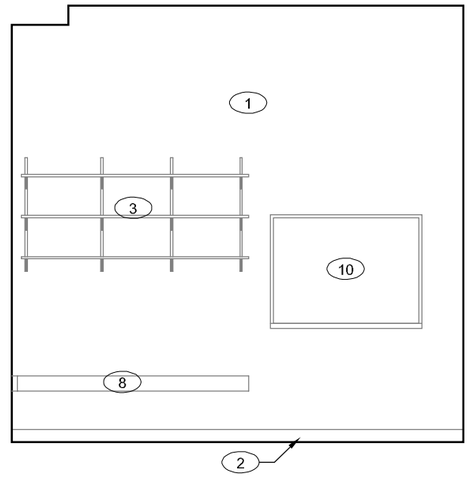
A: NORTH



B: EAST



C: SOUTH

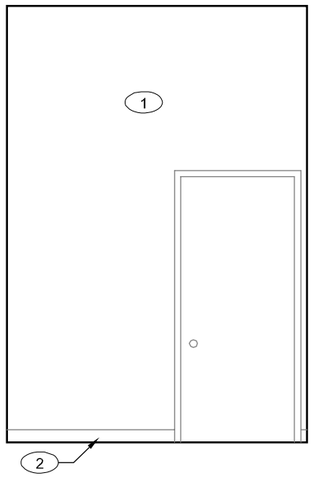


D: WEST

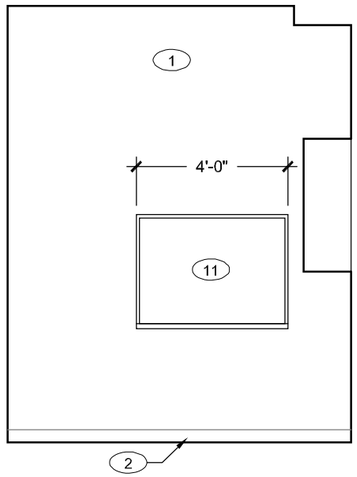
1
A3.3

ELEVATIONS 373A

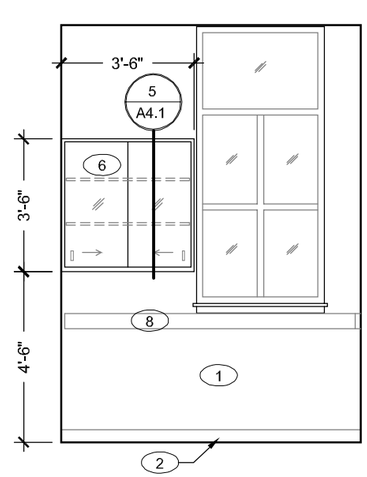
Scale: 1/4" = 1'-0"



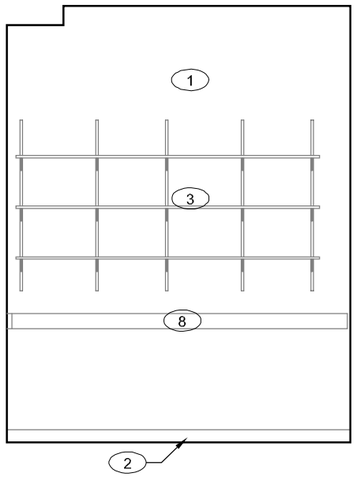
A: NORTH



B: EAST



C: SOUTH



D: WEST

2
A3.3

ELEVATIONS 373B

Scale: 1/4" = 1'-0"

GENERAL ELEVATION NOTES:

1. ALL SHELF STANDARDS AND COUNTER BRACKETS TO ALIGN WITH (N) OR (E) STUDS WHERE POSSIBLE, MAINTAIN EVEN SPACING OF STANDARDS AND BRACKETS ACROSS WIDTH OF SHELVING OR COUNTER TOP, MAX SHELF SPAN 24", MAX COUNTER TOP SPAN 36".

2. (E) EXISTING, (N) NEW CONSTRUCTION.

3. FOR (E) ELEMENTS TO BE REMOVED AND RE-INSTALLED, MATCH ORIGINAL MOUNTING HEIGHT AND LOCATION.

KEY NOTES:

1. - PAINT WALLS, TYP.
2. - (N) RCB, TYP.
3. - RE-INSTALL (E) WALL-MOUNTED ADJUSTABLE SHELVING.
4. - P-LAM COUNTER TOP WITH 4" P-LAM BACKSPLASH.
5. - P-LAM CASEWORK.
6. - P-LAM UPPER CABINET WITH SLIDING GLASS DOORS.
7. - COUNTER TOP SUPPORT BRACKET.
8. - (E) RACEWAY, SEE ELECTRICAL.
9. - RELOCATED SECTION OF RACEWAY, SEE ELECTRICAL.
10. - (E) WHITEBOARD.
11. - (N) WHITEBOARD WB-1.
12. - (N) BLACK-OUT ROLLER SHADE.

PROJECT #: 1126
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CHECKED BY:
FILE NAME:
DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

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WILLAMETTE HALL
RM 363, 372 & 373
MICROSCOPY LABS
REMODEL

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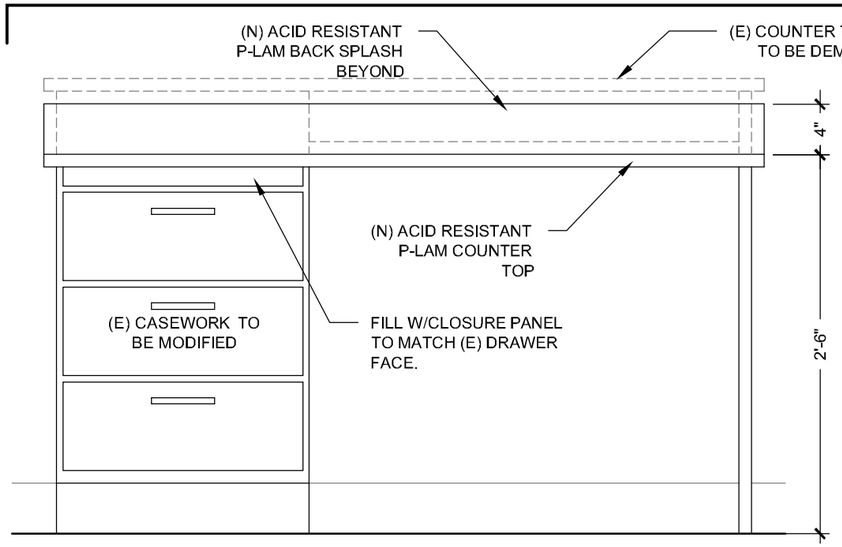
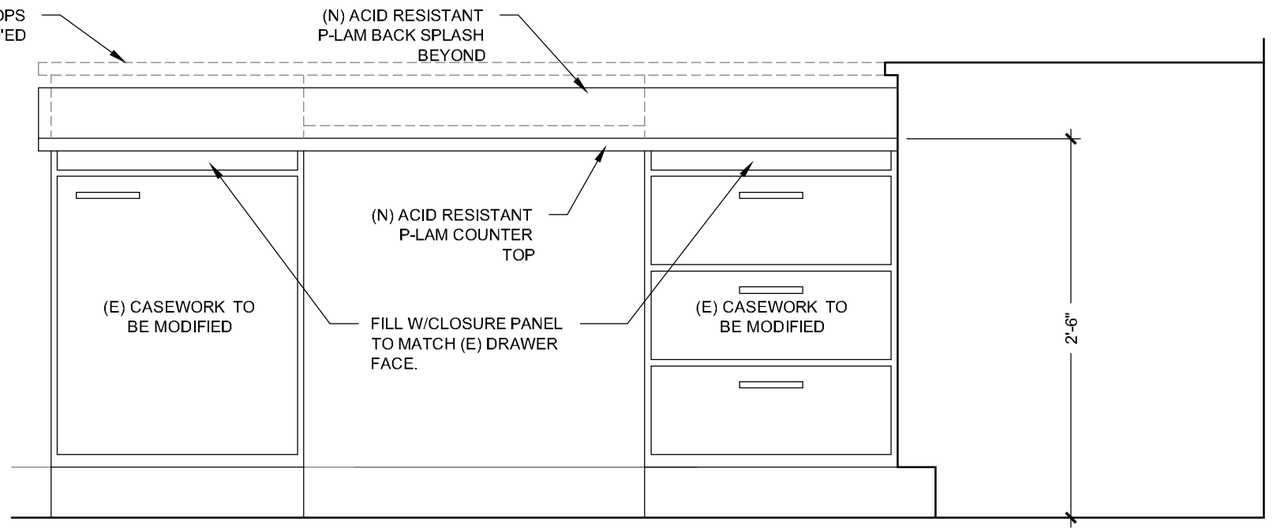
SHEET:

A3.3



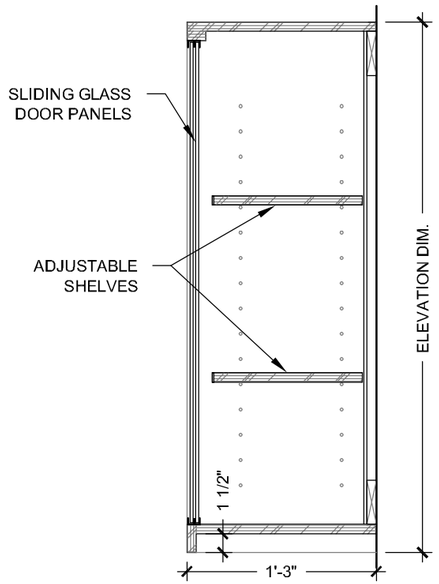
2 A4.1 CASEWORK ELEVATIONS RM373

Scale: 1" = 1'-0"



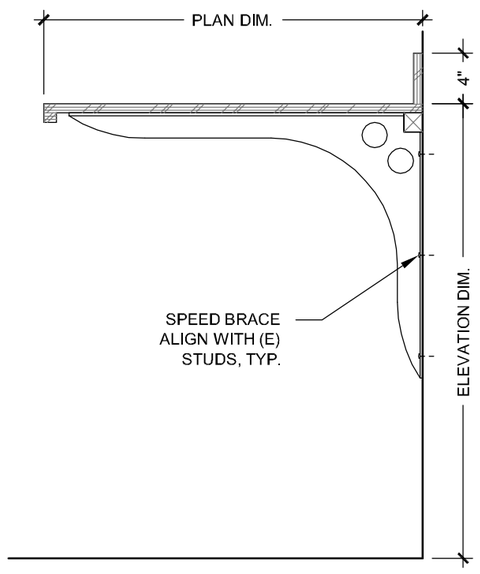
1 A4.1 CASEWORK ELEVATIONS RM373

Scale: 1" = 1'-0"



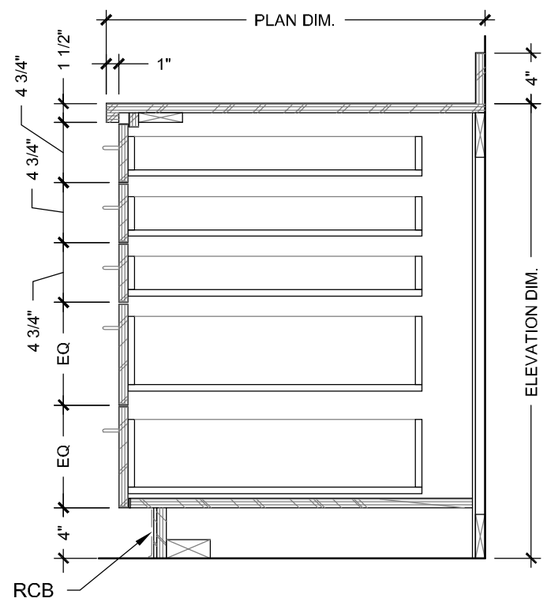
5 A4.1 UPPER CABINETS

Scale: 1" = 1'-0"



4 A4.1 CANTILEVERED COUNTER TOP

Scale: 1" = 1'-0"



3 A4.1 LOWER DRAWER UNIT

Scale: 1" = 1'-0"

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

PROJECT #: 1126
DRAWN BY: KH
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DATE: 01/04/12
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SHEET:

A4.1

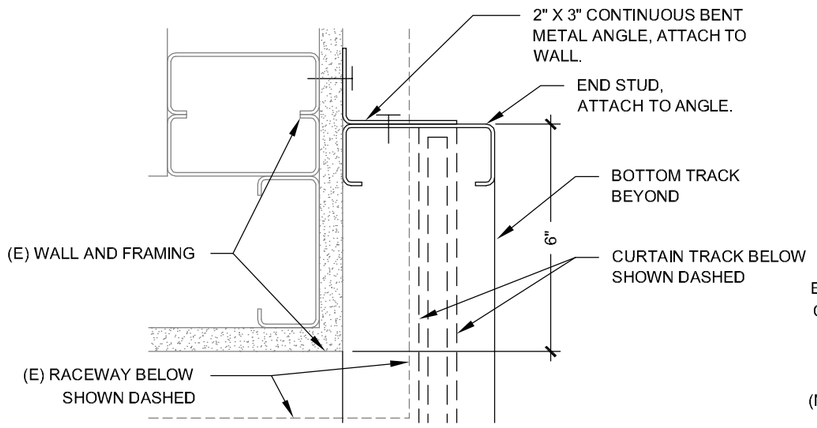
WILLAMETTE HALL MICROSCOPY LABS - DOORS

LOCATION	DOOR					FRAME		HARDWARE GROUP #	FIRE RATING	NOTES
DOOR ID	TYPE	MAT.	FIN.	WIDTH	HEIGHT	MAT.	FIN.			
372B-1	A	WD	CLR	3'-0"	7'-0"	HM	PT	1	N/A	
373B-1	A	WD	CLR	3'-0"	7'-0"	HM	PT	1	N/A	

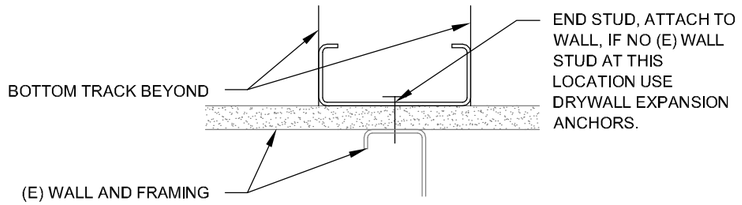
1 / A5.1 DOOR SCHEDULE
Scale: NOT TO SCALE

ABBREVIATION KEY

(E)	EXISTING	N/A	NOT APPLICABLE
CLR	CLEAR	PT	PAINT
HM	HOLLOW METAL	WD	WOOD

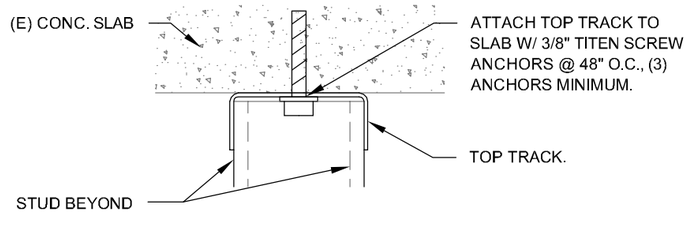


A: FRAMING END AT CORNER

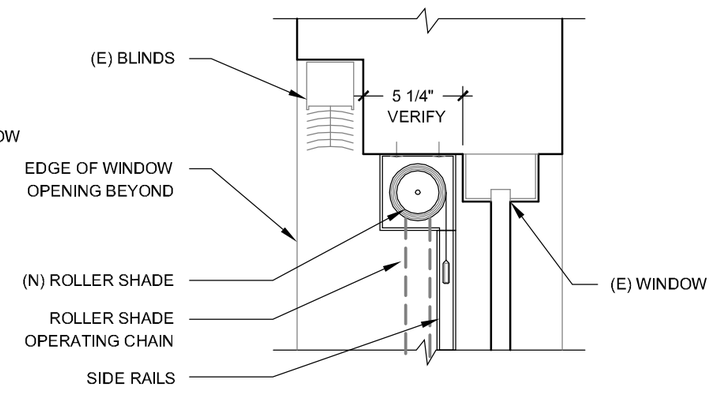


B: FRAMING END AT WALL

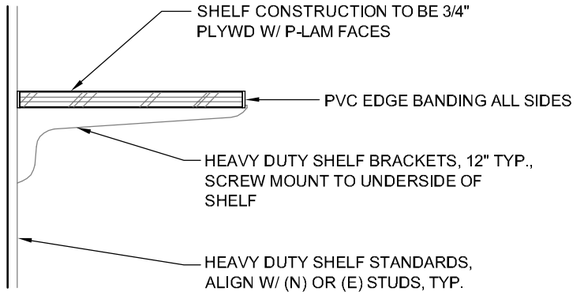
5 / A5.1 METAL FRAMING - PLAN DETAIL
Scale: 1 1/2" = 1'-0"



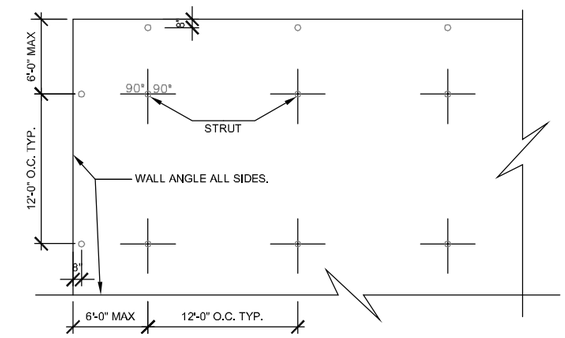
6 / A5.1 METAL FRAMING - TOP CONNECTION
Scale: 1 1/2" = 1'-0"



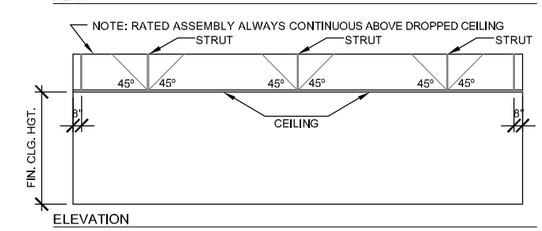
3 / A5.1 ROLLER SHADE DETAIL
Scale: 1 1/2" = 1'-0"



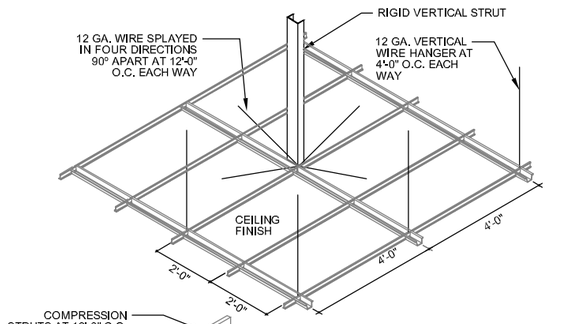
4 / A5.1 WALL-MOUNTED SHELVING DETAIL
Scale: 1 1/2" = 1'-0"

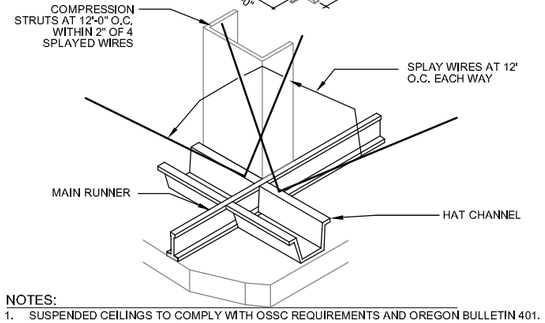


PLAN



ELEVATION





NOTES:
1. SUSPENDED CEILINGS TO COMPLY WITH OSSC REQUIREMENTS AND OREGON BULLETIN 401. BULLETIN 401 IS AVAILABLE FROM NORTHWEST WALL AND CEILING BUREAU.
2. PROVIDE SPREADER BARS AT PERIMETER WALLS PER BULLETIN 401
3. PROVIDE SEISMIC SEPERATION JOINT FOR CEILING AREAS OVER 2500 SF.
4. SPRINKLER HEAD PENETRATIONS SHALL ALLOW 1" OF FREE MOVEMENT FOR THE SPRINKLER HEAD. THIS MAY BY PROVIDED BY FLEXIBLEHEAD DESIGN OR OVERSIZE RING OR SLEEVE.
5. VERTICAL STRUTS FASTENED TO THE MAIN RUNNER SHALL BE EXTENDED TO AND FASTENED TO THE STRUCTURE MEMBERS SUPPORTING THE ROOF / CEILING ABOVE. THE STRUT SHALL BE ADEQUATE TO RESIST THE THE VERTICAL COMPONENT INDUCED BY BRACING WIRES.
6. THESE HORIZONTAL RESTRAINTS SHALL BE PLACED 12'-0" O.C. IN BOTH DIRECTIONS WITH THE FIRST POINT WITHIN 6'-0" FROM WALL.
7. RIGID VERTICAL STRUTS MAY BE STEEL, BLACK IRON,EMT OR OTHER APPROVED CONSTRUCTION
8. PROVIDE 12 GA. WIRE HANGERS AT ALL FOUR (4) CORNERS OF EACH LIGHT FRAME.

1 / A5.1 HUNG CEILING DETAIL
Scale: NOT TO SCALE

2 ADDENDUM #2 - 10/18/11
SHEET RE-ISSUED

REGISTERED ARCHITECT
JOHN S. ROWELL
EUGENE, OREGON
STATE OF OREGON

PROJECT #: 1126
DRAWN BY: KH
CHECKED BY: JR
FILE NAME:
DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

PROJECT:
UNIVERSITY OF OREGON
WILLAMETTE HALL
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A5.1

LEGEND

HHWS/R	HEATING HOT WATER SUPPLY & RETURN
CHWS/R	CHILLED WATER SUPPLY & RETURN
A	COMPRESSED AIR
	COMPRESSED AIR OUTLET
	SUPPLY DIFFUSER
	EXHAUST GRILLE
	FLEX DUCT
	VOLUME DAMPER
(E)	EXISTING
(N)	NEW
(T)	THERMOSTAT
(F)	FAN SPEED CONTROLLER
(DS)	DUCT MOUNTED TEMP SENSOR
SA	AIR OUTLET MARK NUMBER
100	AIR FLOW, CFM
	GLOBE VALVE
	BALL VALVE
PT	PRESSURE & TEMP TEST PORT

GENERAL NOTES:

A. COORDINATE WITH OTHER TRADES AND FIELD VERIFY ALL DIMENSIONS, CLEARANCES AND ROUTING PRIOR TO FABRICATION AND INSTALLATION. ANY DISCREPANCIES BETWEEN DRAWINGS, DIMENSIONS AND EXISTING CONDITIONS SHOULD BE RECORDED IN WRITING AND REPORTED TO THE ENGINEERING FIRM FOR RESOLUTION PRIOR TO COMMENCEMENT OF THE JOB.

B. ALL NEW WORK SHALL COMPLY WITH LOCAL AND STATE BUILDING CODES INCLUDING:
   - 2010 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
   - 2010 OREGON MECHANICAL SPECIALTY CODE (OMSC)
   - 2010 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC)
   - 2008 OREGON PLUMBING SPECIALTY CODE (OSPC)
   - 2010 OREGON FIRE CODE (OFC)
   - 2011 OREGON ELECTRICAL SPECIALTY CODE (OESC)

C. CONTRACTOR IS TO COORDINATE THE LOCATION OF ALL EQUIPMENT, GRILLES AND DIFFUSERS WITH RESPECT TO STRUCTURAL COMPONENTS, LIGHTING, AND OTHER BUILDING FEATURES. PAINT DUCTWORK VISIBLE THROUGH GRILLES AND DIFFUSERS FLAT BLACK.

D. DUCTS ARE TO BE CONSTRUCTED ACCORDING TO SMACNA GUIDELINES USING MINIMUM 26 GA GALVANIZED STEEL FOR RECTANGULAR AND ROUND DUCTS. DUCTING SHALL BE SUPPORTED BY APPROVED HANGERS AT INTERVALS NOT EXCEEDING 10 FEET.

E. PROVIDE DAMPERS AT DIFFUSERS OR AS SHOWN ON DRAWINGS. BALANCE SYSTEM AND PROVIDE DATA PER PROJECT MANUAL. NO OPPOSED BLADE DAMPERS.

F. ALL DUCTWORK SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION 603.9 OF THE MECHANICAL CODE (OMSC). ALL SYSTEMS OPERATE AT A STATIC PRESSURE LESS THAN 2.0" WG AND ARE CONSIDERED "LOW-PRESSURE" DUCT.

G. THE MECHANICAL CONTRACTOR SHALL PROVIDE EQUIPMENT OPERATION AND MAINTENANCE MANUALS TO THE OWNER PRIOR TO PROJECT CLOSE-OUT.

H. PATCH WALL PENETRATIONS TO A LIKE NEW APPEARANCE.

I. REPAIR DEMOLITION AREAS TO MATCH EXISTING CONDITIONS.

SEQUENCE OF OPERATION:

HEATING & COOLING:

- THE LAB SPACES ARE PROVIDED WITH A CONSTANT VOLUME AIRFLOW OF 60° AIR.
- THE ZONE TEMPERATURE CONTROLLER CALLS FOR HEATING OR COOLING.
- THE HOT WATER CONTROL VALVE WILL MODULATE THE REHEAT COIL WATER FLOW IN RESPONSE TO THE THERMOSTAT AND DUCT SENSOR INPUTS.
- EACH NEW ZONE CONTROLLER WILL OPERATE AS A STAND-ALONE SYSTEM AND WILL NOT BE TIED INTO AN ENERGY MANAGEMENT SYSTEM.
- THE ROOM TEMPERATURE MUST BE MAINTAINED WITHIN ±1°F.

REGISTERED PROFESSIONAL ENGINEER 17909 OREGON July 25, 1995 GORDON YUTZY
12-30-11
RENEWS 6-30-12

PROJECT #: 1126
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CHECKED BY: GY
FILE NAME:
DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

PROJECT:

WILLAMETTE HALL
RM 363, 372 & 373
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CKD: PS
APP: GY
EE DRAWING NUMBER: 1000M01
CAD FILE: 1000M01rev0.dwg

M0.1

REHEAT COIL SCHEDULE

MARK NO.	ROOM NO.	CFM	HEAT LOAD (MBH)	COIL SIZE W"xH"	TOTAL AREA, FT²	FACE VELOCITY FPM	ROWS-FINS PER IN.	TOTAL GPM	WATER TEMP °F		AIR TEMP °F		AIR PD (IN. WC.)	WATER PD (FT)	REMARKS
									EWT	LWT	EDB	LDB			
RC20/3E	373	250	7.8	12x8	0.67	375	1-8	0.8	180	160	60	88.2	0.04	1.53	1
RC21/3E	372	280	8.2	12x8	0.67	420	1-9	0.9	180	160	60	88.6	0.05	1.61	1

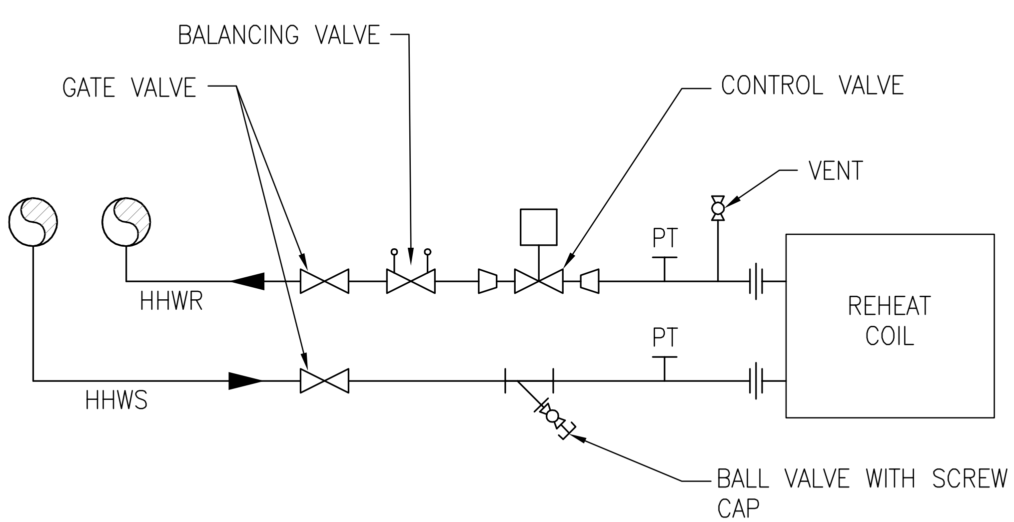
1. PROVIDE COIL CASING WITH DUCT MOUNTING FLANGES

AIR DEVICE SCHEDULE

MARK NO.	MANUFACTURER MODEL NO.	FACE SIZE	NECK SIZE	REMARKS
CD-1 / –	TITUS PAS CEILING SUPPLY DIFFUSER	24x24	SEE PLAN	PERFORATED FACE, BORDER TYPE 3 FOR LAY-IN CEILING, FLAT BLACK INTERIOR AND NO. 26 OFF-WHITE FINISH. NO OBD.
CD-2 / –	TITUS 250 CEILING SUPPLY DIFFUSER	–	12x8	BORDER TYPE 1, FOR SURFACE MOUNTING, 4 WAY PATTERN, AND NO. 26 OFF-WHITE FINISH. NO OBD.
CE-1 / –	TITUS 50F CEILING EXHAUST	24x24	SEE PLAN	ALUMINUM EGGCRATE WITH ½x½x½ GRID, BORDER TYPE 3 FOR LAY-IN CEILING, & NO. 26 OFF-WHITE FINISH. NO OBD.
WR-1 / –	TITUS 350FL WALL RETURN GRILLE	–	12x12	LOUVERED RETURN, BORDER TYPE 1 FOR SURFACE MOUNTING, 35° FIXED BLADES, AND NO. 26 OFF-WHITE FINISH. NO OBD.

KEY NOTES

1. SUPPLIED BY CONTROL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
2. ACTUATED HW CONTROL VALVE, SUPPLIED BY CONTROL CONTRACTOR, INSTALLED BY MECH. CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
3. DUCT DISCHARGE TEMP SENSOR SUPPLIED BY CONTROLS CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. LOCATE CONTROLLER FOR OPTIMUM MAINTENANCE ACCESS. PROVIDE AND MOUNT IN DUST TIGHT ENCLOSURE.



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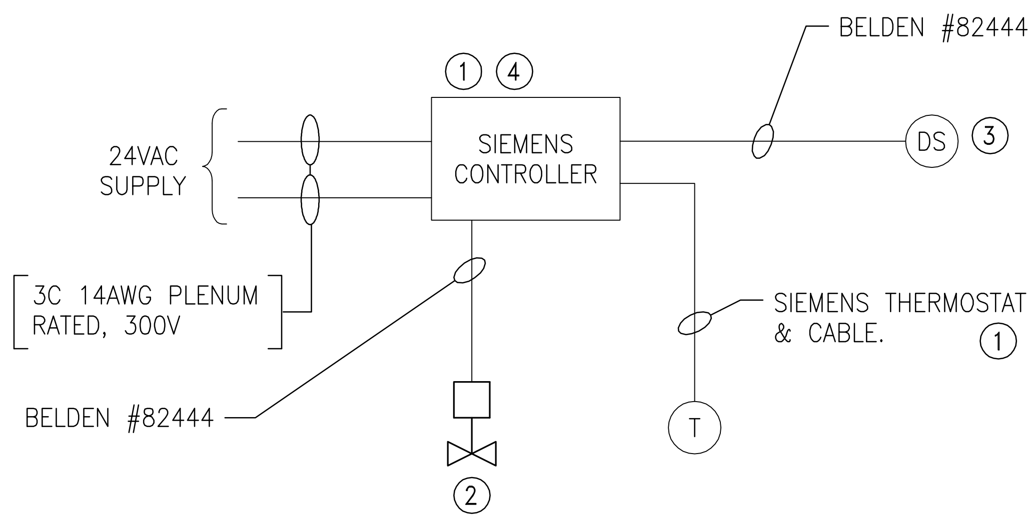

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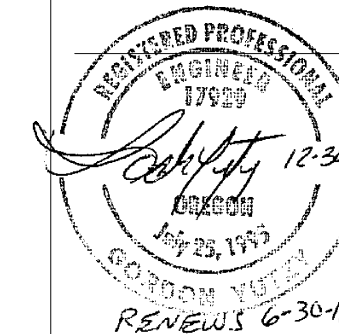
NONE



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EE JOB NUMBER 2543.0
CKD: PS
APP: GY
EE DRAWING NUMBER: 1000M10revB
CAD FILE: 1000M10rev0.dwg

PROJECT #: 1126
DRAWN BY: PLS/BCS
CHECKED BY: GY
FILE NAME:
DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

PROJECT:
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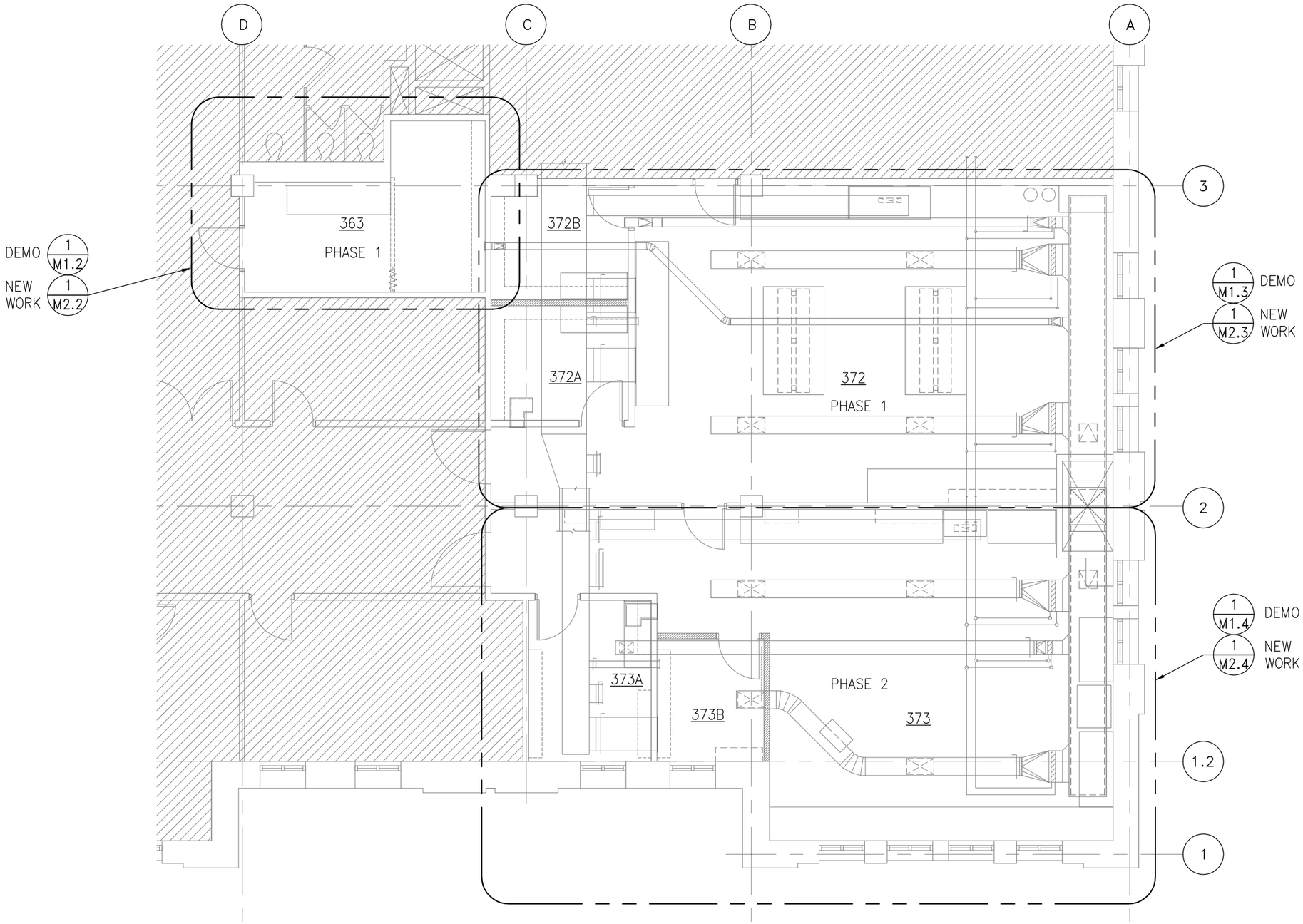
M1.0



1 / - AREA PLAN

Scale: 1/8"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 25, 1997
GORDON YUEN
12-30-11
RENEWS 6-30-12

PROJECT #: 1126
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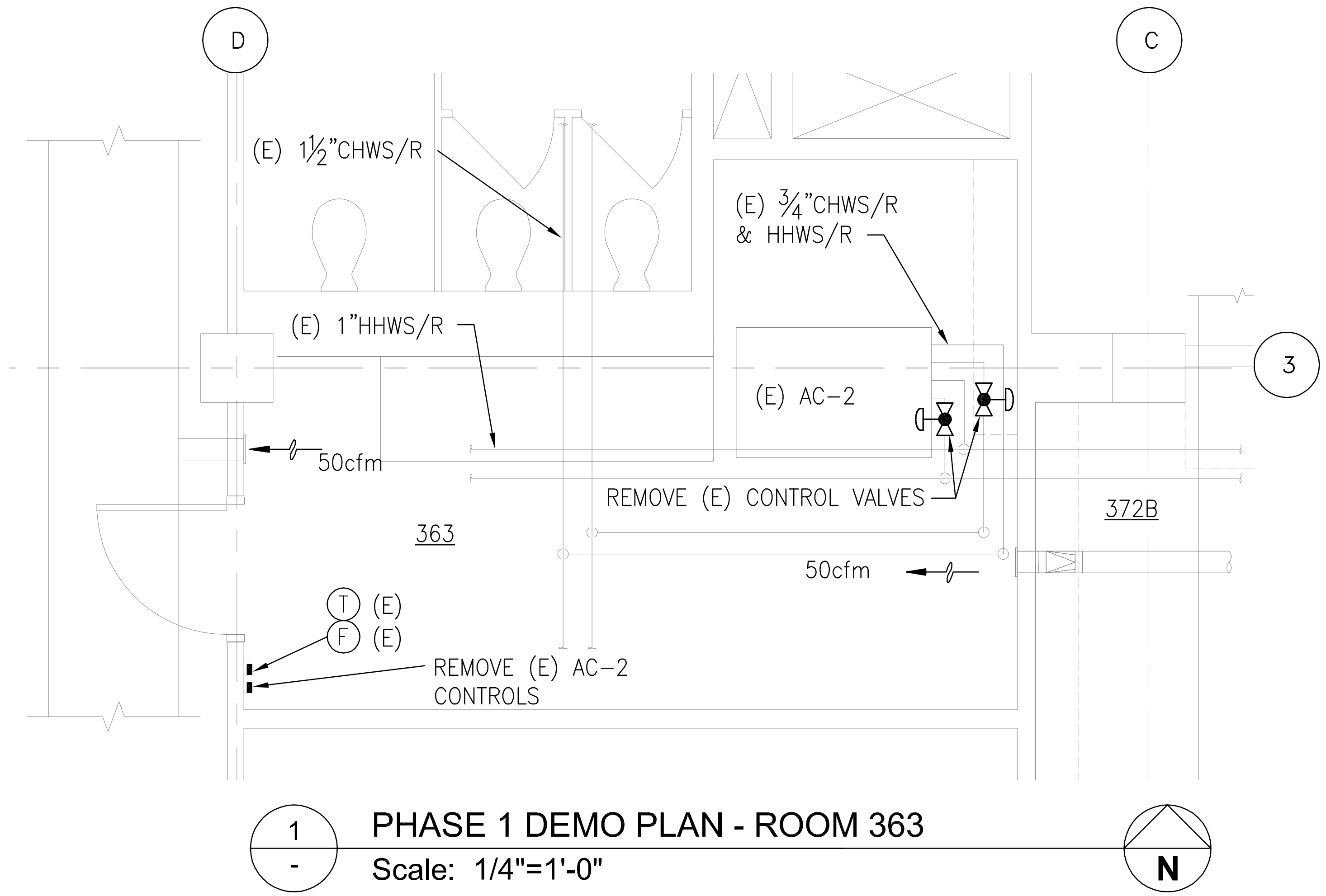
EE DRAWING NUMBER: 1000M11
CAD FILE: 1000M11rev0.dwg



1
-

PHASE 1 DEMO PLAN - ROOM 363

Scale: 1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER 17999 OREGON July 25, 1995 GORDON YUTZY 12-30-11 RENEWS 6-30-12

PROJECT #: 1126
DRAWN BY: PLS/BCS
CHECKED BY: GY
FILE NAME:
DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

PROJECT:

WILLAMETTE HALL
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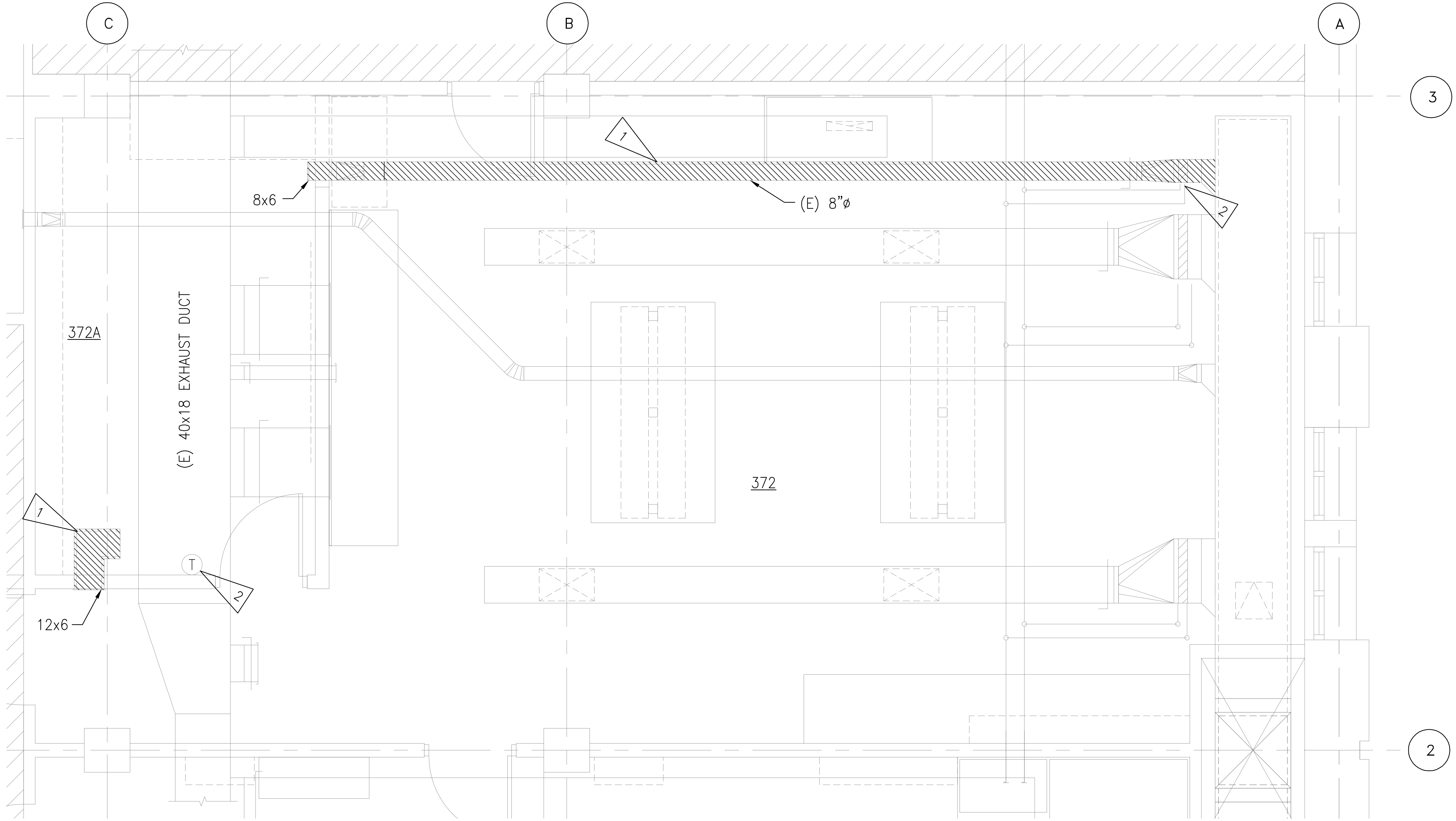

PHASE 1 DEMO PLAN - ROOM 372A

1 / -

Scale: 1/4"=1'-0"

N

KEYED NOTES:

1. REMOVE SHADED DUCT, WALL REGISTER, & REHEAT COIL AS SHOWN
2. REMOVE EXISTING THERMOSTAT, PNEUMATIC TUBING, AND CONTROL VALVE

REGISTERED PROFESSIONAL ENGINEER 17999 OREGON July 25, 1995 GORDON YUTZY 12-30-11 RENEWS 6-30-12

PROJECT #: 1126
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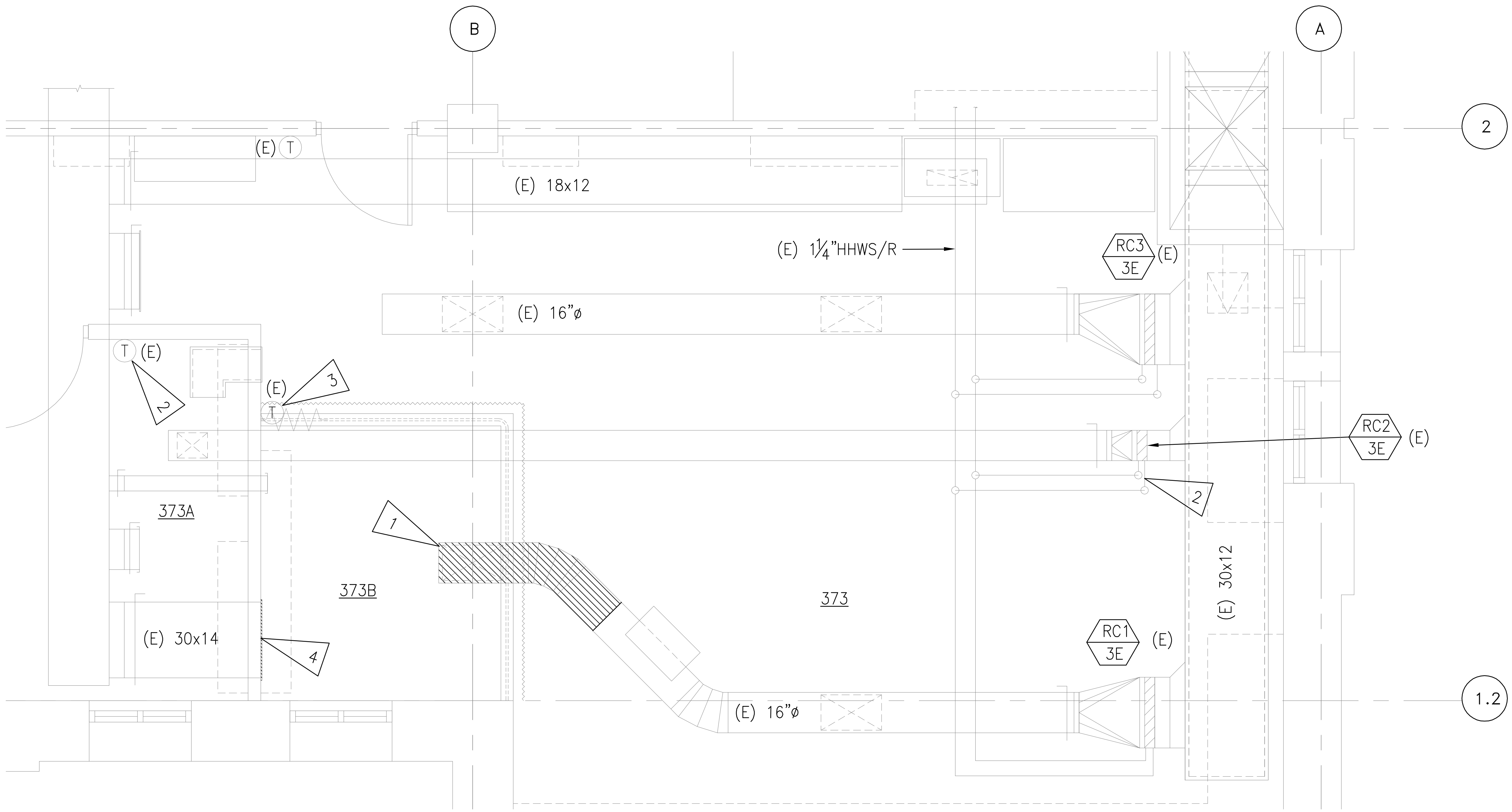
CKD: PS
APP: GY
EE DRAWING NUMBER: 1000M13
CAD FILE: 1000M13rev0.dwg

M1.3



1
-
PHASE 2 DEMO PLAN - ROOM 373
Scale: 1/4"=1'-0"

N

KEYED NOTES:

1. REMOVE AND CAP SHADED DUCT AS SHOWN
2. REMOVE EXISTING THERMOSTAT, PNEUMATIC TUBING, & CONTROL VALVE
3. RELOCATE EXISTING THERMOSTAT FOR RC1–3E REHEAT COIL. SEE M2.4 FOR NEW LOCATION.
4. REMOVE AND RELOCATE EXISTING EXHAUST GRILLE. SEE M2.4 FOR NEW LOCATION

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OREGON
12-30-11
RENEWS 6-30-12

PROJECT #: 1126
DRAWN BY: PLS/BCS
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DATE: 01/04/12
100% CONSTRUCTION DOCUMENTS

PROJECT:

WILLAMETTE HALL
RM 363, 372 & 373
MICROSCOPY LAB
REMODEL

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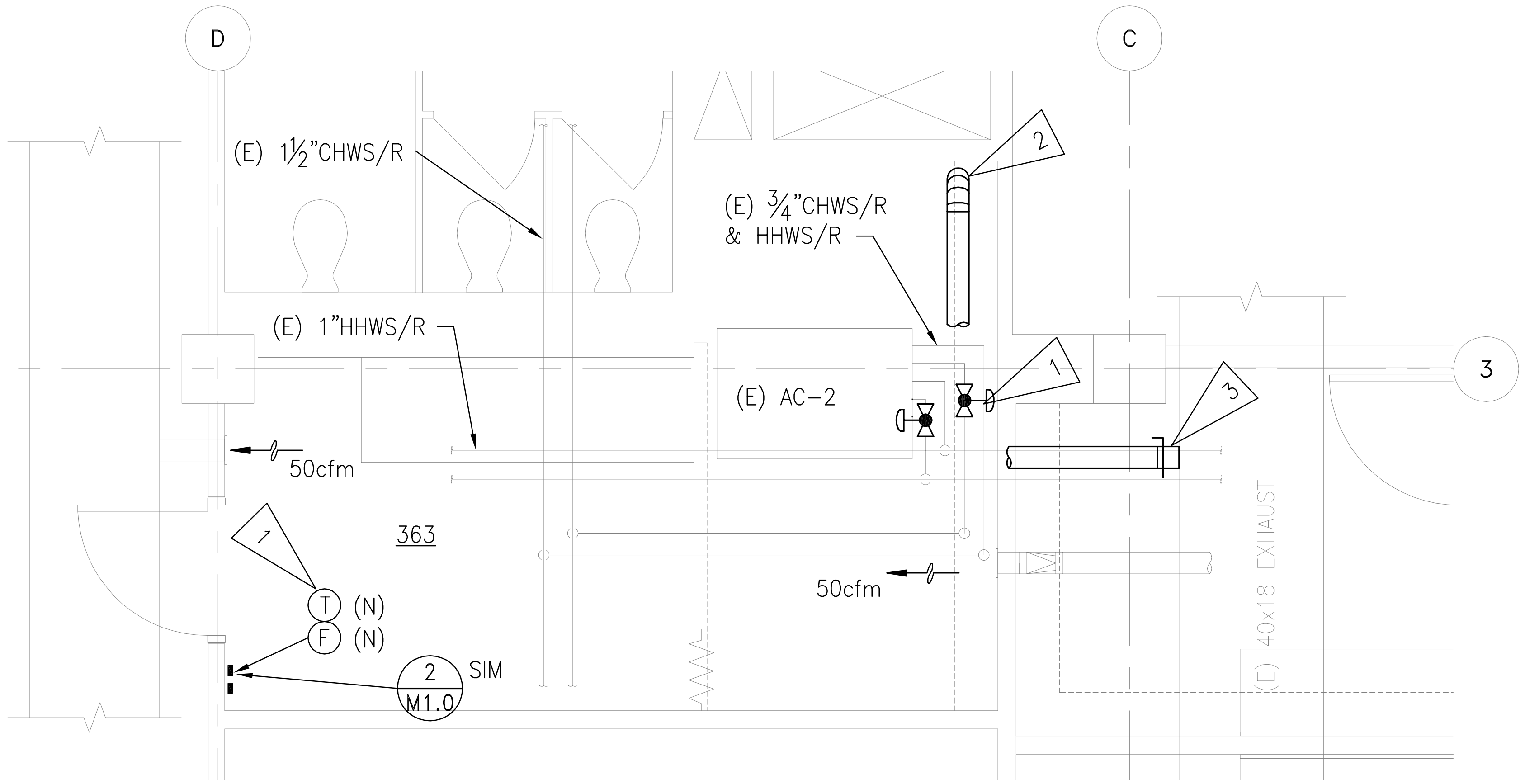
EE JOB NUMBER 2543.0
CKD: PS
APP: GY
EE DRAWING NUMBER: 1000M14
CAD FILE: 1000M14rev0.dwg

M1.4



1 - PHASE 1 NEW HVAC PLAN - RM 363
Scale: 1/4"=1'-0"
N

KEYED NOTES:

1. INSTALL NEW HHWR AND CHWR CONTROL VALVES, THERMOSTAT AND FAN SPEED CONTROLLER TO MAINTAIN STABLE ROOM TEMPERATURE (±1°F).
2. NEW 6"ø EXHAUST DUCT, DROP TO 48"AFF WITH MANUAL SHUT OFF DAMPER AND 6x4 REDUCER FOR LASER EXHAUST CONNECTION.
3. TIE-IN OF NEW 6"ø TO EXISTING 40x18 EXHAUST DUCT

REGISTERED PROFESSIONAL ENGINEER 17909 OREGON July 25, 1995 GORDON YUTZY
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RENEWS 6-30-12

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EE JOB NUMBER	2543.0
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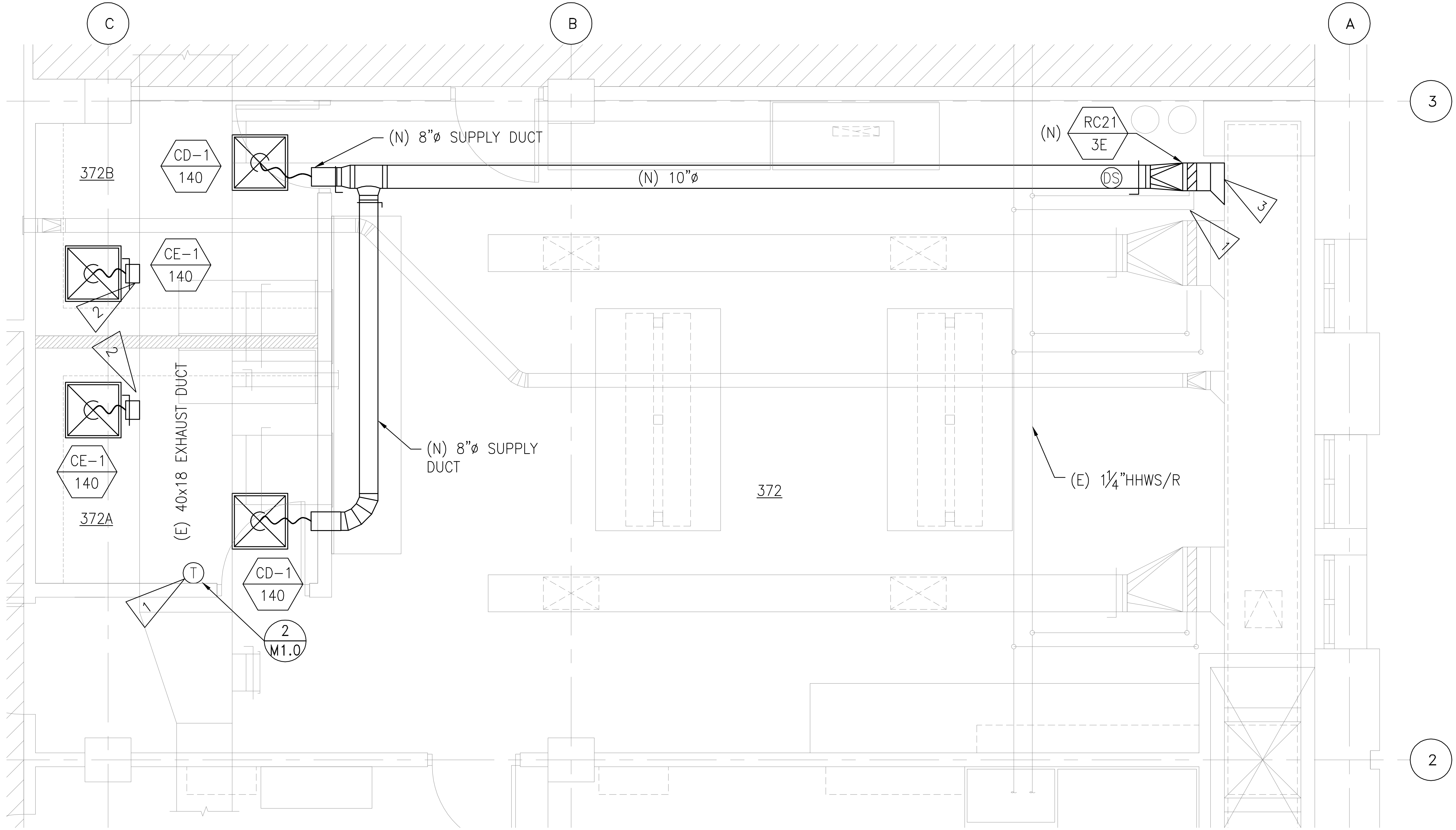
M2.2



KEYED NOTES:

1. REPLACE EXISTING HHWS/R 2 WAY CONTROL VALVE PNEUMATIC TUBING AND THERMOSTAT WITH NEW DIGITAL CONTROLLER, THERMOSTAT AND CONTROL VALVE TO MAINTAIN STABLE ROOM TEMPERATURE (±1°F). RECONNECT EXISTING HHWS/R TO (N) COIL.
2. TIE-IN OF (N) 8" EXHAUST TO (E) 40x18
3. TIE-IN OF (N) 12x8 DUCT

1 / - PHASE 1 NEW HVAC PLAN - RMS 372, 372A, & 372B

Scale: 1/4"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER 17999 OREGON July 25, 1995 GORDON YUTZY 12-30-11 RENEWS 6-30-12

PROJECT #: 1126
DRAWN BY: PLS/BCS
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EE JOB NUMBER 2543.0
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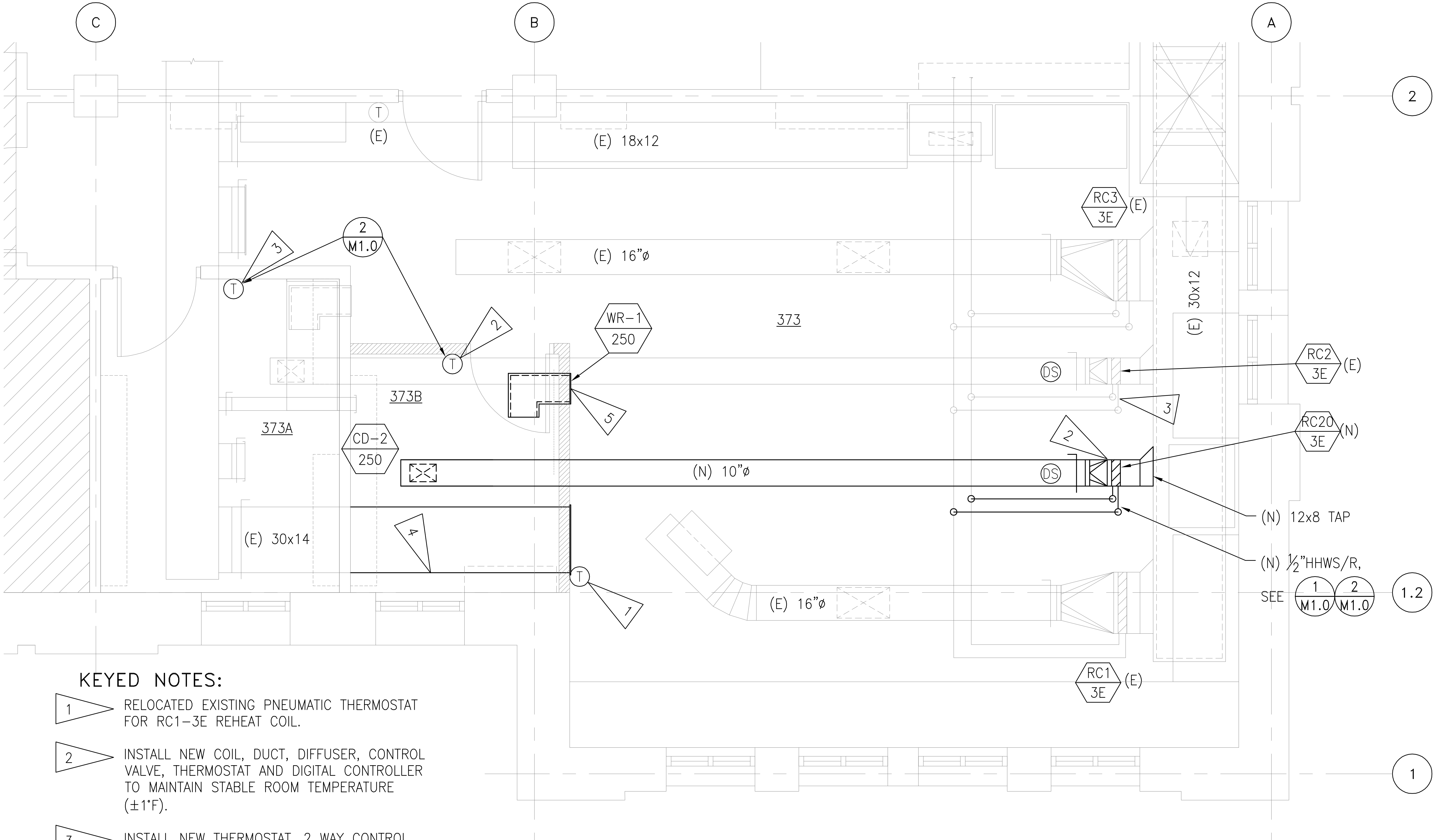
M2.3



KEYED NOTES:

1. RELOCATED EXISTING PNEUMATIC THERMOSTAT FOR RC1-3E REHEAT COIL.
2. INSTALL NEW COIL, DUCT, DIFFUSER, CONTROL VALVE, THERMOSTAT AND DIGITAL CONTROLLER TO MAINTAIN STABLE ROOM TEMPERATURE (±1°F).
3. INSTALL NEW THERMOSTAT, 2 WAY CONTROL VALVE, & DIGITAL CONTROLLER TO MAINTAIN STABLE ROOM TEMPERATURE (±1°F).
4. EXTEND 30x14 EXHAUST DUCT AND REGISTER TO NEW WALL. COORDINATE WITH EXISTING CONDUITS AND LIGHT SUPPORTS.
5. (N) 12x12 LINED RELIEF DUCT AND SIDEWALL REGISTER

1 / -

PHASE 2 NEW HVAC PLAN - RMS 373, 373A, & 373B

Scale: 1/4"=1'-0"

N

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M2.4

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EE JOB NUMBER 2543.0
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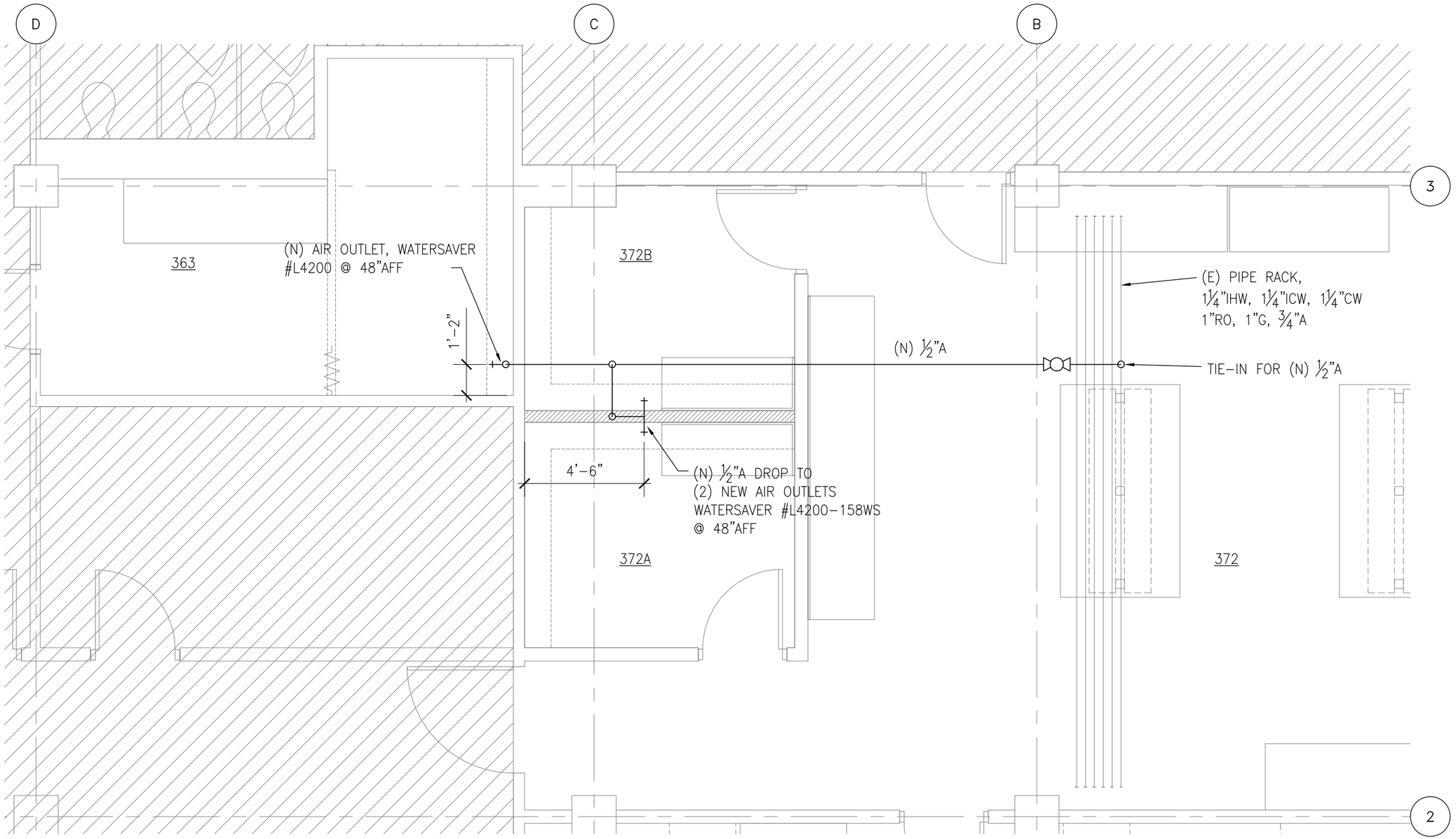

1 / - PHASE 1 NEW PLUMBING PLAN - RMS 372, 372A, 372B, & 363

Scale: 1/4"=1'-0"

N

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OREGON
JULY 25, 1997
GORDON YUEN
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12-30-11

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CKD: PS
APP: GY
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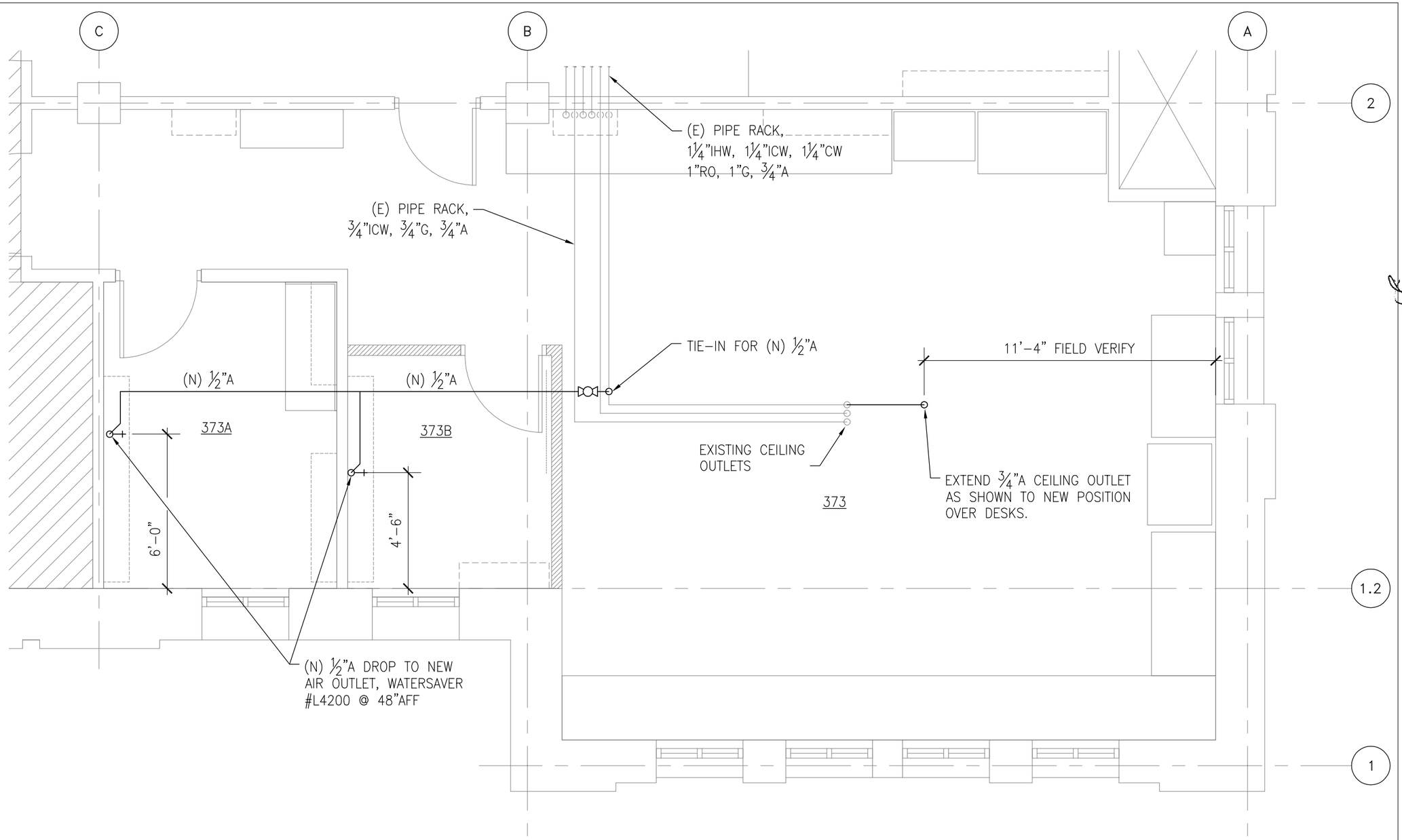

1 / - PHASE 2 NEW PLUMBING PLAN - RMS 373, 373A, & 373B

Scale: 1/4"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 25, 1997
GORDON YEH
12-30-11
RENEWS 6-30-12

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EE JOB NUMBER 2543.0
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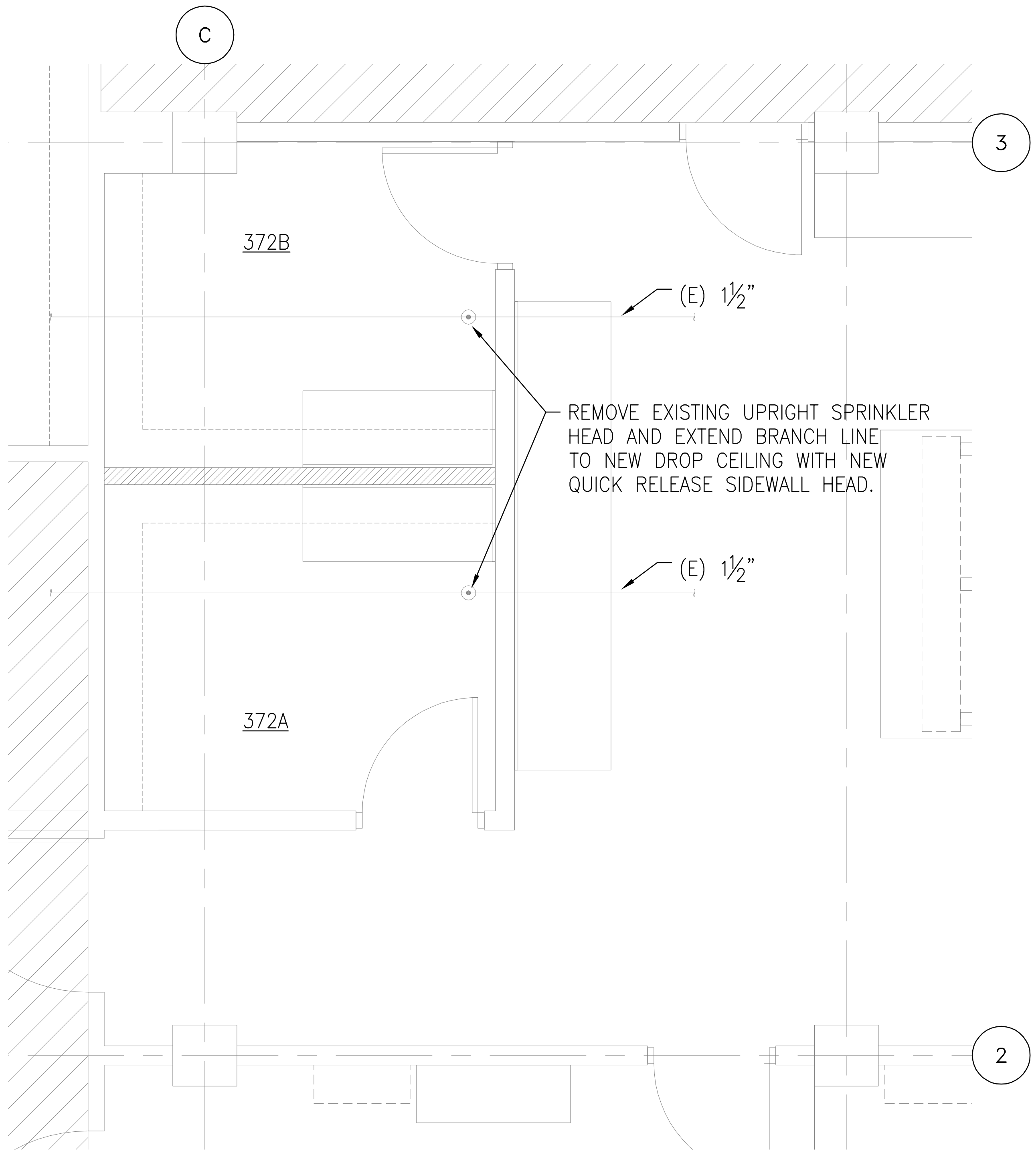
P2.1



1
-
PHASE 1 FIRE PROTECTION PLAN - ROOM 372A, & 372B
Scale: 1/4"=1'-0"

GENERAL NOTES:

1. DRAWINGS SHOW DESIGN INTENT ONLY. ANY ADDITIONAL DRAWINGS, CALCULATIONS OR DOCUMENTATION REQUIRED FOR PERMITS TO BE DESIGN-BUILD BY FIRE SPRINKLER SUB-CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER 17999 OREGON July 25, 1995 GORDON YUTZY
12-30-11
RENEWS 6-30-12

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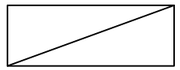
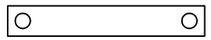
CKD: PS
APP: GY
EE DRAWING NUMBER: 1000FP10
CAD FILE: 1000FP10rev0.dwg

FP1.0

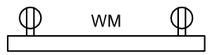
SYMBOL LIST



RECESSED FLUORESCENT LIGHT FIXTURE



PENDANT MOUNTED FLUORESCENT LIGHT FIXTURE



WIRE MOLD 4000 WITH OUTLET & NETWORK OUTLETS AS INDICATED

208 VOLT OUTLET, CONFIGURATIONS AS NOTED

DUPLEX OUTLET

SINGLE POLE SWITCH

3 WAY SWITCH

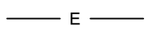
WALL MOUNTED OCCUPANCY SENSORS

CEILING MOUNTED OCCUPANCY SENSORS

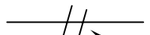
CONDUIT STUB

NOTE REFERENCE

NETWORK FACEPLATE



EXISTING CONDUIT WIRING AS INDICATED



NEW CONDUIT & WIRE

CIRCUIT CONDUCTORS

COMMUNICATION OUTLET BOX FOR OWNER FURNISHED OUTLETS

(E) EXISTING TO REMAIN

(NL) NEW LOCATION FOR RELOCATED DEVICE

(RL) RELOCATE

(RP) REPLACE

ELECTRICAL DRAWING INDEX

E1.0	SYMBOL LIST, DRAWING INDEX
E2.0	ELECTRICAL DEMOLITION PLAN
E2.1	LIGHTING PLAN
E2.2	POWER AND SIGNAL PLAN

REGISTERED PROFESSIONAL ENGINEER
12699
OREGON
SEPT. 21, 1984
JAMES P. KRUMSICK
EXPIRES 6/30/2013

PROJECT #: 1126
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SHEET:

E1.0

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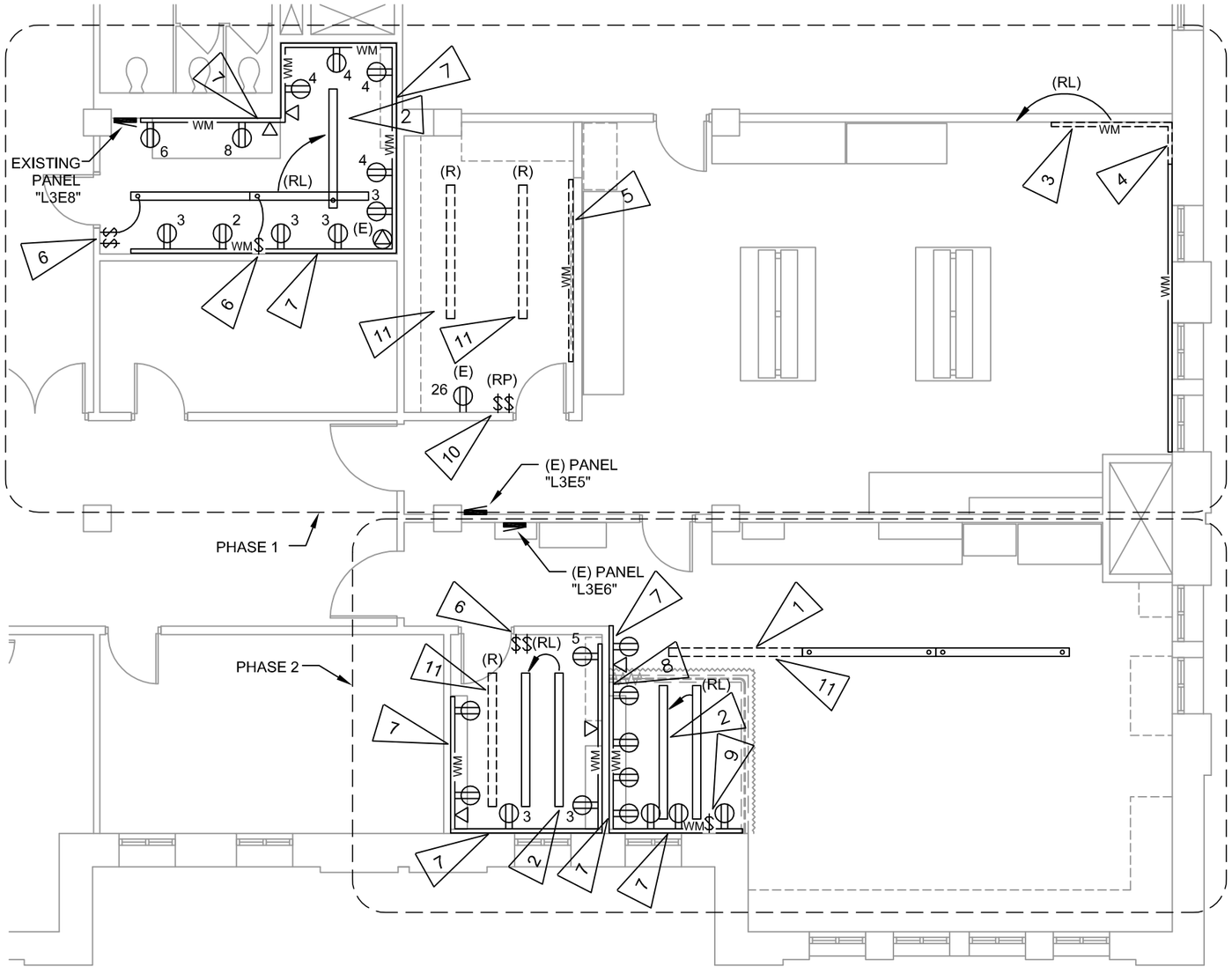

1 E2.0 ELECTRICAL DEMOLITION PLAN

Scale: 1/8"=1'-0"

SHEET NOTES:

1. REMOVE 8' LIGHT FIXTURE SECTION. RELOCATE (1) STEM TO END OF REMAINING ROW.
2. RELOCATE 8' FIXTURE ASSEMBLY. RETROFIT FIXTURE PER LIGHT FIXTURE SCHEDULE.
3. RELOCATE 8' WIREMOLD SECTION TO ACCOMMODATE NEW CABINET LOCATION.
4. REMOVE PORTION OF EXISTING WIREMOLD. PROVIDE (2) 3/4" CONDUIT BETWEEN REMAINING WIREMOLD AND RELOCATED SECTION. SEE POWER AND SIGNAL PLAN.
5. REMOVE EXISTING WIREMOLD.
6. EXISTING LIGHT SWITCHES.
7. EXISTING WIREMOLD TO REMAIN. SEE POWER AND SIGNAL PLAN.
8. REMOVE PORTION OF EXISTING WIREMOLD TO ACCOMMODATE NEW WALL. PROVIDE (2) 1" CONDUIT SLEEVES BETWEEN REMAINING WIREMOLD SECTIONS.
9. REPLACE EXISTING SWITCH WITH NEW 3 WAY SWITCH. SEE LIGHTING PLAN.
10. REPLACE EXISTING SWITCHES AS INDICATED ON LIGHTING PLAN.
11. TURN OVER REMOVED LIGHT FIXTURE TO FACILITIES SERVICES.

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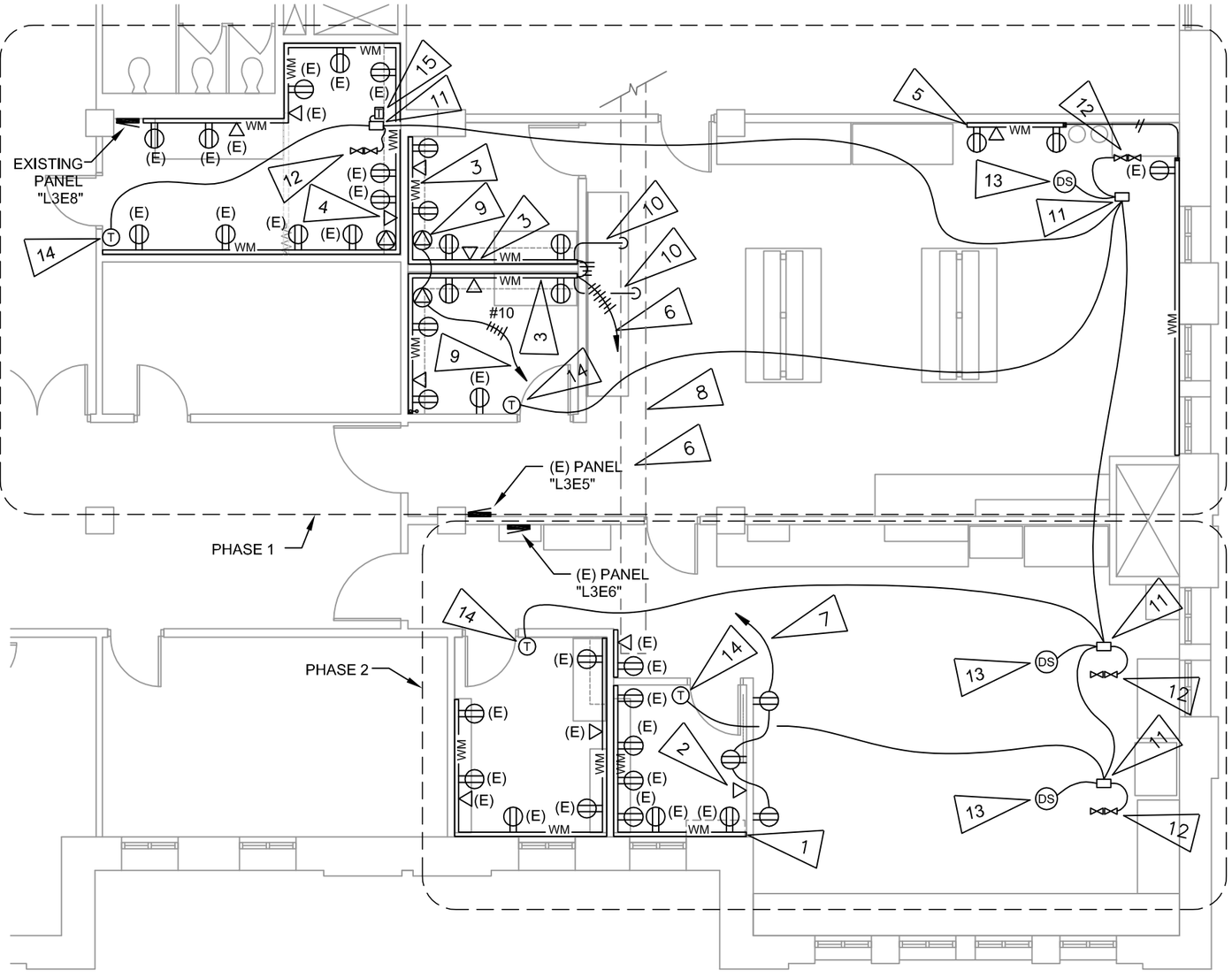

1
2.1

ELECTRICAL POWER & SIGNAL PLAN

Scale: 1/8"=1'-0"

N

SHEET NOTES:

1. SHORTEN EXISTING WIREMOLD AS REQUIRED TO ACCOMMODATE NEW WALL.
2. INSTALL NEW NETWORK FACEPLATE, HOME RUN 3/4" CONDUIT TO OVERHEAD CABLE TRAY.
3. NEW WIREMOLD 4000 RACEWAY ABOVE COUNTER.
4. INSTALL NEW NETWORK FACEPLATE IN EXISTING WIREMOLD 4000 RACEWAY. HOME RUN 3/4" CONDUIT TO OVERHEAD CABLE TRAY.
5. RELOCATE EXISTING WIREMOLD SECTION. SEE DEMOLITION PLAN.
6. NEW HOME RUN TO EXISTING PANEL L3E6. CONNECT TO 4 EXISTING SPARE 20/1 BREAKERS.
7. HOME RUN TO EXISTING PANEL L3E5. CONNECT TO EXISTING SPARE 20/1 BREAKER.
8. EXISTING 18" CABLE TRAY WITH 12" COMMUNICATION SECTION.
9. NEMA 6-30 RECEPTACLE, PROVIDE SEPARATE CIRCUIT TO NEW 30/2 IN PANEL L3E6. TYPICAL OF (2)
10. 1" CONDUIT FROM WIREMOLD 4000 RACEWAY TO COMMUNICATION SECTION OF OVERHEAD CABLE TRAY.
11. PROVIDE 24 VOLT CONNECTION TO SIEMENS CONTROLLER. SEE CONTROL SCHEMATIC SHEET M1.0.
12. RUN BELDEN 82444 CABLE FROM EACH OF (2) CONTROL VALVES TO SIEMENS CONTROLLER IN 3/4" C.
13. RUN BELDEN 82444 CABLE FROM DUCT TEMPERATURE SENSOR TO SIEMENS CONTROLLER IN 3/4" C.
14. THERMOSTAT PROVIDED BY CONTROL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR. RUN THERMOSTAT CABLE, PROVIDED BY CONTROL CONTRACTOR TO SIEMENS CONTROLLER. ROUTE IN 3/4" CONDUIT AND EXISTING CABLE TRAY.
15. PROVIDE 1 KVA 120V:24V CONTROL TRANSFORMER AND EXTEND 12/2 CABLE TO EACH SIEMENS CONTROLLER. CONNECT TO SPARE 20/1 CIRCUIT BREAKER IN PANEL L3E8. ROUTE CONTROL CABLE IN 1/2" CONDUIT AND EXISTING CABLE TRAY WHERE FEASIBLE.

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OREGON SEPT. 21, 1984 JAMES P. KRUMSICK
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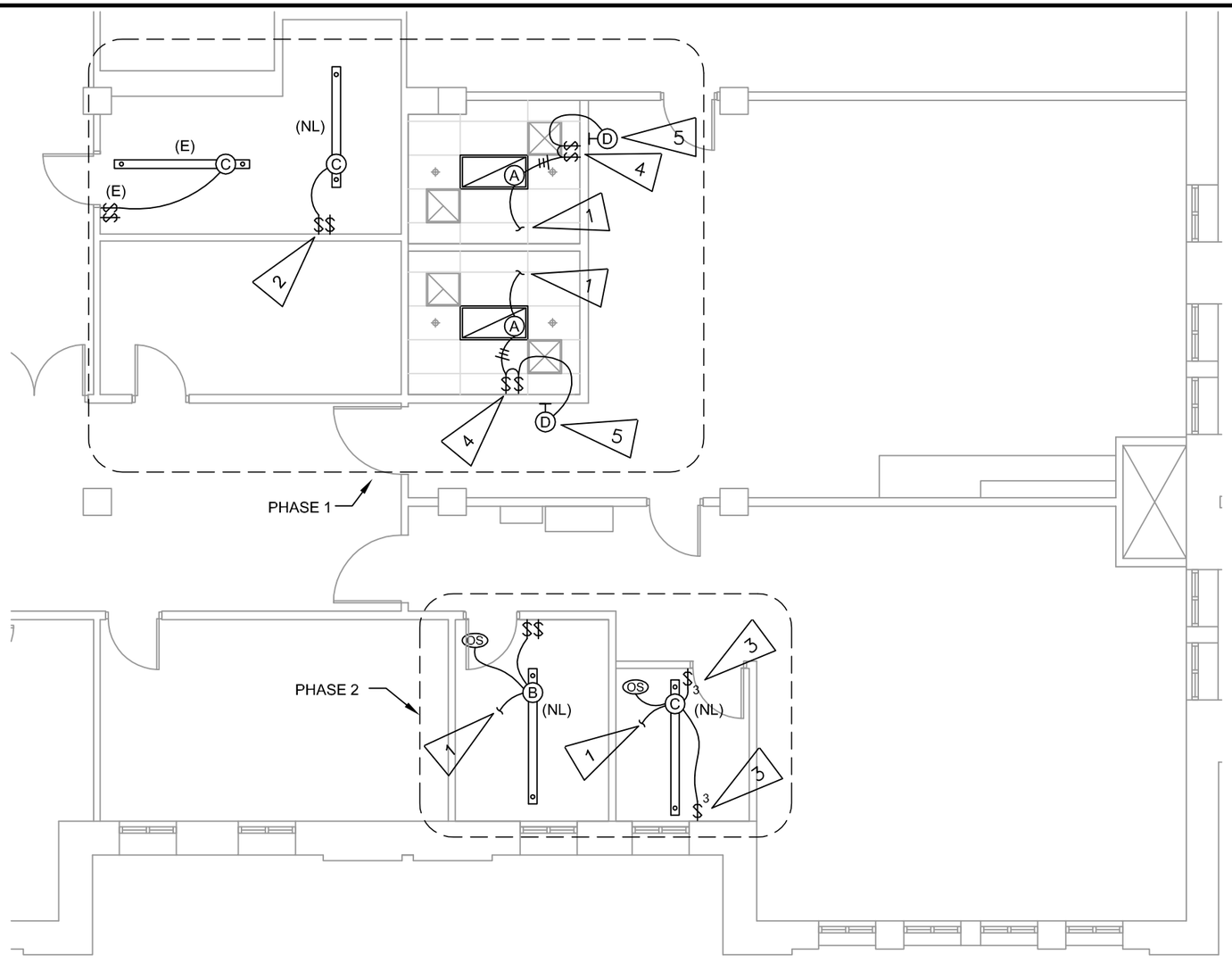
SHEET:

E2.1



1 / 2.2 LIGHTING PLAN

Scale: 1/8"=1'-0"

N

SHEET NOTES:

1. CONNECT TO EXISTING AREA LIGHTING CIRCUIT.
2. ADD SECOND SWITCH ALONG SIDE EXISTING SWITCH. PROVIDE SEPARATE 2 LEVEL LIGHTING CONTROL FOR EACH 8' LIGHT FIXTURE SECTION.
3. REPLACE EXISTING SINGLE POLE SWITCH WITH NEW 3 WAY SWITCH.
4. MOUNT SEPARATE SWITCH FOR ROOM IN USE LIGHT.
5. IN USE LIGHT MOUNTED FLUSH IN WALL ABOVE DOOR.

LUMINAIRE SCHEDULE

FIXTURE	MANUFACTURER (OR APPROVED EQUAL)	DESCRIPTION	CATALOG OR MODEL NUMBER	LAMP(S) NUMBER	VOLTAGE	WATTS	MOUNTING	REMARKS
A	Lithonia Avante Series	Recessed Drop Basket Troffer	2AV G 232 MDR MVOLT GEB10RS	(2) 32W T8	120	59	Rescessed	Programmed Rapid Start Ballast
B	Columbia	Retrofit existing 6" x 8" x 8' Pendant Fixture Assembly 100% Down	RKS 82 54 EP	(2) 54W T5 HO / 4' Section	120	89	Cable Hung to 9'0"	Programmed Rapid Start Ballast Switch each lamp in 4' section separately
C	US Energy Sciences	Retrofit existing 6" x 8" x 8' Pendant Fixture Assembly 100% Down	MIRO4 Low Profile 2 Lamp T8 Retrofit Kit	(2) 32W T8 / 4' Section	120	59	Cable Hung to 9'0"	Programmed Rapid Start Ballast
D	Lasermet	2 State Lab In Use Sign Light	LEDS-LIU-1WY	LED	120	3.6	On Wall above Door	Provide 120:24VDC power supply for both signs

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E2.2