City of Springfield
Public Improvement Project

Invitation to Bid for:

P11004

Springfield Wellness Center

The information provided is an abridged version of the complete Invitation to Bid and is provided for review and informational purposes only. To submit a bid for consideration, a complete set of bid documents is required.

A complete set of bid documents may be viewed or purchased at the address shown below:

City of Springfield
Development and Public Works Department
225 Fifth Street
SE Quad
Springfield, OR 97477

Contact: Terri White at 541-726-3628 or twhite@springfield-or.gov

City of Springfield
Community Development Division

SPECIFICATIONS
for

P11004

Springfield Wellness Center

PRE-BID MEETING		BID OPENING	
Date:	**May 27, 2016**	**Date:**	**June 8, 2016**
Time:	**2:00 pm**	**Time:**	**2:00 pm**
Location:	**City of Springfield**	**Location:**	**City of Springfield**
	City Hall		**City Hall**
	Room: Jesse Maine		**Room: Jesse Maine**
	225 Fifth Street		**225 Fifth Street**
	Springfield, OR 97477		**Springfield, OR 97477**

The deadline for submission of project specific questions prior to bid opening is June 1, 2016 at 1:00 p.m. as specified in Section 3.3 of the Instruction to Bidders.

This Project is funded in full or in part by:

- ☐ State Funds
- ☑ Neither State nor Federal Funds

Please Take Note: All information required must be submitted as directed.

For your Bid to be considered responsive by the City of Springfield you must include all documents included in the Invitation to Bid with your Bid. Additionally, any addendums or revisions must be acknowledged and submitted with your Bid. *The only exception to this is any plans or drawings, which are not required to be submitted as a part of your Bid.*

A complete description of submittal requirements can be found in the Instruction to Bidders document included in this request for bid under the heading; **5. Bid.**

CITY OF SPRINGFIELD, OREGON
Invitation to Bidders

Public Works Improvement Project

Sealed bids will be received at the office of the Finance Director, Robert Duey at the City of Springfield Finance Department, 225 Fifth Street, Springfield, OR 97477, until, but no later than, 2:00 p.m. Local Time, the 8th day of June, 2016 and opened immediately thereafter, for the construction of the following public works improvement project in the City of Springfield:

Project No. P11004 Title: Springfield Wellness Center

Description: The project consists of the construction of interior renovation of approximately 3,000 square feet of existing Springfield City Hall to accommodate a new wellness center. The project is located at 225 5th Street, Springfield, Oregon and includes general construction, carpentry, HVAC, plumbing, electrical, fire suppression, and structural seismic bracing.

Bid documents are available from the Department of Development and Public Works, City of Springfield, 225 Fifth Street, Springfield, OR 97477, for a non-refundable fee of $50.00 and are available for viewing at this location. Bid documents available on line at http://www.springfield-or.gov/DPW/InvitationBid.htm and those on file at plan centers are incomplete and cannot be used to submit bids. The 1994 edition, as most recently amended, of the City's Standard Construction Specifications, with subsequent revisions, are available for a fee of $43.00 or can be viewed on-line at http://www.springfield-or.gov/DPW/StandardConstructionSpecifications.htm.

A pre-bid meeting will be held on May 27, 2016 at 2:00 p.m. in the Jesse Maine meeting room.

All questions and substitution requests should be addressed to Terri White, Management Support Specialist, at 541-726-3628 or twhite@springfield-or.gov. The deadline for submission of questions or substitution requests regarding this Invitation to Bid is June 1, 2016 at 1:00 p.m. Contact with any other City officials may be grounds for disqualification of bid.

The Contractor performing work on this project shall have a current, valid certificate of licensure issued by the Construction Contractor's Board in accordance with ORS 701 and, if performing work described in ORS 671.520, a current, valid certificate of licensure from the State Landscape Contractor's Board in accordance with ORS 671.560 as applicable in place at the time the quote is presented and unless the bid contains a statement by the bidder as part of his/her bid that the provisions required by ORS 279C.838 through ORS 279C.870 shall be included in his/her contract. Contracts will not be awarded to any contractor whose name appears on the BOLI *Ineligible Contractor's List* or the Construction Contractor's Board *Not Qualified to Hold Public Contracts* list.

In accordance with ORS 279C.365, the City of Springfield will require that each bid must contain a statement as to whether the bidder is a resident bidder, as defined in ORS 279A.120.

The City of Springfield encourages contractors, sub-contractors and vendors who are minority, woman-owned and emerging small businesses to participate in City projects.

The City of Springfield may reject any or all bids not in compliance with all prescribed public bidding procedures and requirements, including the requirement to demonstrate the bidder's responsibility under ORS 279C.375, or waive minor irregularities not affecting substantial rights and may reject for good cause any or all bids upon a finding of the City of Springfield it is in the public interest to do so and accept such bids that in the opinion of the Springfield City Council are in the best interest of the City.

Bids will be accepted and awarded in accordance with Oregon Public Contracting Law and the City's most recent version of the Standard Construction Specifications.

Note: If applicable to this project, the First-Tier Subcontractor Form must be completed in full and submitted by the specified deadline or the bid will be rejected.

Robert Duey

ROBERT J. DUEY, Finance Director

Published: Daily Journal 05/23/16
Register Guard Publishing 05/23/16

Solicitation Number 1634

City of Springfield
225 Fifth Street
Springfield, OR 97477

Bid Submittal

Project No. P11004
Project Title: Springfield Wellness Center

We _____ submit a Lump Sum Bid for the construction of the above referenced project in the amount of $_____ _____ The undersigned Bidder agrees to construct a functionally complete project, in accordance with the terms and conditions as specified in the Request for Invitation to Bid documents, and to provide all resources that are required and that may reasonably be inferred to produce the intended result. The Bid amount may only be modified by a Change Order or Contract Amendment.

Terms, Declarations and Bid Submittal

Bidder's Understanding
Bidders shall determine for themselves all the conditions and circumstances affecting the projected cost of the proposed work by personal examination of the site, Contract documents, and by such other means they may deem to be necessary. It is understood and agreed that in the event the City has obtained information from data at hand regarding underground or other conditions or obstructions depicted in the Contract documents, there is no expressed or implied agreement that such conditions are fully or correctly shown, and the Bidder must take into consideration the possibility that conditions affecting the cost or quantity of work may differ from those indicated.

The Bidder is familiar with and is satisfied as to all federal, state and local laws and regulations that may affect cost, progress, and performance of the work.

Bid
The undersigned Bidder having examined the Specifications and Contractual Documents and having satisfied themselves as to all conditions to be encountered, hereby proposes to furnish all labor, material and equipment and perform all work necessary to complete Project No P11004 in accordance with this Bid at the prices and on the terms herein contained. Division 100, General Requirements, of the 1994 Edition of the Standard Construction Specifications of the City of Springfield, Oregon, including all revisions at date of bid opening, any and all reference standards as stipulated in these Special Provisions Section A General Requirements, and Section B Project Manual, Sections 00 00 01 through 28 31 00, and all applicable Building Codes for the City of Springfield shall apply to this Invitation to Bid and the ensuing construction contract except as they may be modified herein. In the case of discrepancy or contradiction the more restrictive provisions shall apply, at the discretion of the City, unless noted otherwise herein.

Bid Guarantee
As required by ORS 279C.365(5) each Bid shall be accompanied by a Bid Bond, cash, or a certified or cashier's check written upon a bank in good standing and in a form acceptable to the City, payable to the Finance Director of the City of Springfield, Oregon, in an amount equal to at least 10 percent of the total amount of the Bid. Bid Bonds shall be issued by a surety company registered to issue bonds in the State of Oregon, and utilizing a bond form acceptable to the City. The City will accept AIA Document A310-2010. The Bid Bond may not be altered.

Such Bid Guarantee shall be forfeited and become the property of the City in case the Bidder shall fail or neglect to furnish a satisfactory Performance and/or Payment Bond issued by a viable bond company acceptable to the City as required by ORS 279C.380 and to execute the Contract within ten (10) days (Saturday, Sunday, and holidays excepted) after receiving Contract from the City for execution. For information regarding Performance and Payment Bond requirements see City of Springfield Contract document, Section 5. City Bonding.

Bid Acceptance Period

This Bid will remain subject to acceptance for a period of 60 days after the bid opening, or for such longer period of time that the Bidder may agree to in writing upon request of the City.

Contract Award

Bids will be accepted and awarded in accordance with Oregon Public Contracting Law and Section 103.01 of the City's most recent version of the Standard Construction Specifications.

Prior to awarding the Contract, the City may, at its sole discretion, require Contractors and/or Subcontractors to demonstrate to the City's satisfaction that they have a complete and clear understanding of all requirements of the Prevailing Wage Rate Laws contained in ORS 279C.800 through 279C.870 and possess the expertise necessary for fulfilling their obligations pertaining to these requirements throughout the administration of the Contract. In determining competency, the City may consider Certified Payroll Reports submitted by the Contractor and/or Subcontractor for projects previously performed for the City, copies of Certified Payroll Reports submitted to other public entities, references from other public entities attesting to the Contractor's expertise, or an interview with the Contractor regarding their personnel resources and expertise or their ability to obtain the resources and expertise necessary to meet all contractual responsibilities in accordance with ORS 279C.375.

Time is of the Essence

Time is of the essence in the Contractor's performance of the Contract. Delays in the Contractor's performance of the work may inconvenience the public, interfere with business and commerce, and increase cost to the City. It is essential and in the public interest that the Contractor prosecute the work vigorously to Contract completion. The City does not waive any rights under the Contract by permitting the Contractor to continue to perform the Contract, or any part of it, after the Contract Time of Completion shown below, or as adjusted by Contract Change Order, has expired.

Liquidated Damages

The City of Springfield and the Contractor agree that; (a) the amounts so fixed are reasonable forecasts of just compensation for the harm that is caused by the breach; (b) the harm that is caused by the breach is one that is incapable of or very difficult of accurate estimation; and, (c) the amount so fixed is not fixed as a penalty to coerce performance of the Contract but is rather intended to be a genuine pre-estimation of injury to the City of Springfield in lieu of performance within the contract time by the Contractor.

a. Delay

It is agreed by the City of Springfield and by the Contractor that the need exists for a damage provision in the event the Contractor fails to complete the work within the Contract time specified, or any extension thereof, by the City of Springfield. The City of Springfield and the Contractor further agree that the Contractor shall be liable to the City of Springfield for fixed, agreed and liquidated damages for each and every calendar day of delay in the amount of $500.00 per day in accordance with Subsection 108.07 of the Standard Construction Specifications.

b. Failure to Report Spills

The Contractor also agrees to liquidated damages in the amount of $500.00 per incident for failure to report sewage spills plus an amount sufficient to reimburse the City for any civil and administrative penalties paid by the City as a result of the Contractor's failure to report. Failure to report sewage spills may subject the City to (1) civil penalties of up to $32,500.00 per day of violation pursuant to Section 309(d) of the Clean Water Act, 33 U.S.C. § 1319(d); (2) administrative penalties of up to $11,000.00 per day for each violation, pursuant to Section 309(g) of the Clean Water Act, 33 U.S.C. § 1319(g); or (3)

civil action in federal court for injunctive relief pursuant to Section 309(b) of the Clean Water Act, 33 U.S.C. § 1319(b).

Contract Time of Completion

The Contractor shall not begin work under this Bid until written Notice to Proceed has been received. The Contractor shall complete the work under this Bid within 90 consecutive working days from the date of actual commencement of work or the date occurring ten days after the date of the Notice to Proceed, whichever occurs first, or such other starting date as is fixed by the Notice to Proceed.

The Contractor shall apply for any extensions of time as specified in Subsection 108.06 of the Standard Construction Specifications.

Certifications

The undersigned hereby certifies that:

1.) If awarded the Contract, that they shall fully comply with all provisions regarding the prevailing wage rates as required by ORS 279C.800 to 279C.870 and/or 40 U.S.C. 2762 as applicable.

2.) The Contractor, Subcontractor, suppliers of materials or services, and others engaged by the Contractors, shall comply at all times with and observe all such laws, ordinances, regulations, orders, and decrees; and shall hold harmless and indemnify the City of Springfield and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree.

3.) The Contractor, Subcontractor or other person doing, or contracting to do, or contracting for the whole or any part of the work on the Contract shall comply with all applicable requirements of Federal and State civil rights and rehabilitation statutes, rules and regulations.

4.) In conformance with OAR 137-049-0440(3) and ORS 279A.110(4) the Contractor has not, and will not, discriminate against a Subcontractor in the awarding of a subcontract because the Subcontractor is a minority, women or emerging small business enterprise certified under ORS 200.055 or a business enterprise that is owned or controlled by or that employs a disabled veteran, as defined in ORS 408.225.

5.) In accordance with ORS 279C.505, the Contractor will;

   a) Make payment promptly, as due, to all persons supplying to the Contractor labor or material for the performance of the work provided for in the Contract.

   b) Promptly pay all contributions or amounts due the State Industrial Accident Fund, or private carrier of accident insurance, from such Contractor or Subcontractor incurred in the performance of the Contract. If a private carrier is used, the Contractor shall notify the Engineer as to the carrier's name and address before commencement of work.

   c) Not permit any lien or claim to be filed or prosecuted against the state or a county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished.

   d) Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.

   e) Have an employee drug testing program in place at the time of signing the contract and will maintain such drug testing program in place over the life of the Contract. Upon request, the Contractor shall furnish a copy of the employee drug testing program to the City.

6.) In accordance with ORS 279C.510, If demolition is involved, the Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective as required by ORS 279C.510(1). If lawn or landscaping maintenance is involved, the Contractor shall compost or mulch yard waste in an approved site, if feasible and cost-effective as required by ORS 279C.510(2).

7.) In accordance with ORS 279C.520, no person will be employed by the Contractor or Subcontractor for more than 10 hours in any one day, or 40 hours in any one week except in cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases the person so employed shall be paid at least time and one-half the regular rate of pay for all times worked in excess of eight hours a day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; or in excess of 10 hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and for all work performed on a Saturday, Sunday and on any legal holiday specified in ORS 279C.540.

8.) In compliance with ORS 279C.525 the Contractor has received and reviewed Federal, State and local agencies that may have enacted ordinances, rules or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of this Contract as identified under Section 13 of the Contract. Accordingly, if the Contractor is delayed or must undertake additional work by reason of ordinances, rules, or regulations relating to the prevention of environmental pollution and the protection of natural resources subsequent to the date of submission or the successful quote, the City may:

a.) Terminate the Contract,

b.) Complete the work itself,

c.) Use non-owner forces already under contract with the City of Springfield,

d.) Solicit bids for a new contractor to provide the necessary services under competitive bid requirements 279C,

e.) Issue the Contractor a change-order setting forth additional work that must be undertaken.

9.) In accordance with ORS 279C.530, the Contractor will;

a.) Promptly, as due, make payments to any person, co-partnership, association or corporation, furnishing medical, surgical, and hospital care or other needed care and attention, incidental to sickness or injury, to the employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor:

1. May or shall have deducted from the wages of his employees for such services pursuant to the terms of Oregon Revised Statutes and any contract entered in pursuant thereto; or

2. Collected or deducted from the wages of his employees pursuant to any law, contract, or agreement for the purpose of providing or paying for such service; and

3. All employers working under the Contract are either employers that will comply with ORS 656.017 or employers that are exempt under ORS 656.126. The Contractor shall ensure that each of its Subcontractors complies with these requirements.

10.) No Contractor, Subcontractor or any firm, corporation, partnership or association in which the Contractor or Subcontractor has a financial interest who appears on the *List of Contractors Ineligible to Receive Public Works Contracts*, as established by the Bureau of Labor and Industries, will perform work under this Contract, as specified in ORS 279C.860.

11.) No Contractor, Subcontractor or any firm, corporation, partnership or association in which the Contractor or Subcontractor has a financial interest who appears on the Construction Contractor's Board *Not Qualified to Hold Public Contracts* list, will perform work under this Contract, as specified in ORS 701.227(4).

12.) The Contractor performing work on this project shall have a current, valid certificate of licensure issued by the Construction Contractor's Board in accordance with ORS 701 and, if performing work described in ORS 671.520, a current, valid certificate of licensure from the State Landscape Contractor's Board in accordance with ORS 671.560 as applicable in place at the time the quote is presented.

13.) Prior to performing any work under the Contract all Subcontractors shall have a current, valid certificate of licensure issued by the Construction Contractor's Board in accordance with ORS 701 and, if performing work described in ORS 671.520, a current, valid certificate of licensure from the State Landscape Contractor's Board in accordance with ORS 671.520 as applicable.

14.) If the Contract specifies that the project includes Asbestos Abatement, the Contractor and all Subcontractors performing work on the project shall be licensed in accordance with ORS 467A.720 prior to performing any work on the project. Certification of compliance shall be presented to the City upon request.

15.) The Contractor shall function as an independent contractor for the purposes of this Contract and shall not be considered an employee of the City of Springfield for any purpose. The Contractor shall assume sole responsibility for any debts or liabilities that may be incurred by the Contractor in fulfilling the terms of this Contract and shall be solely responsible for the payment of all federal, state, and local taxes which may accrue because of this Contract.

Bid Addenda

All Addenda issued are considered to be part of the specifications of the Invitation to Bid and, as such, are as incorporated into the Contract as specified in Section 104.02 of the Standard Construction Specifications.

By signing below, I acknowledge the receipt of the following Addenda documents and certify that the specifications contained in each have been considered and incorporated into the Bid as presented. All Addenda must be included with the Bid submitted.

Addenda Number	Addenda Date

Declarations

As required by ORS 305.385(6), under penalty of perjury, by signing below the Contractor represents that, to the best of their knowledge, neither they nor any applicable Subcontractors performing work under the Contract are in violation of any tax laws as described in ORS 305.380(4) and have complied with the tax laws of this state or a political subdivision thereof including, but not limited to, ORS 305.620 and ORS Chapters 316, 317 and 318. The Contractor shall also covenant to continue to comply with the tax laws of this state or a political subdivision thereof during the term of the Contract and that Contractor's failure to comply with such laws prior to execution of the Contract or during the term thereof is a default for which the City may terminate the Contract and seek damages and other relief available under the terms of the Contract or under applicable law.

The undersigned Bidder declares that the only persons or parties interested in the Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the City, and that the Bid is made without any connection or collusion with any person submitting another Bid on this project.

I have read, fully understand, and agree that as Bidder I, and all Subcontractors, will comply with all of the terms and conditions of the contract for which this Bid is presented. By signing below I attest that I am an officer or a duly authorized representative of the business listed below and that I possess the legal authority to submit this Bid for consideration.

If the Bid is submitted by a joint venture and is in the name of the joint venture, by signing below I certify that all parties have examined this Bid, including all requirements and the Contract terms and conditions and,

if successful, the joint venture shall execute a Contract which incorporates the stated requirements, terms and conditions.

Bidder's Signature _____

Bidder's Name *(Please Print)* _____

Title _____

Business Name _____

Business Address _____

City _____ State _____ Zip _____

Phone Number _____ Cell Phone _____

E-mail Address _____ Fax Number _____

Date _____

PREVAILING WAGE RATE INFORMATION

Prevailing Wage Rates information can be found at the following website:

http://www.oregon.gov/boli/WHD/PWR/Pages/PWR_Rate_Publications_2016.aspx

For the proper Prevailing Wage Rates applicable to this project please refer to the following publications:

1.) *Prevailing Wage Rate Publication; Prevailing Wage Rates for Public Works Contracts in Oregon with an effective date of January 1, 2016.*

2.) *Prevailing Wage Rate Publication; Prevailing Wage Rates State Apprenticeship Rates with an effective date of January 1, 2016.*

3.) *The following Amendments to the Prevailing Wage Rates apply;*

   a.) *April 1, 2016 Prevailing Wage Rate Amendments*
   b.) *April 1, 2016 PWR Apprenticeship Rates*

CITY OF SPRINGFIELD

Special Provisions

for

P11004

Springfield Wellness Center

Engineering Concurrence

The City Engineer for the City of Springfield concurs with the preparation of the plans and specifications, and further concurs with advertising this project for bids.

Jeffrey A. Paschall, P.E. — Date 5/20/16

SPECIAL PROVISIONS

SECTION A – General Requirements

P11004 - Springfield Wellness Center

These Special Provisions supplement and amplify certain sections of the City of Springfield, Oregon, Standard Construction Specifications. These Special Provisions and additional technical specifications may contain occasional requirements not pertinent to the project. However, these specifications shall apply in all particulars insofar as they are applicable to this project.

Applicable Standards and Specifications

Division 100, General Requirements, of the 1994 Edition of the Standard Construction Specifications of the City of Springfield, Oregon, including all revisions at date of bid opening, any and all reference standards as stipulated in these Special Provisions Section A General Requirements, and Section B Project Manual, Sections 00 00 01 through 28 31 00, and all applicable Building Codes for the City of Springfield shall apply to this Invitation to Bid and the ensuing construction contract except as they may be modified herein. In the case of discrepancy or contradiction the more restrictive provisions shall apply, at the discretion of the City, unless noted otherwise herein.

A 1.1 Project Description

The project consists of the construction of interior renovation of approximately 3,000 square feet of existing Springfield City Hall to accommodate a new wellness center. The project is located at 225 5th Street, Springfield, Oregon and includes general construction, carpentry, HVAC, plumbing, electrical, fire suppression and structural seismic bracing.

A1.2 Codes and Standards

All work shall be performed in accordance with the highest standard of practice in the industry and shall be furnished in conformance with all applicable codes, statutes or standards that apply to this work including, but not limited to, any applicable Federal, State or City of Springfield Codes, Standards and Ordinances.

A1.3 Pre-qualification of Prospective Contractors

REPLACE SECTION 102.01 "PRE-QUALIFICATION OF BIDDERS" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"If pre-qualification is required for any improvement project bid, the requirements for pre-qualification will be specified in the Invitation to Bid. Attention of Bidders is called to the requirements of Oregon Revised States Chapter 279 relating to pre-qualification of bidders on Public Contracts and to the requirements of the City of Springfield City Code Chapter 1-14-7. "

INSERT IN ITS PLACE THE FOLLOWING:

"If pre-qualification is required for any public improvement project bid, the requirements for pre-qualification will be specified in the Invitation to Bid."

A1.4 Form of Proposal

REPLACE SECTION 102.02 "FORM OF PROPOSAL" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"The Proposal and the proposal guarantee in the form of a bid bond, certified check, or cashier's check, shall be enclosed in a sealed, labeled and addressed envelope, as required in the Instructions to Bidders and filed as required therein. The outside of the envelope shall plainly identify: (1) The project name and (2) The bid opening date.

All Proposals must be clearly and distinctly typed or written with ink or indelible pencil.

All Proposals shall be on the form furnished by Owner, and in addition to necessary unit price items and total prices in the column of totals to make a complete Bid, all applicable blanks giving general information must be filled in and the Bids signed by an officer or duly authorized representative of the Bidder. Any statement accompanying and tending to qualify a Bid may cause rejection of such Bid, unless such statement is required, in a Proposal embracing alternate Bids. All bid documents except plans must be returned with the Bid.

Unless otherwise specified, Bidders shall bid on all Bid items included in the Proposal, and the low Bidder shall be determined as noted in Subsection 103.01 AWARD OF CONTRACT. Except as provided herein Proposals which are incomplete or fail to comply to all items required in the Proposal may be rejected."

INSERT IN ITS PLACE THE FOLLOWING:

"ALL BID DOCUMENTS, EXCEPT PLANS, MUST BE RETURNED WITH THE BID. This includes all documents contained in the original bid book, whether they require the completion of information or not, and any addendum that may be issued pertaining to the bid in question. The only exceptions to this are any plans or drawings, which are not required to be submitted as a part of your Bid.

The Bid Submittal, Bid Bond, Certified Check, or Cashier's Check shall be enclosed in a sealed and labeled envelope. The outside of the envelope shall plainly identify: (1) The project name and project number and (2) The Bid opening date. All Bids must be clearly and distinctly typed or written with ink or indelible pencil. Unless otherwise specified, Bidders shall bid on all Bid items, and must include in their Bid prices the entire cost of each item of work set forth in the Bid.

Sealed Bids shall be addressed to and received at the Office of the Finance Director, City Hall, 225 Fifth St. Springfield, Oregon, 97477 at, or before, the time and date noted on the Invitation to Bidders, after which time the Bids will be publicly opened and read aloud.

All Bids shall be on the form furnished by the City, and in addition to necessary unit price items and total prices in the column of totals to make a complete Bid, all applicable blanks giving general information must be filled in and the Bids signed by an officer or duly authorized representative of the Bidder. The only exceptions to this requirement are the Performance Bond, Payment Bond, Statutory Public Works Bond and the Contract documents which are provided here as a reference. However, if you are awarded the Bid, you will be required to submit fully executed copies of these documents upon request. Any statement accompanying and tending to qualify a Bid may cause rejection of such Bid, unless such statement is required in a Bid embracing alternate Bids.

If, in the opinion of the City, the items or prices in any Bid appear unbalanced, incomplete, or fail to comply with all the terms required, the Bid may be rejected."

A1.5 Proposal Guaranty and Organization

REPLACE SECTION 102.05 "PROPOSAL GUARANTY AND ORGANIZATION" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Each Bid must be accompanied by a Bid Bond, cash or a certified or cashier's check upon a bank in good standing, payable to the Finance Director of the City of Springfield, Oregon, in an amount equal to at least 10% of the total amount of the bid. Such Proposal guaranty shall be forfeited and become the property of the City in case the Bidder shall fail or neglect to furnish a satisfactory Performance Bond and Payment Bond and to execute the Contract within 10 days (Saturday, Sunday and holidays excepted) after receiving said Contract from the City for execution. Bid bonds submitted shall be on the form provided by the City in the Bid document."

INSERT IN ITS PLACE THE FOLLOWING:

"As required by ORS 279C.365(4) each Bid shall be accompanied by a Bid Bond, cash, or a certified or cashier's check written upon a bank in good standing and in a form acceptable to the City, payable to the Finance Director of the City of Springfield, Oregon, in an amount equal to at least 10 percent of the total amount of the Bid. Bid Bonds shall be issued by a surety company registered to issue bonds in the State of Oregon, and utilizing a bond form acceptable to the City. The City will accept AIA Document A310-2010 Bid Bond (sample form enclosed). The Bid Bond may not be altered.

Such Bid Guarantee shall be forfeited and become the property of the City in case the Bidder shall fail or neglect to furnish a satisfactory Performance and/or Payment Bond issued by a viable bond company acceptable to the City as required by ORS 279C.380 and to execute the Contract within ten (10) days (Saturday, Sunday, and holidays excepted) after receiving Contract from the City for execution. For information regarding Performance and Payment Bond requirements see City of Springfield Contract document, Section 5. City Bonding."

A1.6 Interpretation of Contract Documents

REPLACE SECTION 102.07 "INTERPRETATION OF CONTRACT DOCUMENTS" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"If it should appear to a Bidder that the work to be done, or matters relative thereto, is not sufficiently described or explained in the Contract Documents, or that Contract Documents are not definite and clear, the Bidder may make written inquiry regarding same to the Engineer at least 5 days before the scheduled closing time for filing Bids. Requests to clarify the source of materials, equipment suppliers, or any other such matter which does not modify, change, increase, or decrease the scope of the work require no action by the Owner other than a response to the Bidder requesting the clarification. Clarifications which modify, change, increase, or decrease the scope of work, require issuance of an Addendum by the Owner for the interpretation to become effective. Such addenda will be mailed to all holders of the Contract Documents. Oral instruction or information concerning the Contract Documents or the project given out by officers, employees, or agents of the Owner to prospective Bidders shall not bind the Owner. "

INSERT IN ITS PLACE THE FOLLOWING:

"If it should appear to a Bidder that the work to be done is not sufficiently described or explained in the Contract Documents, or that Contract Documents are not definite and clear, the Bidder shall make written inquiry regarding same to the individual shown, in the manner instructed and within the timeframe indicated in the Invitation to Bid advertisement. Questions received will be evaluated and if, in the judgment of the City, the response does not alter or amend the

requirements or scope of the Invitation to Bid, but merely clarifies existing information, the response will be entered on the Clarifications Log and posted to the project webpage as shown in the Invitation to Bid. If, in the judgment of the City, additional information or interpretation is necessary, such information shall be supplied in the form of an addendum to all individuals, firms, and corporations listed on the Plan Holders List and those individuals that attended the Pre-Bid Meeting and provided contact information on the sign-in sheet. Such addenda shall have the same binding effect as though contained in the main body of the Contract Documents. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City."

A1.7 Addenda to Contract Documents

REPLACE SECTION 102.08 "ADDENDA TO CONTRACT DOCUMENTS" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Any addenda issued by the Owner, which may include changes, corrections, additions, interpretations, or information, and issued 48 hours or more before the scheduled closing time for filing the Bids, Saturday, Sunday and legal holidays not included, shall be binding upon the Bidder. Owner shall supply copies of such addenda to all Contractors who have obtained copies of the Contract Documents for the purposes of bidding thereon. Failure of the Contractor to receive or obtain such addenda shall not excuse him from compliance therewith, if he is awarded the Contract."

INSERT IN ITS PLACE THE FOLLOWING:

"Any addenda issued by the City, which may include changes, corrections, additions, interpretations, or information issued 72 hours or more before the scheduled closing time for filing the Bids shall be binding upon the Bidder. Addenda will be posted to the City's website at www.springfield-or.gov/DPW/InvitationBid.htm. The Contractor should check the website frequently for new postings during the open quote period. The City shall make a reasonable effort to notify all individuals, firms, and corporations listed on the Plan Holders List and those individuals that attended the Pre-Bid Meeting and provided contact information on the sign-in sheet when addenda are issued. Failure of the Contractor to receive or obtain such addenda shall not excuse them from compliance, if they are awarded the Contract."

A1.8 Familiarity With Laws and Ordinances

REPLACE THE 3RD PARAGRAPH OF SECTION 102.09 "FAMILIARITY WITH LAWS AND ORDINANCES" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"In compliance with ORS 279.318 the Contractor is made award that the following Federal, State, and local agencies have enacted ordinances or regulations relating to the prevention of environmental pollution or the preservation of natural resources which may affect performance of the City of Springfield contracts.

FEDERAL AGENCIES	STATE AGENCIES
Department of Agriculture	Department of Agriculture
Forest Service	Department of Energy
Soil Conservation Service	Dept. of Environmental Quality
Department of the Army-Corp of Engineers	Dept. of Fish & Wildlife
Coast Guard	Dept. of Forestry
Dept. of Health & Human Services	Dept. of Geology & Minerals
Dept. of Interior-of Indian Affairs	Dept. of Human Resources
Bureau of Land Management	Land Conservation and Development Bureau Commission
Bureau of Outdoor Recreation	Division of State Lands
Fish and Wildlife Service	State Soil and Water Conservation Commission

Office of Surface Mining
Reclamation & Enforcement
Department of Labor
Occupational Safety & Health Administration
Mine Safety & Health Admin.
Department of Transportation
Federal Highway Admin.
Environmental Protection Agency

Water Resources Department

LOCAL AGENCIES

Common Council, City of Springfield
County Court, Lane County
Planning Commission, City of Springfield
Planning Commission, Lane County
Lane Regional Air Pollution Authority
Springfield Utility Board

INSERT IN ITS PLACE THE FOLLOWING:

"In compliance with ORS 279C.525, the Contractor is made aware that the following federal, state, and local agencies have enacted ordinances or regulations relating to the prevention of environmental pollution or the preservation of natural resources which may affect performance of City of Springfield contracts. This is not intended to be a complete listing of agencies. Other agencies may have enacted ordinances or regulations that may apply.

If the Contractor is delayed or must undertake additional work by reason of existing ordinances, rules or regulations of agencies not cited in the Contract or due to the enactment of new or the amendment of existing statutes, ordinances, rules or regulations relating to the prevention of environmental pollution and the preservation of natural resources occurring after the submission of the successful quote, the contracting agency may, at its discretion, terminate the Contract, complete the work itself; use non-agency forces already under contract with the City, require that the underlying property owner be responsible for cleanup, solicit quotes for a new contractor to provide the necessary services or issue the Contractor a change order setting forth the additional work that must be undertaken.

If the Contractor encounters a condition not referred to in the Request for Competitive Price Quote documents, not caused by the Contractor or any Subcontractor employed on the project and not discoverable by a reasonable pre-bid visual site inspection, and the condition requires compliance with the ordinances, rules or regulations referred to under this regulation, the Contractor shall immediately notify the City of the condition.

FEDERAL AGENCIES

Department of Agriculture
Forest Service
Soil Conservation Service
Department of the Army Corps of Engineers
Coast Guard
Department of Health and Human Services
Department of the of Interior
Bureau of Indian Affairs
Bureau of Land Management
Bureau of Outdoor Recreation
Department of Commerce

Fish and Wildlife Service
Office of Surface Mining
Reclamation and Enforcement
Bureau of Reclamation
Department of Labor
Occupational Safety and Health Administration
Mine Safety and Health Admin
Department of Transportation
Federal Highway Administration
Environmental Protection Agency

STATE AGENCIES

Department of Agriculture
Department of Energy
Department of Environmental Quality
Department of Fish and Wildlife
Department of Forestry
Department of Geology and Minerals

Department of Human Resources
Land Conservation and Development Commission
Division of State Lands
State Soil and Water Conservation Commission
Water Resources Department
Oregon Department of Transportation

LOCAL AGENCIES

City of Springfield
Planning Commission, City of Springfield
Springfield Development and Public Works
Metropolitan Wastewater Management Commission
Springfield Utility Board

Lane County
Planning Commission, Lane County
Willamalane
Lane Regional Air Protection Authority
Lane Council of Governments

A1.9 Award of Contract

ADD THE FOLLOWING PARAGRAPH TO SECTION 103.01 "AWARD OF CONTRACT" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Prior to awarding the Contract, the City may, at its sole discretion, require Contractors and/or Subcontractors to demonstrate to the City's satisfaction that they have a complete and clear understanding of all requirements of the Prevailing Wage Rate Laws contained in ORS 279C.800 through 279C.870 and possess the expertise necessary for fulfilling their obligations pertaining to these requirements throughout the administration of the Contract. In determining competency, the City may consider Certified Payroll Reports submitted by the Contractor and/or Subcontractor for projects previously performed for the City, copies of Certified Payroll Reports submitted to other public entities, references from other public entities attesting to the Contractor's expertise, or an interview with the Contractor regarding their personnel resources and expertise or their ability to obtain the resources and expertise necessary to meet all contractual responsibilities in accordance with ORS 279C.375."

A1.10 Insurance

REPLACE SECTION 107.06 "INSURANCE" OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"The Contractor shall provide and maintain general liability, auto liability, property, and workers' compensation insurance for life of this Contract.

General Liability Insurance
The Contractor shall maintain an ISO Commercial General Liability insurance policy (or an equivalent policy approved by Owner) with combined single limits of at least $1,000,000 per occurrence for bodily injury, personal injury, and property damage and an aggregate limit of a least $2,000,000. The policy shall include coverage for contractual liabilities.

Comprehensive Automobile Liability Insurance
The Contractor shall maintain an automobile liability insurance policy with combined single limits of at least $1,000,000 per occurrence for bodily injury, personal injury, and property damage.

Additional Insured Endorsement
The general and automobile insurance policies specified above shall include endorsements naming as an additional insured "the City of Springfield, its agents, employees and officials all while acting within their official capacity as such."

Property Insurance
Depending on the nature of the construction contemplated under this contract, Owner may require Contractor to provide property insurance. Refer to Special Provisions section of this Contract.

Workers' Compensation Insurance
Contractor, its subcontractors, if any, and all employers working under this agreement are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage for all their subject workers.

Contractor is responsible for maintaining workers' compensation insurance for his employees and assuring that his subcontractors, if any, also maintain workers' compensation insurance. Contractor shall defend, indemnify, and hold Owner harmless from any liability for any workers' compensation claims costs, fines, or costs whatsoever arising from Contractor's or his subcontractors' failure to comply with ORS 656.017.

Additional Policies and Special Coverages
Refer to the Special Provisions section of this Contract for additional coverages that may be required.

Certificates of Insurance
Certificates of insurance evidencing all policies required by this Contract shall be delivered to the Owner prior to the commencement of any work. All certificates shall include a 30-day notice of cancellation clause and required additional insured endorsements. The Owner has the right to reject any certificate for unacceptable coverage and/or companies."

INSERT IN ITS PLACE THE FOLLOWING:

"INSURANCE

All insurance shall be approved by the City as to terms, conditions and form prior to beginning work.

Public Liability and Property Damage

The Contractor shall maintain in force for the duration of this Contract a Commercial General Liability insurance policy written on an occurrence basis with limits not less than $2,000,000 per occurrence and $3,000,000 in the aggregate. The policy will be endorsed with a "per project" aggregate endorsement and shall include Products and Completed Operations coverage. Automobile Liability (owned, non-owned, and hired) insurance with limits not less than $1,000,000 per occurrence shall be maintained. The City, its employees, officials and agents will be named as Additional Insured's where operations are being conducted related to this Contract on the General and Automobile Liability policies as respects to work or services performed under this agreement to the extent that the death or bodily injury to persons or damage to property arises out of the fault of the Contractor or the fault of the Contractor's agents, representatives or subcontractors. The following statement will appear on the face of the certificate; "The City, its employees, officials and agents are all named as additional insured while acting in their capacity as such." The City's additional insured status for Products and Completed Operations hazards shall extend for at least one year beyond the City's acceptance of the project. This insurance shall be primary and shall be paid and applied first in its entirety prior to any application of insurance the City may carry on its own.

Workers' Compensation

The Contractor shall provide and maintain Workers' Compensation coverage with limits no less than $500,000 for it employees, officers, agents, or partners, as required by applicable Workers' Compensation laws. If the Contractor is exempt from this coverage a written statement, signed by the Contractor, explaining the reason for the exemption will be provided to the City prior to commencement of any work.
Course of Construction and/or Installation Floater

The Contractor shall maintain in full force for the duration of this contract an All Risk insurance policy approved by the City as to terms, conditions and form covering the replacement cost of the work during the course of construction. The policy shall include the interests of the City and

Architect/Engineer, as applicable, and the first two layers of Subcontractors. The amount of insurance shall equal the completed value of the Contract. The City, at its option, may elect to supply this coverage.

Asbestos Abatement (only applicable to Asbestos Specific Contracts)

If applicable to this Contract, the Contractor shall maintain in full force a Commercial General Liability policy approved by the City as to terms, conditions and form that is Asbestos Specific with a minimum limit of $2,000,000 per occurrence and $3,000,000 in the aggregate written on a form that meets the following criteria:

a. A full occurrence form, or
b. A limited occurrence form with at least a three-year (3) tail, or
c. A claims made form with a three-year (3) tail.

Pollution Liability Coverage (only applicable to Pollution Specific Contracts)

If applicable to this Contract, the Contractor shall maintain in full force a Commercial General Liability policy approved by the City as to terms, conditions and form that is Pollution Specific with a minimum limit of $2,000,000 per occurrence and $3,000,000 in the aggregate written on a form that meets the following criteria:

a. A full occurrence form, or
b. A limited occurrence form with at least a three-year (3) tail, or
c. A claims made form with a three-year (3) tail.

Professional Liability Coverage (only applicable to Contracts if specified)

If Professional Liability insurance is required, the City must approve the terms, conditions and limits prior to commencement of any work.

Additional Policies and Special Coverages

Refer to the Special Provisions section of this Contract for additional coverages that may be required.

Railroad Protective Liability Coverage

If work being performed under this Contract is near railroad tracks or a railroad right of way and the Railroad requires special insurance (for example: Railroad Protective Liability Coverage) Contractor will be responsible for meeting the Railroad insurance requirements before any work commences. Any insurance required to be purchased by the Railroad is in addition to the insurance required by the City.

Subcontractors

The Contractor shall require all Subcontractors to provide and maintain General Liability, Auto Liability and Workers' Compensation insurance and, as applicable, Professional, Asbestos and Pollution Liability with coverage's equivalent to those required of the General Contractor in this Contract. The Contractor shall require certificates of insurance from all Subcontractors as evidence of coverage.

Additional Insured Endorsement

All certificates of insurance, with the exception of Professional Liability and Railroad Protective Liability, must include an endorsement which lists the City of Springfield as a named additional insured. The following statement will appear on the face of the certificate; "The City, its employees, officials and agents are all named as additional insured while acting in their capacity as such."

Evidence of Coverage and Notice of Cancellation or Material Change in Coverage

Evidence of the required coverages issued by a company satisfactory of the City shall be provided to the City by way of a certificate of insurance before any work or services commence. A 30-day notice of cancellation or material change in coverage clause shall be included.

If the approved insurance company will not provide this 30 day notice, it shall be the responsibility of the Contractor to provide written notice to the City within two (2) days of the Contractor becoming aware that their coverage has been cancelled or materially changed. The Contractor shall e-mail notification directly to Bob Duey, Finance Director at rduey@springfield-or.gov. Regardless of the circumstances causing the Contractor's insurance coverage to cease or be modified, it is the Contractor's responsibility to notify the City as described above.

Failure to maintain the proper insurance or provide notice of cancellation or material change shall, at the City's option, be grounds for immediate termination of this Contract.

_____
(Contractor initials)

Equipment and Material

The Contractor shall be responsible for any loss, damage, or destruction of its own property, equipment, and materials used in conjunction with the work."

A1.11 Submission of Certified Payroll

REPLACE THE 2ND PARAGRAPH OF SECTION 109.07 OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Once before the first payment and each time the prevailing wage rates change, and once before final payment is made, Contractor shall supply and file with Owner a statement in writing under oath, in form prescribed by the State Labor Commission and which conforms with ORS Chapter 279, certifying the hourly rate of wages paid each classification of workman not exempt by statute who is employed upon such project and further certifying that no workman employed has been paid less than minimum prevailing wage rate. Each Subcontractor who performed work on the project during the period covered by the payment may be required to file with Owner a similar statement which covers its workmen."

INSERT IN ITS PLACE THE FOLLOWING:

"It shall be the responsibility of the Contractor and any subcontractors to submit certified payroll statements to the City as to the wage rates paid to each worker as follows:

As specified in ORS 279C.845, the Contractor or the Contractor's surety and every Subcontractor or the Subcontractor's surety shall file certified statements with the public agency in writing, on a form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker whom the Contractor or the Subcontractor has employed upon the public works, and further certifying that no worker employed upon the public works has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified

in the Contract. The certificate and certified statement shall be verified by the oath of the Contractor or the Contractor's surety or Subcontractor or the Subcontractor's surety that the Contractor or Subcontractor has read the certified statement and certificate and knows the contents thereof and that the same is true to the Contractor or Subcontractor's knowledge. Certified statements (also referred to as certified payroll reports) shall be submitted to the City no later than the 5th day of the following month for which the certified statement and certificate are being presented, regardless of whether any actual work is performed on the project or not. This information must be submitted to the City and also retained by the Contractor and Subcontractor(s) for three years.

Contracting agencies and general contractors are required to withhold 25% of amounts to Contractors if certified payrolls are not filed by the Contractor as required for work performed on projects subject to the prevailing wage rate law. Failure of Contractors to comply with the certified payroll filing requirements of the law, therefore, will result in a negative fiscal impact to those Contractors of up to 25% of their amount owed.

Each worker employed in the performance of this Contract, either by the Contractor or Subcontractor or other person doing or contracting to do or contracting for the whole or any part of the work of the contract, must be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and 279C.840."

A1.12 Schedule of Values

ADD THE FOLLOWING LANGUAGE TO THE 4TH PARAGRAPH OF SECTION 109.07 OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Within five days of receiving the fully executed Contract the Contractor shall submit a Schedule of Values in duplicate utilizing the AIA G703-1992 form, Continuation Sheet. A revised Schedule of Values shall be submitted with each submittal of AIA G702 form, Application and Certificate for Payment.

When formatting the Continuation Sheet the Contractor shall utilize the Project Manual Table of Contents provided in Special Provisions Section B – Project Manual. Identify each line item with the number and title of the Specification Section. Site mobilization shall also be identified. Include in each line item the amount of Allowances specified in this Section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item. Include a direct proportional amount of Contractor's overhead and profit separately from each line item. Revise Schedule of Values to list approved Change Orders with each submission. The Schedule of Values shall be used as the basis for determining each progress payment."

A1.13 Progress Payment

REPLACE THE 6TH PARAGRAPH OF SECTION 109.07 OF THE STANDARD CONSTRUCTION SPECIFICATIONS:

"Progress payment will be made by the Owner on a monthly basis no later than the 20th day of the subsequent month of work performed, except that, additional days may be required when a payment is accompanied by one or more of the following: an extension of completion time, change order or extra bill. Payment may be made via use of checks or warrants at the option of the Owner for the amount of the approved estimate, less retainage."

INSERT IN ITS PLACE THE FOLLOWING:

"Progress payment will be made by the City on a monthly basis in the month subsequent to the work being performed, except that additional days may be required when the Contractor fails to submit complete and accurate certified payroll reports which are in compliance with ORS279C.845 when due, or a payment is accompanied by one or more of the following: an extension of completion time, change order or bill. If the Contractor fails to submit acceptable certified payroll reports when due, or one or more of the previously stated exceptions apply, the progress payment may be made up to fourteen (14) days after the date the certified payroll or other required information in question is received by the City.

The scheduled release of payment will depend upon the method of payment selected by the Contractor. If the Contractor elects to receive payment by check, payment will be released no later than the 20th day of the month. If the Contractor elects to receive payment by electronic Automated Clearing House (ACH) transfer, the funds will be transferred no later than the fourth Friday of the month. City will endeavor to honor Contractor's election to receive payment by ACH transfer, however, City reserves the right to make payment via use of check at the sole discretion of the City.

Contractor shall submit progress payment applications utilizing AIA document G702-1992, Application and Certificate for Payment no later than the 5th of each month subsequent to the work being performed."

A1.14 Oregon Products

Contractor's attention is directed to the provisions of Oregon Law, ORS 279A.120 regarding the preference for products that have been manufactured or produced in Oregon. Contractor shall use Oregon-produced or manufactured materials with respect to common building materials such as cement, sand, crushed rock, gravel, plaster, etc., and Oregon-manufactured products in all cases where price, fitness, availability and quality are otherwise equal.

A1.15 Salvage and Debris

Unless otherwise indicated on the drawings or in the specifications, all castings, pipe, equipment, demolition debris, fences, trees, shrubs, spoil or any other discarded material or equipment shall become the property of the Contractor and shall be salvaged or disposed of in a manner compliant with applicable Federal, State and local laws and regulations governing disposal of such waste products. No burning of debris or any other discarded material will be permitted. The Contractor shall perform any demolition for the completion of this project and shall salvage and recycle all construction and demolition debris as is feasible and cost effective, in accordance with ORS 279C.510.

A1.16 Brand Name or Equal Specification

Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Engineer, pursuant to Subsection 106.07. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification.

END OF SECTION

SPECIAL PROVISIONS, SECTION B, PROJECT MANUAL FOR:

P11004 - SPRINGFIELD WELLNESS CENTER
SPRINGFIELD CITY HALL

CITY OF SPRINGFIELD
SPRINGFIELD, OREGON

1 February 2016

Robertson | Sherwood | Architects PC

P1100

PROJECT TITLE PAGE

PROJECT TITLE:

SPRINGFIELD WELLNESS CENTER – P11004

225 5th Street

Springfield, Oregon 97477

OWNER:

CITY OF SPRINGFIELD

225 5th Street

Springfield, Oregon 97477

Tel (541) 726-3652

Contact: Jim Polston, Project Manager

ARCHITECTS:

ROBERTSON/SHERWOOD/ARCHITECTS PC

132 East Broadway - Suite 540

Eugene, Oregon 97401

Tel (541) 342-8077

Contact: Carl Sherwood, AIA

MECHANICAL ENGINEERS:

MOULDS MECHANICAL ENGINEERING

2190 W 11th Ave, Suite 224

Eugene, Oregon 97402

Tel (541) 484-0241

Contact: Chris Moulds, PE

ELECTRICAL ENGINEERS:

JLG ENGINEERING

3190 Owl Road

Eugene, Oregon

Tel (541) 912-0065

Contact: Jeff Graper, PE

DATE:

1 FEBRUARY 2016

END OF PROJECT TITLE PAGE

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END OF SECTION

SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Springfield Wellness Center.

B. Project Number: P11004.

C. Owner's Name: City of Springfield.

D. Architect's Name: Robertson Sherwood Architects, pc.

E. The Project consists of the construction of interior renovation of approximately 3,000 SF of existing Springfield City Hall to accommodate a new wellness center. The project is located at 225 5th Street, Springfield, Oregon and includes general construction, carpentry,HVAC, plumbing, electrical, fire suppression and structural seismic bracing. The Owner will be responsible for the cost of obtaining permits associated with this project.

1.02 DESCRIPTION OF RENOVATION WORK

A. Scope of demolition work is shown on drawings and specified in Section 02 41 00.

B. Scope of alterations work is shown on drawings.

C. Structural Seismic Bracing work is shown in drawings.

D. Plumbing: Alter existing system and add new construction, keeping existing in operation.

E. HVAC: Alter existing system and add new construction, keeping existing in operation.

F. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

G. Fire Suppression Sprinklers: Alter existing system and add new construction, keeping existing in operation.

H. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.

I. Contractor shall remove and store the following prior to start of work, for later reinstallation by Contractor:
   1. Doors, frames and hardware as indicated on Drawings.
   2. Casework as indicated on Drawings.
   3. Acoustical ceiling tile.

1.03 WORK BY OWNER

A. Owner will supply the following for installation by Contractor (OFCI):
   1. Toilet accessories as specified in Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.04 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the Project area upon Substantial Completion.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Arrange use of site and premises with Owner's Project Manager to allow:
   1. Owner occupancy.
   2. Use of site and premises by the public.

B. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

C. Existing building spaces may not be used for storage.

D. Time Restrictions:
   1. New Water Line Installation: New water lines will be routed over existing occupied conference and offices areas. Work in these areas to be completed from 6:00 PM to 7:00 AM week days or on weekends to avoid conflicts with existing Owner operations.

END OF SECTION

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Progress meetings.

C. Construction progress schedule.

D. Submittals for review, information, and project closeout.

E. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

B. Section 01 78 00 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Project Coordinator: Owner's Project Manager.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for project area access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice to Proceed has been issued.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Submission of list of Subcontractors, list of Products, Schedule of Values, and progress schedule.
   2. Designation of personnel representing the parties to Contract and Architect.
   3. Procedures and processing of field decisions, submittals, substitutions, Application for Payment, Schedule of Values, proposal request, Change Orders, and Contract closeout procedures.
   4. Scheduling.
   5. BOLI Prevailing Wage requirements and certified payroll reporting contact information.

D. The meeting must be recorded. A copy of the recording must be provided to the Owner. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum weekly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's Superintendent.
   5. Major Subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.
   8. Planned progress during succeeding work period.
   9. Coordination of projected progress.
   10. Maintenance of quality and work standards.
   11. Effect of proposed changes on progress schedule and coordination.
   12. Other business relating to Work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

A. Within 5 days after date of the fully executed Contract, submit preliminary construction schedule.

B. If preliminary construction schedule requires revision after review, submit revised construction schedule within 10 days.

C. Within 10 days after review of preliminary construction schedule, submit draft of proposed complete construction schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed construction schedule.

D. Within 5 days after joint review, submit complete construction schedule.

E. Submit updated construction schedule and Schedule of Values with each Application for Payment.

3.04 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect and Owner's Project Manager for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.05 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit to Architect and Owner. No action will be taken.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.07 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

A. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

B. Sequentially number submittals with corresponding Project Manual section number. Revise submittals with original number and a sequential alphabetic suffix.

C. Identify Project, Project Number, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Schedule submittals to expedite the Project, and coordinate submission of related items.

F. For each submittal for review, allow 7 days excluding delivery time to and from the Contractor.

G. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

H. Provide space for Contractor and Architect review stamps.

I. When revised for resubmission, identify all changes made since previous submission.

J. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

END OF SECTION

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. References and standards.

B. Control of installation.

C. Mock-ups.

D. Tolerances.

E. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCES AND STANDARDS

A. For products and 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. Conform to reference standard of date of issue current on date specified in the individual specification sections, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

D. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

E. Accepted mock-ups shall be a comparison standard for the remaining Work.

F. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Owner, it is not practical to remove and replace the Work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary telecommunications services.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers and enclosures.

D. Security requirements.

E. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

A. Owner will make the following utilities available for Contractor's temporary connection:
   1. Electrical power, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

1.03 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for mobile telecommunications services to site at time of project mobilization.

1.04 TEMPORARY SANITARY FACILITIES

A. Use of existing facilities located at the existing building is permitted with the approval of Owner's Project Manager.

B. Maintain daily in clean and sanitary condition.

C. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.07 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.08 SECURITY

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

1.09 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site weekly.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Document 01 60 01 - Substitution Request Form.

B. Section 01 10 00 - Summary: Lists of products to be removed from existing building.

1.03 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

C. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
   1. See Section 01 10 00 for list of items required to be salvaged for reuse and relocation.
   2. If reuse of other existing materials or equipment is desired, submit substitution request.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

2.03 PRODUCT OPTIONS

A. Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Architect, pursuant to Subsection 106.07 of the 1994 Edition of the City of Springfield Standard Construction Specifications, to include all revisions at the date of bid opening. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification. Manufacturer's names and model numbers shown on drawings or in specifications form the basis of design and indicate quality of equipment or materials. Manufacturers not listed require prior approval. Substitution requests must be made in writing to the Architect prior to bid in accordance with Division 1, 01 60 00 - Product Requirements.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Section 3.4 of the Instructions to Bidders specifies the time restrictions for submitting requests for substitutions during the bidding period.

B. Submit substitution requests by completing the Substitution Request Form Document 01 60 01 as stated in section 3.4 of the Instruction to Bidders. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure (after contract award):
   1. Submit substitution requests by completing the form Document 01 60 01; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

2. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
3. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
4. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
2. Arrange and pay for product delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
1. Review Owner reviewed shop drawings, product data, and samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

F. Comply with manufacturer's warranty conditions, if any.

G. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

H. Prevent contact with material that may cause corrosion, discoloration, or staining.

I. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

J. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SUBSTITUTION REQUEST FORM

TO: Robertson/Sherwood/Architect pc
132 East Broadway - Suite 540
Eugene, Oregon 97401

PROJECT: Springfield Wellness Center, P11004
225 5th Street
Springfield, Oregon 97477

SPECIFIED ITEM: _____ _____ _____
Section Paragraph Description

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION:_____

_____

Attached data includes product descriptions, specifications, drawings, photographs, performance and test data adequate for evaluation of request including identification of applicable data portions.

Attached data also includes description of changes to Contract Documents and proposed substitution requires for proper installation.

The undersigned certifies following items, unless modified by attachments, are correct:

1. Proposed substitution does not affect dimensions shown on drawings.
2. Undersigned pays for changes to building design, including engineering design, detailing, and construction costs caused by proposed substitution.
3. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.
4. Maintenance and service parts available locally or readily obtainable for proposed substitution.

Undersigned further certifies function, appearance, and quality of proposed substitution are equivalent to or superior to specified item.

Submitted by: _____ Signature: _____ Firm: _____ Address:_____ _____ Date: _____ Tel: _____ Fax: _____ Attachments:_____	For use by Architect: ☐ Approved ☐ Approved as noted. ☐ Not Approved ☐ Received too late By: _____ Date: _____ _____ For use by Owner's Project Manager: ☐ Approved ☐ Approved as noted. ☐ Not Approved ☐ Received too late By: _____ Date: _____

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures.

C. Section 01 50 00 - Temporary Facilities and Controls: Temporary controls.

D. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.

1.03 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.
   1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
   2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building except as approved by Owner's Project Manager at any time of day; excessively noisy includes pneumatic hammers.

1.04 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. 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.

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

D. 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.

E. 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.

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

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

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

PART 2 PRODUCTS

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 - Product Requirements.

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 Architect 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 Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Promptly notify Architect of any dimensional discrepancies discovered.

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 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 Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated 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.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.

4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. 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.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. 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; patch holes left by removal using materials specified for new construction.

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.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
   4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

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

B. See Alterations article above for additional requirements.

C. 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.

D. 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.

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, 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.

3.08 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 weekly and dispose off-site; do not burn or bury.

3.09 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.

3.10 SYSTEM STARTUP

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

B. Notify Architect and Owner seven days prior to start-up of each item.

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

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

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

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

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

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel prior to date of Substantial Completion.

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

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

3.12 ADJUSTING

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

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

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

1. Provide copies to Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Submit written certification containing Contractor's Correction Punch List that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

D. Accompany Architect to conduct Architect’s Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

E. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

F. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

G. Notify Architect and Project Coordinator when items of work determined by Architect listed in executed Certificate of Substantial Completion have been completed and request Final Completion Inspection.

END OF SECTION

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with Final AIA Form G702-1992 and G703-1992..

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance of Work.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance of Work.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance of Work, listing the date of acceptance of Work as the beginning of the product warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.

4. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:
   1. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   2. Field changes of dimension and detail.
   3. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

E. Provide servicing and lubrication schedule, and list of lubricants required.

F. Include manufacturer's printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Provide Operations and Maintenance Manuals in hard copy and electronic PDF format.

D. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

E. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; Project Number; identify subject matter of contents.

F. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

G. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

H. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

I. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

J. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

K. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Operation and maintenance data.
      c. Field quality control data.
      d. Photocopies of warranties and bonds.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

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. Do not close or obstruct roadways or sidewalks without permit.
   6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

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

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

3.02 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 Architect 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. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.

C. Remove items for reinstallation or salvage as indicated on Drawings.

D. 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.

E. 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.

3.03 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.

END OF SECTION

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Cabinet hardware.

D. Relocation of existing casework as indicated on Drawings.

1.02 RELATED REQUIREMENTS

A. Section 09 21 16 - Gypsum Board Systems: Wall framing and backing.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene a pre-installation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

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

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

C. Product Data: Provide data for hardware accessories.

D. Samples: Submit 2 samples of each specified color of plastic laminate for verification of color and finish.

1.06 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.07 MOCK-UP

A. Provide mock-up of typical base cabinet, including hardware and finishes.

B. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.09 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI (AWS) for Custom Grade.

B. Cabinets:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Concealed Surfaces: Manufacturer's option.
   4. Door and Drawer Front Edge Profiles: Square edge with thin applied band.
   5. Casework Construction Type: Type A - Frameless.
   6. Interface Style for Cabinet and Door: Style 1 - Overlay; flush overlay.

2.02 LAMINATE MATERIALS

A. Manufacturers:
   1. Formica Corporation: www.formica.com.
   2. Panolam Industries International, Inc\Nevamar : www.nevamar.com.
   3. Wilsonart, LLC: www.wilsonart.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Provide specific types as scheduled.
   1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, textured, low gloss finish.
      a. Color: To match 4667-60, Green Tigris by Wilsonart, or approved equal.
   2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, textured, low gloss finish.
      a. Color: To match 7816-60, Solar Oak by Wilsonart, or approved equal.
   3. Cabinet Liner: CLS, 0.020 inch nominal thickness,.
   4. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 COUNTERTOPS

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

2.04 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Fasteners: Size and type to suit application.

C. Concealed Joint Fasteners: Threaded steel.

D. Grommets: Standard plastic grommets for cut-outs, in color to blend with adjacent surface.

2.05 HARDWARE

A. Adjustable Shelf Supports: Standard side-mounted system using multiple holes for pin supports and coordinated self-rests, polished chrome finish, for nominal 1 inch spacing adjustments.

B. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.

C. Drawer Slides:
   1. Type: Full extension.
   2. Static Load Capacity: Commercial grade.
   3. Mounting: Side mounted.
   4. Stops: Integral type.
   5. Features: Provide self-closing/stay closed type.
   6. Products:
      a. Accuride International, Inc: www.accuride.com.
      b. Grass America Inc: www.grassusa.com.
      c. Knape & Vogt Manufacturing Company: www.knapeandvogt.com.
      d. Substitutions: See Section 01 60 00 - Product Requirements.

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

1. Products:
   a. Grass America Inc: www.grassusa.com.
   b. Julius Blum, Inc: www.blum.com.
   c. Substitutions: See Section 01 60 00 - Product Requirements.

2.06 FABRICATION

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

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

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

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel edges. Locate counter butt joints minimum 2 feet from sink cut-outs.
   1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.

E. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches on center.

F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

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. Do not use additional overlay trim for this purpose.

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

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.

END OF SECTION

JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

B. Precompressed foam sealers.

1.02 RELATED REQUIREMENTS

A. Section 09 21 16 - Gypsum Board Assemblies: Acoustical assemblies.

1.03 REFERENCE STANDARDS

A. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with other sections referencing this section.

1.05 SUBMITTALS

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

B. Product Data: Provide data indicating sealant chemical characteristics and substrate preparation.

C. Manufacturer's Installation Instructions: Indicate special procedures.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.

1.07 FIELD CONDITIONS

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

PART 2 PRODUCTS

2.01 SEALANTS

A. Sealant Type A, MS Polymer Sealant: ASTM C290, Type S, Grade NS, Class 100/50; single or two-part component silyl-terminated polyether, moisture curing, non-staining, non-bleeding, capable of continuous water immersion, non-sagging type; multiple colors as selected to match adjacent materials; meeting the following minimum requirements:
   1. Elongation Capability: 100 percent
   2. Service Temperature Range: -40 to 200 degrees F
   3. Shore A Hardness Range: 20 to 35
   4. Approved Products:
      a. MasterSeal NP 150 (Sonolastic 150) by BASF.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

B. Sealant Type B, Acoustical Sealant: ASTM C834; single component latex, non-staining, non-bleeding, non-sagging type, paintable.
   1. Approved Products:

a. AC-20 FTR Acoustical and Insulation Sealant by Pecora Corporation.
b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

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

B. Joint Backing: Round foam rod compatible with sealant; closed cell polyethylene; oversized 30 to 50 percent larger than joint width.

C. 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. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
1. Width/depth ratio of 2:1.
2. Neck dimension no greater than 1/3 of the joint width.
3. Surface bond area on each side not less than 75 percent of joint width.

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

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

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

H. Tool joints concave.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 SCHEDULE

A. Type A - MS Polymer:
1. Sheet metal work.
2. Aluminum entrance systems.
3. As indicated on Drawings.

B. Type B - Acoustical Sealant:

1. Under stud track at acoustical walls, 2 beads continuous.
2. Perimeter of gypsum board in acoustical walls, and corner intersections.
3. Perimeter of penetrations in acoustical walls.
4. As indicated on Drawings.

END OF SECTION

HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal frames for non-hollow metal doors.

1.02 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware: Hardware.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.

C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.

D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2015.

G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.

H. ICC A117.1 - Accessible and Usable Buildings and Facilities; International Code Council; 2009 (ANSI).

I. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

J. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

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

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements 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.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Frames with Integral Casings:
   1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com.
   2. Republic Doors: www.republicdoor.com.
   3. Steelcraft, an Allegion brand: www.allegion.com/us.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DESIGN CRITERIA

A. Door Frame Type: Provide hollow metal door frames with integral casings.

B. Steel used for fabrication of frames shall comply with one or more of the following requirements; Galvannealed steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.

C. Accessibility: Comply with ICC A117.1 and ADA Standards.

D. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

2.03 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

A. Frame Finish: Factory primed and field finished.

B. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 3 - Extra Heavy-duty.
      b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.

2.04 ACCESSORIES

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.

2.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI 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.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.

B. Coordinate frame anchor placement with wall construction.

C. Coordinate installation of hardware.

3.03 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Section 08 12 13 - Hollow Metal Frames.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

1.04 SUBMITTALS

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

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.

D. Specimen warranty.

E. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.

1.06 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.

1.07 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 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Eggers Industries: www.eggersindustries.com.

2. Graham Wood Doors: www.grahamdoors.com.
3. Marshfield Door Systems, Inc: www.marshfielddoors.com.
4. Oregon Door: www.oregondoor.com.
5. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS AND PANELS

A. All Doors: See drawings for locations and additional requirements.
   1. Quality Level: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS).
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at all locations.
   2. Wood veneer facing with factory transparent finish where indicated on drawings.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type structural composite lumber core (SCLC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Same species as face veneer.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:
   1. Provide solid blocks at lock edge for hardware reinforcement.
   2. Provide solid blocking for other throughbolted hardware.

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.

2.06 FACTORY FINISHING - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 5, Varnish, Conversion.
      b. Sheen: Semigloss.

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.

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. 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.

3.05 SCHEDULE - See Drawings

END OF SECTION

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum-framed storefront, with vision glass.

B. Aluminum doors and frames.

C. Weatherstripping.

D. Door hardware.

1.02 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.

B. Section 08 80 00 - Glazing: Glass and glazing accessories.

1.03 REFERENCE STANDARDS

A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.

B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.

C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2013.

D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

1.04 SUBMITTALS

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

B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners.

C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.

D. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.

1.05 QUALITY ASSURANCE

A. Manufacturer and Installer Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

PART 2 PRODUCTS

2.01 BASIS OF DESIGN

A. Aluminum Doors and Frames:
   1. Trifab VG 451 and 500 Series Doors by Kawneer North America: ~~www.kawneer.com~~.

2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Other Acceptable Manufacturers:
1. EFCO Corporation: www.efcocorp.com.
2. Oldcastle Building Envelope: www.oldcastlebe.com.
3. United States Aluminum Corp: www.usalum.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 COMPONENTS

A. Aluminum Frames: Tubular aluminum sections, thermally broken with interior section insulated from exterior.
1. Stops: Integral.
2. Cross-Section: 2 x 4-1/2 inch nominal dimension.

B. Swing Doors: Glazed aluminum.
1. Thickness: 1-3/4 inches.
2. Top Rail: 5 inches wide.
3. Vertical Stiles: 5 inches wide.
4. Bottom Rail: 10 inches wide.
5. Glazing Stops: Square.
6. Finish: Same as frame.

2.03 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Fasteners: Stainless steel.

C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.04 FINISHES

A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A42 Integrally colored anodic coating not less than 0.7 mils thick.

B. Color: Dark bronze.

2.05 HARDWARE

A. For each door, include weatherstripping, sill sweep strip, threshold, and pivots.

B. Other Door Hardware: Section 08 71 00.

C. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

D. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

E. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

F. Pivots: Center type; top and bottom.

2.06 FABRICATION

A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

C. Prepare components to receive anchor devices. Fabricate anchors.

D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.

E. Arrange fasteners and attachments to conceal from view.

F. Reinforce components internally for door hardware.

G. Reinforce framing members for imposed loads.

H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
   1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other work.

B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

G. Set thresholds in full bed of sealant and secure.

H. Install hardware using templates provided.

I. Install glass and infill panels in accordance with Section 08 80 00, using exterior dry glazing method.

J. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.03 TOLERANCES

A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft, whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.04 ADJUSTING

A. Adjust operating hardware for smooth operation.

3.05 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

END OF SECTION

DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hardware for wood and aluminum doors.

B. Thresholds.

C. Weatherstripping, seals and door gaskets.

1.02 RELATED REQUIREMENTS

A. Section 02 41 00 - Demolition: Salvage of existing doors and frames for reinstallation.

B. Section 08 12 13 - Hollow Metal Frames.

C. Section 08 14 16 - Flush Wood Doors.

D. Section 08 43 13 - Aluminum-Framed Storefronts: Hardware for same except as specified in this Section.

1.03 REFERENCE STANDARDS

A. BHMA A156.1 - American National Standard for Butts and Hinges; Builders Hardware Manufacturers Association, Inc.; 2013 (ANSI/BHMA A156.1).

B. BHMA A156.7 - American National Standard for Template Hinge Dimensions; Builders Hardware Manufacturers Association; 2014 (ANSI/BHMA A156.7).

C. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; Builders Hardware Manufacturers Association, Inc.; 2010 (ANSI/BHMA A156.8).

D. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 2004.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products that door hardware will be installed upon.

B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

1.05 SUBMITTALS

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

B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.

C. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents.

D. Keying Schedule: Submit for approval of Owner.

E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

F. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

G. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

H. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
   1. Tools: One set of all special wrenches or tools applicable to each different or special hardware component, whether supplied by the hardware component manufacturer or not.

PART 2 PRODUCTS

2.01 DOOR HARDWARE - GENERAL

A. Provide hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.

B. Provide 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.

2.02 LOCKS AND LATCHES

A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.
   1. If no hardware set is indicated for a swinging door provide an office lockset.
   2. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
   3. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.

B. Lock Cylinders: Manufacturer’s standard tumbler type, six-pin standard core.
   1. Provide cams and/or tailpieces as required for locking devices required.

C. Keying: As directed by Owner.
   1. Supply keys in the following quantities:
      a. 5 keys for each locket.

2.03 HINGES

A. Hinges: Provide hinges on every swinging door.
   1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
   2. Provide ball-bearing hinges at all doors.
   3. Provide hinges in the quantities indicated.
   4. Provide non-removable pins on exterior outswinging doors.
   5. Where electrified hardware is mounted in door leaf, provide power transfer hinges.

B. Butt Hinges: Comply with BHMA A156.1 and A156.7; heavy weight, unless otherwise indicated.

C. Manufacturers - Hinges:
   1. Assa Abloy Brands; McKinney: www.assaabloydss.com.
   2. Bommer Industries, Inc: www.bommer.com.
   3. C. R. Laurence Co., Inc: www.crl-arch.com.
   4. Hager Companies: www.hagerco.com.
   5. Stanley Black & Decker: www.stanleyblackanddecker.com.
   6. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 LATCHES

A. Manufacturer - Roller Latches:
   1. Ives, an Allegion brand: www.allegion.com/us.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 CYLINDRICAL LOCKSETS

A. Manufacturers - Cylindrical Locksets:
   1. Schlage, an Allegion brand: www.allegion.com/us.
   2. Substitutions: See Section 01 60 00 - Product Requirement

2.06 EXIT DEVICES

A. Manufacturers - Exit Devices:
   1. Assa Abloy Brands; Corbin Russwin, Sargent, or Yale: www.assaabloydss.com.
   2. Von Duprin, an Allegion brand: www.allegion.com/us.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 CLOSERS

A. Manufacturers - Surface Mounted Closers:
   1. Assa Abloy Brands; Corbin Russwin, Norton, Rixson, Sargent, or Yale: www.assaabloydss.com.
   2. LCN, an Allegion brand: www.allegion.com/us.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.08 STOPS AND HOLDERS

A. Stops: Complying with BHMA A156.8; provide a stop for every swinging door, unless otherwise indicated.
   1. Provide wall stops, unless otherwise indicated.
   2. If wall stops are not practical, due to configuration of room or furnishings, provide overhead stop.
   3. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop unless specifically so stated.

B. Manufacturers - Overhead Holders/Stops:
   1. Glynn-Johnson, an Allegion brand: www.allegion.com/us.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.09 GASKETING AND THRESHOLDS

A. Manufacturers - Gasketing and Thresholds:
   1. National Guard Products, Inc: www.ngpinc.com.
   2. Pemko Manufacturing Co: www.pemko.com.
   3. Zero International, Inc: www.zerointernational.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

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. Mounting heights for hardware from finished floor to center line of hardware item.
   1. For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."

3.03 ADJUSTING

A. Adjust work under provisions of Section 01 70 00.

B. Adjust hardware for smooth operation.

3.04 CLEANING

A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.05 HARDWARE GROUPS

A. Hardware Group 1: Exterior Aluminum Door in Aluminum Frame - Entry (122A)

1	EA	Exit Device	CD9875L 992L #03	625	Von Duprin
1	EA	Cylinder	Verify	625	Schlage
1	EA	Cylinder, Dog	Verify	625	Schlage
1	EA	Closer	4111 Cush/Stop	Alum	LCN

Remainder of hardware by door manufacturer.

B. Hardware Group 2: Interior Wood Door in Steel Frame - Exam (105A, 106A, 107A, 108A)

3	EA	Butts	FBB199 4.5 x 4.5	625	Stanley
1	EA	Lockset	ND44S ATH	625	Schlage
1	EA	Wall Stop	407CCV	625	Ives
1	Set	Seals	S88	Clear	Pemko

C. Hardware Group 3: Interior Wood Door in Steel Frame - Restroom (116A, 117A)

3	EA	Butts	FBB199 4.5 x 4.5	625	Stanley
1	EA	Lockset	ND40S ATH	625	Schlage
2	EA	Closer	4111 Cush	Alum	LCN
1	EA	Wall Stop	407CCV	625	Ives
1	EA	Seals	S88	Clear	Pemko

D. Hardware Group 4: Interior Wood Door Pair in Steel Frame - Closet (118A/B)

6	EA	Butts	FBB199 4.5 x 4.5	625	Stanley
2	EA	Pull	ND170 ATH	625	Schlage
2	EA	Roller Latch	RL32	625	Ives
2	EA	OH Stop	454S	625	Glynn Johnson

E. Hardware Group 5: Interior Wood in Steel Frame - Janitor (120A)

3	EA	Butts	FBB199 4.5 x 4.5	625	Stanley
1	EA	Lockset	ND53PD ATH	625	Schlage
1	EA	Wall Stop	407CCV	625	Ives

F. Hardware Group 6: Existing Interior Wood Door in Steel Frame (110A, 111A, 113B)

1	EA	OH Stop	454S	625	Glynn Johnson
1	Set	Seals	S88	Clear	Pemko

Remainder of hardware is existing

G. Hardware Group 7: Existing Interior Wood Door in Existing Steel Frame (101A/B)

1	Set	Seals	S88	Clear	Pemko

Remainder of hardware is existing

H. Hardware Group 8: Existing Interior Wood Door in New Steel Frame (123A)

3	EA	Butts	FBB199 4.5 x 4.5	625	Stanley
1	EA	Closer	4111 Cush	Alum	LCN
1	EA	OH Stop	454S	625	Glynn Johnson

I. Substitutions: See Section 01 60 00 - Product Requirements.

J. Card Reader Lockset provided by Owner.

END OF SECTION

GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass.

B. Glazing compounds and accessories.

C. Sliding glass window track assemblies.

1.02 RELATED REQUIREMENTS

A. Section 06 41 00 - Architectural Wood Casework.

B. Section 08 43 13 - Aluminum-Framed Storefronts.

C. Section 09 21 16 - Gypsum Board Systems: Wall framing and finish.

1.03 REFERENCE STANDARDS

A. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

B. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.

1.04 SUBMITTALS

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

B. Product Data on Accessories: Provide data for sliding glass assemblies.

PART 2 PRODUCTS

2.01 INSULATING GLASS UNITS

A. Insulated Safety Glass Unit (ISGU): Vision glass, double glazed.
   1. Application: All exterior glazing unless otherwise indicated.
   2. Outboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
      a. Tint: Clear.
      b. Coating: Low-E (passive type), on #2 surface.
   3. Inboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
      a. Tint: Clear.
   4. Total Thickness: 1 inch.
   5. Glazing Method: Gasket glazing.

2.02 EXTERIOR GLAZING ASSEMBLIES

A. Performance Criteria: Select type and thickness of glass to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of glass.
   1. Glass thicknesses listed are minimum.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless noted otherwise.
   1. Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.

2.04 SEALED INSULATING GLASS UNITS

A. Sealed Insulating Glass Units: Types as indicated.
   1. Application: Exterior, except as otherwise indicated.
   2. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   3. Edge Spacers: Aluminum, bent and soldered corners.

4. Edge Seal: Glass to elastomer with supplementary silicone sealant.
5. Purge interpane space with dry hermetic air.

2.05 GLAZING ACCESSORIES

A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.

C. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; gray color.

D. Sliding Glass Track Assemblies: Complete track assembly consisting of upper channel, door shoe, carrier, lower track, vinyl guide, rubber bumper, steel ball bearing rollers.
   1. Large Glass Door Kit P992 by Knape & Vogt: www.kv.com.
   2. Substitutions: Refer to Section 01 60 00 - Product Requirements.

2.06 FABRICATION

A. Sliding Glass Windows:
   1. Tempered Glass, minimum 1/4 inch thick; provide for 1 inch of overlap of glass leaves in closed position.
   2. Grind and polished edges smooth.
   3. Provide 2 inch diameter finger hole in each leaf; grind and polished edges smooth.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for glazing are correctly sized and within tolerance.

3.02 SLIDING GLASS WINDOWS

A. Install track assembly in accordance with manufacturer's instructions.

B. Install glass in track assembly.

C. Adjust for proper operation.

3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 CLEANING

A. Remove glazing materials from finish surfaces.

B. Remove labels after Work is complete.

C. Clean glass and adjacent surface.

END OF SECTION

GLAZING SURFACE FILMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glazing film applied to existing and new glazing assemblies.

B. Glazing assemblies to receive film are indicated on Drawings.

1.02 REFERENCE STANDARDS

A. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 2004.

1.03 SUBMITTALS

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

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Record of product certification for safety requirements.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Installation methods.

C. Samples: For each film product to be used, minimum size 4 inches by 6 inches, representing actual product, color, and patterns.

D. Specimen warranty.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Glazing film manufacturer specializing in manufacture of safety glazing films with minimum five years successful experience.

B. Installer Qualifications: Certified by glazing film manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of authorities having jurisdiction.

1.06 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Provide 10 year manufacturer's replacement warranty to cover film against peeling, cracking, discoloration, and deterioration.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: 3M Window Film: www.3m.com/us/arch_construct/scpd/windowfilm.

B. Other approved Manufacturers:

1. CPFilms, Inc: www.cpfindusprod.com.
2. Madico, Inc: www.madico.com.
3. Llumar by Solutia Inc: www.llumar.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 MATERIALS

A. Glazing Film: Translucent polyester film for permanent bonding to glass.
   1. Thickness: 0.008 inch, minimum.
   2. Color: Matte white.
   3. Construction: Multi-ply laminate.
   4. Adhesive Type: Pressure sensitive acrylic.
   5. Product Code: 7725SE-314 Dusted Crystal by 3M.
   6. Substitutions: See Section 01 60 00 - Product Requirements.

B. Accessory Materials: As recommended or required by film manufacturer.

C. Glass Cleaner: As recommended by glazing film manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine glass and frames. Verify that existing conditions are adequate for proper application and performance of film.

B. Verify glass is not cracked, chipped, broken, or damaged.

C. Verify that frames are securely anchored and free of defects.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean glass of dust, dirt, paint, oil, grease, mildew, mold, and other contaminants that would inhibit adhesion.

B. Immediately prior to applying film, thoroughly wash glass with neutral cleaning solution.

C. Protect adjacent surfaces.

D. Do not begin installation until substrates have been properly prepared.

3.03 INSTALLATION

A. Do not apply glazing film when surface temperature is less than 40 degrees F or if precipitation is imminent.

B. Install in accordance with manufacturer's instructions, without air bubbles, wrinkles, streaks, bands, thin spots, pinholes, or gaps, as required to achieve specified performance.

C. Accurately cut film with straight edges to required sizes allowing 1/16 inch to 1/8 inch gap at perimeter of glazed panel unless otherwise required by anchorage method.

D. Seams: Seam film only as required to accommodate material sizes; form seams vertically without overlaps and gaps; do not install with horizontal seams.

E. Clean glass and anchoring accessories following installation. Remove excess sealants and other glazing materials from adjacent finished surfaces.

F. Remove labels and protective covers.

3.04 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Acoustic insulation.

D. Gypsum wallboard.

E. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.03 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

C. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

E. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

F. ASTM C954 - 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; 2015.

G. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

H. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2014a.

I. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

J. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

K. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

L. ASTM E413 - Classification for Rating Sound Insulation; 2010.

M. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.

1.04 SUBMITTALS

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

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

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.
   1. Studs: "C" shaped with flat or formed webs with knurled faces.
   2. Runners: U shaped, sized to match studs.

B. Partition Head to Suspended Ceiling System Connection: As indicated on Drawings.

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, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Thickness:
      a. Vertical Surfaces: 5/8 inch.

2.04 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 3 inch.

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

C. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Rigid Corner Beads: Low profile, for 90 degree outside corners.
   2. Expansion Joints: V-shaped PVC with tear away fins.

D. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2 inch wide, coated glass fiber tape for joints and corners.

E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

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. Studs: Space studs at 16 inches on center.
   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.

C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

D. Blocking: Install mechanically fastened steel sheet blocking for support of:
   1. Wall mounted cabinets.
   2. Plumbing fixtures.
   3. Toilet accessories.
   4. Wall mounted door hardware.

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.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

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. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.

D. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

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.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.06 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 1: 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.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Modification of existing suspended metal grid ceiling system.

B. Relocation of existing acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 02 41 00 - Demolition: Removal and protection of existing ceiling tile panel to be reinstalled.

1.03 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

A. Acoustical Tile: Existing 2 x2 and 2 x 4 tile to be reinstalled.

2.02 SUSPENSION SYSTEM(S)

A. Existing Suspension Systems - General: ASTM C635/C635M; die cut and interlocking components, with perimeter moldings.

B. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; heavy-duty.
   1. Profile: Tee; 15/16 inch wide face.
   2. Construction: Double web.
   3. Finish: To match existing.

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. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 INSTALLATION - SUSPENSION SYSTEM

A. Modify existing suspension system as needed to accommodate new work.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

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 of each corner, or support components independently.

G. Do not eccentrically load system or induce rotation of runners.

3.02 INSTALLATION - ACOUSTICAL UNITS

A. Reinstall 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. Install units after above-ceiling work is complete.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

3.03 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient base.

C. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 02 41 00 - Demolition: Removal of existing flooring and base.

1.03 REFERENCE STANDARDS

A. ASTM F970 - Standard Test Method for Static Load Limit; 2007 (Reapproved 2011).

B. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing; 2004 (Reapproved 2014).

C. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012)e1.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, 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. Shop Drawings: Indicate seaming plan.

D. Verification Samples: Submit two samples, 4 x 4 inch in size illustrating color and pattern for each resilient flooring product specified.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect roll materials from damage by storing on end.

1.06 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Provide 10 year manufacturer's standard wear warranty for sheet vinyl flooring.

PART 2 PRODUCTS

2.01 SHEET FLOORING

A. Vinyl Sheet Flooring - Heterogeneous: Transparent or translucent vinyl wear layer over interlayer and backing.
   1. Minimum Requirements: Comply with ASTM F1303, Type I, with Class A fibrous backing.
   2. Wear Layer Thickness: 0.020 inch minimum.
   3. Total Thickness: 0.086 inch minimum.
   4. Sheet Width: 80 inch minimum.
   5. Static Load Resistance: 1500 psi minimum, when tested as specified in ASTM F970.

6. Pattern: Patterned.
7. Color: Morning 13103.
8. Product:
    a. Change Series by Shaw Industries, Inc: www.shawhardsurface.com.
    b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TP, rubber, thermoplastic; top set Style B, Cove.
1. Height: 4 inch.
2. Thickness: 0.125 inch thick.
3. Finish: Satin.
4. Color: To match 00150 by Shaw.
5. Manufacturers:
    a. Cove Base 148VS by Shaw Industries, Inc: www.shawcontractgroup.com.
    b. Substitutions: See Section 01 60 00 - Product Requirements.

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. Filler for Coved Base: Plastic.

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. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.
1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

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, cabinets, 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. Seams are prohibited in toilet rooms and custodial closets.

C. Double cut sheet at seams.

D. Lay flooring with tightly butted seams, without any seam sealer unless otherwise indicated.

E. Finish seams in sheet vinyl by heat welding.

F. 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 between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's instructions.

END OF SECTION

TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

1.02 RELATED REQUIREMENTS

A. Section 02 41 00 - Demolition: Removal of existing flooring.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

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

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Provide manufacturer's standard lifetime commercial limited warranty.

PART 2 PRODUCTS

2.01 MATERIALS

A. Tile Carpeting (CPT): Multi-level pattern cut/loop, manufactured in one color dye lot.
   1. Fiber: Eco Solution Q Nylon.
   2. 'Tile Size: 24 x 24 inch, nominal.
   3. Color/Pattern: 78713.
   4. Gage: 1/12 inch.
   5. Stitches: 9.0 per inch.
   6. Pile Weight: 22 oz/sq yd.
   7. Density Factor: 15.21 kilotex.
   8. Primary Backing Material: Synthetic.
   9. Secondary Backing Material: EcoWorx.
   10. Product:
      a. Entwine Tile 59337 by Shaw Contract Group: www.shawcontractgroup.com.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

B. Walk-Off Mat Tile (WOM): Modular tile walk-off mat, manufactured in one color dye lot
   1. Fiber: Polypropylene loop.
   2. Tile Size: 20 x 20 inch.

3. Color: As selected.
4. Product:
   a. Super NOP 52 by Connexus available from Mats Inc: www.matsinc.com.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Transitions: Zinc metal edge divider strip.

C. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

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 carpet tile.

C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

D. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for flooring installation by testing for moisture and pH.
   1. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with sub-floor filler.

C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

D. Vacuum clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in ashlar pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Fully adhere carpet tile to substrate.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation including repair of existing surfaces prior to refinishing.

B. Field application of paints.

C. Scope: Finish all interior surfaces exposed to view, unless fully factory-finished

1.02 RELATED REQUIREMENTS

A. Section 08 12 13 - Hollow Metal Frames: Shop primed metal frames.

1.03 SUBMITTALS

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

B. 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").

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.

1.04 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 and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.05 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 measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 INTERIOR PAINT PRODUCTS

A. Interior Latex Primer: Zero VOC.
   1. Ultra Spec 500 Interior Latex Primer (534) by Benjamin Moore.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Interior Acrylic Latex Enamel: Zero VOC.
   1. Ultra Spec 500 Interior Paint (538) by Benjamin Moore.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. 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. Gypsum Wallboard: 12 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing coatings that exhibit surface defects.

D. Repair existing surfaces to new condition.

E. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

F. Seal surfaces that might cause bleed through or staining of topcoat.

G. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

H. Gypsum Board Surfaces to be Painted: Fill defects with filler compound. Spot prime defects after repair.

I. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

J. 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.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance.

D. Sand metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 SCHEDULE - PAINT SYSTEMS

A. Gypsum Board:
   1. Prepare surfaces as recommended by manufacturer.
   2. One coat latex primer.
   3. Two coats Acrylic Latex Enamel, egg-shell gloss.
   4. Colors: As selected.

B. Steel Door Frames and Metal:
   1. Prepare surfaces as recommended by manufacturer.
   2. Touch up shop primer as needed.
   3. Two coats Acrylic Latex Enamel, egg-shell gloss.
   4. Color: As selected.

C. Existing Surfaces:
   1. Prepare surfaces as recommended by manufacturer.
   2. One coat compatible primer as needed.
   3. Two coats Acrylic Latex Enamel, egg-shell gloss.
   4. Colors: As selected.

END OF SECTION

SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Room and door signs.

B. Vinyl die-cut lettering.

1.02 REFERENCE STANDARDS

A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.

B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities; International Code Council; 2009 (ANSI).

1.03 SUBMITTALS

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

B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

C. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 FIELD CONDITIONS

A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.

B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 SIGNAGE APPLICATIONS

A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
   1. Sign Type: Flat signs with applied character panel media as specified.
   2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
   3. Character Height: 1 inch.
   4. Sign Size: 8 x 8 inches, unless otherwise indicated.
   5. Room Doors: Identify with room names and numbers to be determined later, not those shown on the drawings.
   6. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", and braille.

2.02 SIGN TYPES

A. Flat Signs: Signage media without frame.

1. Edges: Square.
2. Corners: Radiused.
3. Wall Mounting of One-Sided Signs: Tape adhesive.

B. Color and Font: Unless otherwise indicated:
1. Character Font: Helvetica, Arial, or other sans serif font.
2. Character Case: Upper case only.
3. Background Color: Clear.
4. Character Color: Contrasting color.

2.03 TACTILE SIGNAGE MEDIA

A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
1. Total Thickness: 1/16 inch.

B. Applied Character Panels: Acrylic plastic base, with applied acrylic plastic letters and braille.
1. Total Thickness: 1/8 inch.
2. Letter Thickness: 1/8 inch.
3. Letter Edges: Square.

2.04 NON-TACTILE SIGNAGE MEDIA

A. Vinyl Lettering: Die-cut, self-adhering vinyl lettering; white color.
1. Character Font: Helvetica, Arial, or other sans serif font.
2. Character Height: 3 inches.
3. Text: SPRINGFIELD WELLNESS CENTER.
4. Location: As directed.

2.05 ACCESSORIES

A. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install neatly, with horizontal edges level.

C. Locate signs where indicated:
1. Room and Door Signs: Locate on wall at latch side of door with centerline of sign at 60 inches above finished floor.
2. If no location is indicated obtain Owner's instructions.

D. Protect from damage until Substantial Completion; repair or replace damage items.

END OF SECTION

WALL AND CORNER GUARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Corner guards.

1.02 RELATED REQUIREMENTS

Section 09 21 16 - Gypsum Board Systems: Wall framing and finish.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.04 SUBMITTALS

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

B. Product Data: Indicate physical dimensions, features, anchorage details, and rough-in measurements.

C. Samples: Submit two sections of corner guard, 24 inch long, illustrating component design, configuration, color and finish.

D. Manufacturer's Instructions: Indicate special procedures, perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Corner Guards - Surface Mounted: Extruded one-piece unit without splices, installed with adhesive.
   1. Material: Polyethylene terephthalate (PET or PETG); PVC-free; textured surface.
   2. Width of Wings: 3 inches.
   3. Color: As selected from manufacturer's standard colors.
   4. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
   5. Products:
      a. Inpro EnviroGT G2, GreenGuard Children & Schools certified.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to wall framing members only.

B. Position corner guard 4 inches above finished floor to ceiling.

3.02 TOLERANCES

A. Maximum Variation From Required Height: 1/4 inch.

B. Maximum Variation From Level or Plane For Visible Length: 1/4 inch.

END OF SECTION

FIBERGLASS REINFORCED PLASTIC PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiberglass reinforced polyester panel system for adhesive mounting.

B. Moldings, adhesive, and joint sealants.

1.02 RELATED SECTIONS

A. Section 09 21 16 - Gypsum Board Assemblies: Substrates.

1.03 REFERENCES

A. ASTM D 570 - Standard Test Method for Water Absorption of Plastics; 1998.

B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.

1.04 SUBMITTALS

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

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Maintenance Instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 PANEL SYSTEM (FRP)

A. Plastic Panel System: Factory finished panels, trim, sealant, and accessories.

B. Panels: Fiberglass reinforced polyester, USDA approved for incidental food contact.
   1. Surface Burning Characteristics: Flame spread index of 200 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E 84 (Class C/III).
   2. Surface Texture: Smooth, matte-gloss.
   3. Color: Gray.
   4. Thickness: 0.09 inch, nominal.
   5. Width: 48 inches.
   6. Height: 96 inches.
   7. Water Absorption: 0.17 percent, when tested in accordance with ASTM D 570.

C. Products:
   1. Glasbord by Kemlite Company, Inc: www.glasbord.com.

2. Substitutions: See Section 01 60 00 - Product Requirements.

D. Panel Trim: Extruded PVC, in manufacturer's standard colors.
   1. Outside corners, inside corners, edge trim, and division molding.

E. Sealant: Silicone Sealant; gunnable silicone rubber; clear.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Take panels out of cartons and allow to acclimatize to room conditions for at least 48 hours 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.

C. Clean surfaces thoroughly prior to installation.

D. Protect existing surfaces from damage due to installation.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Use the adhesives recommended by the panel manufacturer unless prohibited by local regulations; obtain manufacturer's approval of alternative adhesives.

C. Install continuous bead of silicone sealant in each joint and trim groove and between trim and adjacent construction, maintaining 1/8 inch expansion space.

D. Avoid contamination of panel faces with adhesives, solvents, or cleaners; clean as necessary and replace if not possible to repair to original condition.

E. Protect installed products until completion of project.

F. Touch-up, repair or replace damaged products after Substantial Completion.

END OF SECTION

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Accessories for toilet rooms, utility rooms, and janitor rooms.

B. Grab bars.

C. Installation of Owner furnished items (OFCI).

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Owner furnished items for installation by Contractor.

B. Section 09 21 16 - Gypsum Board Assembles: Wall framing and backing.

1.03 REFERENCE STANDARDS

A. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

C. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.

D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.05 SUBMITTALS

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

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Bobrick Washroom Equipment Inc: www.bobrick.com.

B. Other Acceptable Manufacturers:
   1. ASI - American Specialties, Inc: www.americanspecialties.com.
   2. Bradley Corporation: www.bradleycorp.com.
   3. Substitutions: Section 01 60 00 - Product Requirements.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

B. Stainless Steel Sheet: ASTM A666, Type 304.

C. Stainless Steel Tubing: ASTM A269/A269M, Type 304 or 316.

D. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

E. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03 FINISHES

A. Stainless Steel: No. 4 Brushed finish, unless otherwise noted.

2.04 TOILET ROOM ACCESSORIES

A. Toilet Paper Dispenser TPD): Owner furnished, Contractor Installed.

B. Paper Towel Dispenser (PTD): Owner furnished, Contractor Installed.

C. Soap Dispenser (SD): Owner furnished, Contractor Installed.

D. Mirrors: Stainless steel framed, 1/4 inch thick tempered safety glass; ASTM C1048.
   1. Size: As indicated on Drawings.
   2. Frame: 0.05 inch angle shapes, with mitered corners; No.4 finish.
   3. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and non-absorptive filler material.
   4. Basis on Design: B-165 by Bobrick.
   5. Substitutions: Section 01 60 00 - Product Requirements.

E. Seat Cover Dispenser (SCD): Owner furnished Contractor Installed.

F. Grab Bars: Stainless steel, nonslip grasping surface finish.
   1. Standard Duty Grab Bars:
      a. Push/Pull Point Load: 250 pound-force, minimum.
      b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
      c. Length and Configuration: As indicated on drawings.
      d. Basis of Design: B-6806.99 by Bobrick.
      e. Substitutions: Section 01 60 00 - Product Requirements.

G. Sanitary Napkin Disposal Unit: Owner furnished Contractor Installed.

H. Specimen Pass: Interlocking double door type; stainless steel; integrated spillage tray.
   1. Basis of Design: B-505 by Bobrick.
   2. Substitutions: Section 01 60 00 - Product Requirements.

2.05 UTILITY / JANITOR ROOM ACCESSORIES

A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.
   1. Holders: 3 spring-loaded rubber cam holders.
   2. Length: 36 inches.
   3. Basis of Design: B-223 by Bobrick.
   4. Substitutions: Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on the drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

GENERAL FIRE SUPPRESSION REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Refer to Division 1, Summary of Work.

1.03 WORK INCLUDED

A. Provide all materials, labor, equipment together with all incidental items not shown or specified, which are required by code and good practice to provide complete systems.

1.04 COORDINATION

A. Coordinate all work in Division 21 with work specified in other Divisions to provide a complete installation. Expense of changes required because of lack of supervision or coordination shall be borne by the Contractor. Such changes shall be to the satisfaction of and directly supervised by the Architect.

1.05 CONTRACT DRAWINGS

A. Location of lighting, ductwork, piping, and equipment on Drawings is approximate. Plan exact location with respect to measurements on the job and work of other trades prior to work. If measurements differ slightly, modify work. If measurements differ substantially, notify Architect prior to fabrication.

1.06 SITE VISIT

A. Examine site of proposed work and become familiar with job conditions affecting work. No additional allowance will be granted due to lack of information of exiting conditions.

1.07 SUBSTITUTIONS

A. Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Architect, pursuant to Subsection 106.07 of the 1994 Edition of the City of Springfield Stand Construction Specifications, to include all revisions at the date of bid opening. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification.

1.08 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Provide shop drawings in accordance with Division 1 – Administrative Requirements (01 30 00; 3.08). Submittals shall include all information necessary as required for complete check including any changes or modifications to the drawings necessary.

1.09 RECORD DRAWINGS

A. Provide record "as-built" drawings in accordance with Division 1, Closeout Submittals (01 78 00;3.01.A.1). Show all deviations from Contract Drawings, including addenda and change order items. Dimension all concealed piping from column grids or building lines.

1.10 PERMITS, CODES, AND INSPECTIONS

A. Permits: Obtain all permits and pay fees required by governing agencies having jurisdiction over this work.

B. Codes, Standards: Applicable codes and standards contained therein shall determine minimum requirements for materials, methods, and labor practices not otherwise stated herein.

C. Inspections: Arrange and pay for inspections and tests required by codes or ordinances.

1.11 CUTTING AND PATCHING

A. In accordance with Division 1, Cutting and Patching (01 70 00).

1.12 COMPLETION

A. General: When installation is complete, cleaned and adjustments specified herein made, operate system to demonstrate to Architect that system is complete and operating in conformance with these Specifications.

B. Substantial Completion: Work hereunder will not be reviewed for Substantial Completion until operating and maintenance data, record drawings and directories specified herein have been approved.

C. Final Completion: Entire installation turned over to the Owner in finished and satisfactory working condition.

1.13 WARRANTY

A. Provide a written warranty covering Work of the Division for a period of one year in accordance with Division 1. Include manufacturer's written warranties for material and equipment.

PART 2 - PRODUCTS

2.01 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials and equipment in a manner to prevent damage and deterioration.

2.02 MATERIALS

A. All materials employed in permanent construction shall be new, full weight, in first class condition and suitable for space provided. All similar materials shall be of one manufacturer.

2.03 PIPING SPECIALTIES

A. Escutcheons: Nickel or chrome, split ring type, plated, size sufficient to cover pipe sleeve or opening.

PART 3 - EXECUTION

3.01 CLEANING SYSTEMS

A. After all fixtures and piping systems are installed, system shall be thoroughly cleaned per Division 1. Remove all stickers and tags. Clean all piping systems. Repair or replace any discoloration or damage to system, building finish, or furnishing resulting from failure to properly clean systems.

3.02 ACCESS TO EQUIPMENT AND ACCESSORIES

A. Install piping and equipment with adequate access for service.

3.03 SEISMIC REQUIREMENTS

A. All piping, equipment, and fixtures shall be provided with hangers, transverse bracing, longitudinal bracing, bolts, and connection types per OSSC. Seismic calculations shall be provided by the Contractor.

3.04 PIPES

A. Coordinate with other piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space.

B. Slope piping and arrange for drainage at low point. Maintain piping above finished ceiling and avoid conflict with other above ceiling mounted equipment.

C. Provide clearance for access to other pipes, valves, and equipment as required.

D. Install piping on warm side of building insulation.

3.05 PIPING SPECIALTIES

A. Escutcheons: Install on exposed pipes passing through walls, floors, or ceilings where pipes are exposed in finished areas and within cabinets.

3.06 PIPE PENETRATION

A. Where pipes pass through walls, ceilings, or floors, seal off void between opening and duct, or pipe and sleeve. Provide escutcheon in exposed locations.

B. Where pipes or other material pass through or penetrate any fire-resistant wall, ceiling, or floor use UL listed fire stop systems meeting the requirements of the Authority having Jurisdiction. Provide packing materials, sealants, angles, and accessories. Completely seal voids the full thickness of material being penetrated. STI, Metacaulk, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

END OF SECTION

FIRE PROTECTION SYSTEMS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SHOP DRAWINGS

A. Upon award of contract and within 30 days thereof, Contractor shall prepare a complete set of 1/4" or 1/8" scale working drawings showing location of all piping and heads. Show head placement with respect to all ceiling appurtenances on a drawing developed from the architectural reflected ceiling drawings. Submit to Architect and Fire Marshal for review and approval prior to Work.

1.03 DESCRIPTION OF SYSTEM

A. The entire building is currently fully sprinklered. The extent of the fire protection system work includes all fire protection valves, fittings, connections, pipe, fittings, and sprinkler heads as required for the remodeled building area.

B. Replace all existing fire sprinkler heads in the remodel areas with quick response heads.

C. The fire suppression system shall be designed by a registered professional engineer with experience in fire protection systems and as required by the authority having jurisdiction.

1.04 CODES, CERTIFICATION AND REFERENCE STANDARDS

A. System shall meet the requirements of OSSC, NFPA 13, NFPA 24, the Fire Code, and the requirements of the State Fire Marshal's Office.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

A. Interior Pipe and Fittings: Conform to NFPA 13.

2.03 SPRINKLER HEADS

A. Areas with finished ceilings: Quick response heads. Fully recessed pendent, standard brass, chrome finished head with adjustable flush cup chrome escutcheon. Star, Grinnell, Reliable, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

B. Verify that the work of this Section may be installed in accordance with all pertinent codes and regulations and the approved Shop Drawings.

C. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 INSTALLATION

A. All pipe ends and interiors shall be thoroughly cleaned of all foreign matter and shall be kept clean during installation.

B. Cutting of pipe for closure or other reasons shall be done in a neat, workmanlike manner by methods of which will not damage the pipe, and as recommended by the manufacturer.

C. Install all piping as high as possible, parallel and plumb to building lines with piping pitched to drain to main drain valve or auxiliary drains as required to empty entire system of water. Coordinate all piping and head locations with structure, ceiling access, piping, duct work and electrical work shown on the drawings. All piping shall be concealed. Piping shall not be routed above electrical switchgear, panels, or transformers.

D. Install hangers at all branch line connections to cross mains and all other points as required by NFPA 13.

E. Sprinkler heads shall be installed centered in the tiles of t-bar ceilings and shall not be installed in the locations where access is required above the ceiling.

F. Furnish and deliver to the Owner a metal box suitable for wall mounting and containing six spare heads of each type used in the system and a head wrench.

3.03 INSPECTION AND TESTS

A. All inspection and tests required by the authorities and/or agencies shall be warranted and paid for by the contractor as necessary to obtain complete and final acceptance of the system.

B. Rough-in of all piping shall be hydrostatically tested at 200 psi and witnessed by the Fire Marshal or his assigned deputy and in accordance with NFPA 13. Repair any leaks as required.

3.04 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the work be covered up or enclosed prior to all required inspections and approvals; uncover the work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.05 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the installation. Remove all labels and all traces of foreign substance, using only a cleaning solution approved by the manufacturer of the equipment and being careful to avoid all damage to finished spaces. Remove all debris accumulated by this Work.

END OF SECTION

GENERAL PLUMBING REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Refer to Division 26 for related electrical work.

B. Refer to Division 1, Summary of Work for description of alternates and phasing of work.

1.03 WORK INCLUDED

A. Provide all materials, labor, equipment together with all incidental items not shown or specified, which are required by code and good practice to provide complete systems. Refer to Division 1, Summary of Work.

1.04 COORDINATION

A. Coordinate all work in Division 22 with work specified in other Divisions to provide a complete installation. Expense of changes required because of lack of supervision or coordination shall be borne by the Contractor. Such changes shall be to the satisfaction of and directly supervised by the Architect.

1.05 CONTRACT DRAWINGS

A. Location of lighting, ductwork, piping, and equipment on Drawings is approximate. Plan exact location with respect to measurements on the job and work of other trades prior to work. If measurements differ slightly, modify work. If measurements differ substantially, notify Architect prior to fabrication.

1.06 SITE VISIT

A. Examine site of proposed work and become familiar with job conditions affecting work. No additional allowance will be granted due to lack of information of existing conditions.

1.07 SUBSTITUTIONS

A. Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Architect, pursuant to Subsection 106.07 of the 1994 Edition of the City of Springfield Stand Construction Specifications, to include all revisions at the date of bid opening. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification. Manufacturer's names and model numbers shown on drawings or in specifications form the

basis of design and indicate quality of equipment or materials. Manufacturers not listed require prior approval. Substitution requests must be made in writing to the Architect prior to bid in accordance with Division 1, 01 60 00 - Product Requirements.

1.08 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Provide shop drawings in accordance with Division 1 – Administrative Requirements (01 30 00; 3.08). Submittals shall include all information necessary as required for complete check including any changes or modifications to the drawings necessary.

B. Provide Shop Drawings for the following:
   1. Valves
   2. Piping Specialties
   3. Pipe Supports
   4. As required in other sections.

1.09 RECORD DRAWINGS

A. Provide record "as-built" drawings in accordance with Division 1, Closeout Submittals (01 78 00;3.01.A.1). Show all deviations from Contract Drawings, including addenda and change order items. Show depth of all stub outs and underground lines. Dimension all concealed piping from column grids or building lines.

1.10 PERMITS, CODES, AND INSPECTIONS

A. Permits: Obtain all permits and pay fees required by governing agencies having jurisdiction over this work.

B. Codes, Standards: Applicable codes and standards contained therein shall determine minimum requirements for materials, methods, and labor practices not otherwise stated herein.

C. Inspections: Arrange and pay for inspections and tests required by codes or ordinances.

1.11 CUTTING AND PATCHING

A. In accordance with Division 1, Cutting and Patching (01 70 00).

1.12 TEMPORARY SERVICES

A. Provide in accordance with Section Division 1(01 50 00), Temporary Facilities and Controls as required for completion of Work.

1.13 OPERATING AND MAINTENANCE DATA

A. Submit in accordance with Division 1 (01 78 00), Operation and Maintenance Data. Include information only on the exact equipment installed. Include the following information where applicable:
   1. Manufacturer's printed operating, maintenance, and service information.
   2. Approved shop drawings.
   3. Manufacturer's parts list.
   4. Service and dealer directory listing.
   5. Written certification of disinfection of the domestic water system.

1.14 START UP

A. The Mechanical Contractor shall be responsible for proper operation of all systems and shall coordinate start up procedures, calibration and system checkup with subcontractors present. System operational problems shall be diagnosed and corrected as required for system operation.

1.15 COMPLETION

A. General: When installation is complete, cleaned and adjustments specified herein made, operate system to demonstrate to Architect that system is complete and operating in conformance with these Specifications.

B. Substantial Completion: Work hereunder will not be reviewed for Substantial Completion until operating and maintenance data, record drawings and directories specified herein have been approved.

C. Final Completion: Entire installation turned over to the Owner in finished and satisfactory working condition.

1.16 WARRANTY

A. Provide a written warranty covering Work of the Division for a period of one year in accordance with Division 1 (01 78 00). Include manufacturer's written warranties for material and equipment.

PART 2 - PRODUCTS

2.01 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials and equipment in a manner to prevent damage and deterioration. Store in original container. Indoor units, if stored outside, must be covered.

2.02 MATERIALS

A. All materials employed in permanent construction shall be new, full weight, in first class condition and suitable for space provided. All similar materials shall be of one manufacturer. All materials designed for dispensing potable water shall be ‘No-Lead’ meeting the requirements of NSF/ANSI 372.

2.03 VARIATIONS IN EQUIPMENT

A. Manufacturer’s names and model numbers shown on drawings or in specifications form the basis of design. If approved mechanical equipment of other manufacturer requires modification or additions to any Work as shown on the drawings, Mechanical Contractor shall arrange for and pay costs of such changes as part of this Work.

2.04 PIPES AND PIPE FITTINGS

A. Cast Iron Soil Pipe: No-hub cast iron pipe with gasket and clamp fittings conforming to ANSI Standard A112.5.1. All cast iron soil pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and be listed by NSF International.

B. Copper Tube: Hard drawn copper conforming to ANSI H23.1 and ASTM B88. Type L above grade, type K below grade. Fittings shall be wrought copper 95-5 solder joint fittings, type K, conforming to ANSI B16.22, or press-connect joints if approved by the code official.

C. Plastic Drain Pipe: Schedule 40 solid wall PVC gravity sewer pipe and fittings conforming to ASTM D2665, ASTM D1784 and ASTM D1785 with solvent weld DWV fittings, and tracer wire where below grade. Pipe to be dual labeled complying with both ASTM D2665 and ASTM D1785. Foam core not allowed.

D. PEX Tube: Cross-linked polyethylene tubing and fittings manufactured in accordance with ASTM F876 and 877 to SDR-9 dimensional standards, ASTM F1807, NSF 14 and 61 listed, certified to PEX 5006 and CSA STANDARDS B137.5. Minimum pressure and temperature ratings of 100 psi at 180F. Cold expansion fittings meeting ASTD F1960. Minimum 6 month UV protection.

E. CPVC Pipe: Schedule 40 IPS PVC pipe and fittings manufactured from a Type IV, Grade 1 Chlorinated Polyvinyl Chloride (CPVC) compound with a cell classification of 23447 per ASTM D1784. Pipe shall conform to ASTM F441. Pipe and fittings shall have NSF seal of approval.

2.05 VALVES

A. All valves of a given type shall be of one manufacturer. Manufacturer's name and number listed are intended to indicate quality. Valves manufactured by Crane, Apollo, Nibco, Powell, Jenkins, Milwaukee, Watts, Stockham, Hammond, McDonnell-Miller as listed below, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Ball Valves: Size 2" and Smaller: Bronze two piece body, 150 WSP, full port, lever handle with stops. Threaded or soldered ends to match pipe. Brass stem and chrome plated ball. Teflon or ethylene propylene seats. Provide stem extender for insulated valves. Must meet Federal Specification MSS SP-110 and WW-V-35, Type II. Hammond UP8501, UP8511 or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

C. Gate Valves: Size 2" and Smaller: Bronze body, Class 125. Malleable iron wheel handle, ends to match pipe, bronze stem, non-rising. Must meet Federal Specifications MSS-SP-80 and WW-V-54, Type 1, Class A. Hammond UP645, UP647 or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

D. Check Valves: 2" and Smaller: Bronze body, Class 150, ends to match pipe. Y-pattern, replaceable teflon disc. Must meet Federal Specification MSS-SP-80. Nibco T-413-YF or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

E. Pressure and Temperature Relief Valves: Cast iron or bronze body, ASME construction set for pressure specified, bimetallic thermostat element, dip tube, size to meet equipment capacity. McDonnell-Miller, Watts, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

F. Drain Valves: Bronze, compression stop with nipple and cap or hose thread.

2.06 PIPE SUPPORTS AND ACCESSORIES

A. Use adjustable pipe hangers on suspended pipe. Chain or perforated strap hangers are not permitted. Provide supports between piping and building structure where necessary to prevent swaying.

B. Pipe Hangers:
   1. Size 3" and smaller: Adjustable, malleable iron, solid or split ring, black. UL and FM approved. PHD 505, Grinnell, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Size 3-1/2" and larger cast iron, Schedule 40 steel: Carbon steel, black finish. UL and FM approved. PHD 450, Grinnell, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.
   3. Copper tubing hangers: Steel hanger; PHD 151, Grinnell, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements. On uninsulated piping provide calcium silicate inserts of same diameter as pipe insulation.
   4. PEX tubing hangers: Provide hangers and support per manufacturer's written recommendations.

C. Insulation Protection: Shields for insulated 4" and smaller cold water or storm drain shall be 18 ga. x 12" length. Galvanized steel shield to encompass 1/2 circumference. PHD 170, Grinnell, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

D. Supports for exposed piping routed along finished walls shall be metal framing channels with pipe clamps. Superstrut Series 1000 Channel with 702 Pipe Clamp, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 PIPING SPECIALTIES

A. Escutcheons: Nickel or chrome, split ring type, plated, size sufficient to cover pipe sleeve or opening.

B. Unions: Iron body with brass seat for steel pipe, bronze or brass for copper pipe, 125 lb. MWP.

C. Insulating Unions: 250 lb. MWP, ends to match piping. Flow of electric current must be below 1% of the galvanic current. Gasket material as recommended by manufacturer for service intended. Epco or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 CLEANING SYSTEMS

A. After all fixtures and piping systems are installed, system shall be thoroughly cleaned per Division 1. Remove all stickers and tags from fixtures. Clean fixtures. Clean all piping systems prior to installation of insulation or painting. Repair or replace any discoloration or damage to system, building finish, or furnishing resulting from failure to properly clean systems.

3.02 ACCESS TO EQUIPMENT AND ACCESSORIES

A. Install equipment with adequate access for service. Provide access doors where shown or required for proper access to valves, P-traps, trap primers, cleanouts, shock absorbers, vacuum breakers, and all other mechanical equipment requiring maintenance where area is not accessible by other means.

B. Access doors shall be minimum size of 12 X 12 inches. Access doors in public areas shall be lockable. Access doors shall have same fire rating as the surface they are installed in. Type, size, and exact location of access doors shall be coordinated with Architect prior to Work.

3.03 SEISMIC REQUIREMENTS

A. All piping, equipment, and fixtures shall be provided with hangers, transverse bracing, longitudinal bracing, bolts, and connection types per OSSC. Seismic calculations shall be provided by the Contractor. Refer to structural drawings for seismic design requirements.

3.04 PIPES

A. Route piping in general locations indicated. Coordinate with other piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation of insulation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight. Conceal piping above ceiling and within furring and walls unless otherwise indicated. Piping shall not be installed on the floor without prior approval.

E. Install piping on warm side of building insulation.

3.05 VALVES

A. Valves shall be the full size of pipes in which they are installed unless otherwise noted on Drawings. Install valves in groups where possible. All valves shall be accessible. All valves to be installed with stem above horizontal.

B. Valve Application:
   1. Install valve types as specified herein and as designated by symbols on the Drawings. Unless otherwise noted provide ball valves in domestic water systems.
   2. Install valves for shut off and to isolate equipment, parts of systems, and vertical risers.
   3. Install gas cocks at each piece of gas fired equipment and as shown on drawings.

3.06 PIPE SUPPORTS AND ACCESSORIES

A. Supports for hot water pipes shall rest directly on the pipe insert with insulation tight to insert. Supports for cold water pipes shall rest on the insulation with specified protection. Supports for all piping not more than two feet from each change of direction.

B. Vertical Pipe Supports:
   1. Vertical pipes adjacent to walls: Support by means of bracket formed of steel straps bolted to wall, with clamps around pipe. Super Strut with series 700 clamps or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Vertical pipes not adjacent to walls: Riser clamp at each floor, steel on steel pipe and copper-plated on copper pipe.

C. Horizontal Pipe Supports:
   1. Support cast iron piping at each joint and at each branch fitting with same size rod diameter as specified below.
   2. Spacing for horizontal steel and copper piping supports as follows unless otherwise indicated on Drawings:

Pipe size	Rod Diameter	Max. Spacing	
		Steel & Copper	PVC & CPVC Sch 80
Up to 1"	3/8"	6'-0"	4'-0"
1-1/4" thru 2"	3/8"	10'-0"	5'-0"
2-1/2" thru 3-1/2"	1/2"	10'-0"	6'-0"
4"	5/8"	14'-0"	6'-6"
6"	3/4"	17'-0"	7'-6"

3.07 PIPING SPECIALTIES

A. Escutcheons: Install on exposed pipes passing through walls, floors, or ceilings where pipes are exposed in finished areas and within cabinets. Escutcheons not required in Mechanical Rooms.

B. Unions: Place in line at all equipment and where shown or required to facilitate maintenance or removal.

C. Insulating Unions: Place in line in accessible locations wherever ferrous and non-ferrous metals come in contact in plumbing systems. Place in line at water heaters.

D. Pipe Sleeves: Install where pressure or hot pipes pass through concrete or masonry construction. Install flush with finished surfaces, secure sleeve against displacement by caulking with grout or equal to make watertight. Extend sleeve 1 inch above finished floor.

3.08 COMPONENT IDENTIFICATION

A. Piping: Identify all piping size 1" and larger with the name and direction of flow on the pipe at 20' intervals, at each take-off, and at penetrations through structure. Lettering shall be 1" high block. Marking Services MS-900 or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

3.09 PIPE PENETRATION

A. Where pipes pass through walls, ceilings, or floors, seal off void between opening and duct, or pipe and sleeve. Provide escutcheon in exposed locations.

B. Where pipes or other material pass through or penetrate any fire-resistant wall, ceiling, or floor use UL listed fire stop systems meeting the requirements of the Authority having Jurisdiction. Provide packing materials, sealants, angles, and accessories. Completely seal voids the full thickness of material being penetrated. STI, Metacaulk, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

3.10 FLASHING

A. All exterior building penetrations shall be flashed for weather tightness. Coordinate with General Contractor.

3.11 EXPANSION COMPENSATION

A. Provide structural work and equipment required to permit free expansion and contraction of piping without causing undue stress. Provide pipe loops and offsets, swing joints, and flexible connectors where required or as shown.

B. Securely anchor pipe and provide pipe guides as necessary for proper installation of expansion loops. Provide thrust blocks on underground hot water elbows and tees as required to control and direct expansion.

END OF SECTION

PLUMBING INSULATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUBMITTALS

A. Provide Shop Drawings for all insulation products to be used on this project.

PART 2 – PRODUCTS

2.01 MATERIALS

A. All glass fiber coverings and liners shall have a composite fire and smoke hazard rating as tested by procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding 25 flame spread, 50 smoke developed. All insulation products shall be PBDE free per State of Oregon requirements. All accessories, such as adhesive, mastic cements, tape, and fabric cloths for fitting shall have the same component ratings as listed above. Materials must conform to the Uniform Mechanical Code, latest edition. Insulating characteristics shall meet OEESC, latest edition.

2.02 PIPE INSULATION

A. Fiberglass: Preformed pipe insulation with a thermal conductance of 0.23 BTU per inch per square foot per deg. F. per hour at a mean temperature of 75F. White kraft and foil reinforced with glass fibers (all service jacket), self-sealing lap. Vapor barrier on cold pipes. JohnsManville Micro-Lok HP, Owens-Corning, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulation Kit: Preformed, vinyl coated, white or beige insulation kit for exposed waste, cold water, and hot water piping. Insulation kit shall be able to be reinstalled after removal. Access to stop valve without removing insulation. Trap Wrap 500R, Truebro, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:
   1. Prior to all Work of this section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where installation may properly commence.
   2. Verify that the Work of this section may be installed in accordance with all pertinent codes and regulations and the approved Shop Drawings.

B. Discrepancies:
   1. In the event of discrepancy, immediately notify the Architect.
   2. Do not proceed with installation in the areas of discrepancy until all such discrepancies have been fully resolved.

3.02 APPLICATION

A. Pipe Insulation: Provide the following minimum insulation thickness or as required by Code.
   1. Potable cold water piping above grade - 1" fiberglass.
   2. Potable hot water piping above grade - 1" fiberglass.
   3. Waste Piping exposed below Level 1 - 1" fiberglass.

3.03 INSTALLATION

A. General:
   1. Insulation shall be applied on clean, dry surfaces, after inspection and release for insulation.
   2. All insulation shall be continuous through wall and ceiling openings and sleeves.
   3. Insulate and cover all fittings, valve bodies, etc., as specified herein.

B. Pipe Insulation:
   1. Fiberglass (cold surfaces) - All joints firmly butted together. Seal jacket lap joints on top or back so as to be least noticeable with vapor barrier adhesive. Vapor barrier must be applied with a continuous unbroken seal.
   2. Fiberglass (hot surfaces) - All joints firmly butted together. Seal jacket lap joints on top or back so as to be least noticeable.
   3. Fiberglass Joints - Cover all fittings including mechanical groove type fittings with one-piece premolded PVC fittings and inserts which meet the composite fire and smoke hazard ratings as tested by procedure ASTM-E-84. Seal fittings on cold surfaces with vapor barrier retarder. Secure PVC fittings with tape.

3.04 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required; and, after it has been completely inspected and approved, make all repairs and replacements with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.05 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the insulation installation, removing all labels and all traces of foreign substance. Remove all debris accumulated by this Work.

END OF SECTION

WATER DISTRIBUTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SHOP DRAWINGS

A. Provide Shop Drawings for the following:
   1. Piping
   2. Plumbing Specialties

PART 2 - PRODUCTS

2.01 PIPING

A. Domestic Water Pipe: Copper tube, CPVC, or PEX. If using PEX, increase pipe diameter indicated as 1-1/4” to 1-1/2”.

2.02 PLUMBING SPECIALTIES

A. Thermometers: Stainless steel case, brass thermowell, 2 inch dial, 35 -250°F range, extension necks where required to clear insulation. Honeywell GS200, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Single Sink Mixing Valves: Lead free brass body, selectable temperature between 80 and 120°F, cross flow protection, integral screens, ASSE 1070 listed, designed for installation between stop valves and faucet. Watts, Wilkins, Bradley, Powers, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 HEAT CABLE SYSTEM

A. UL listed, self regulating low temperature heating cable with flame retardant insulation jacket. Three watts per foot at 50°F, 208 volt. Provide complete UL Listed, CSA certified system of heating cables, components, for ordinary areas to prevent pipes from freezing including factory power connection kit, conduit connection, end seal kit, splice kit, and kit and cable attachments. Control with remote bulb thermostat set at 36°F. Chromalox SRF, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 FLEXIBLE CONNECTORS

A. Water heater connectors shall be 24” long metallic meeting ASME A112.18.6-2009/CSA B125.6-2009.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Prior to all Work of this section, carefully inspect the installed Work of all other trades affected by Work of this section and verify that all such Work is completed to the point where installation may properly commence. Verify that plumbing may be installed in strict accordance with all pertinent codes and regulations and approved Shop Drawings.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PIPE AND FITTINGS

A. Route piping in general locations indicated. Coordinate with other lighting, piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation of insulation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight. Conceal piping above ceiling and within furring and walls unless otherwise indicated. Piping shall not be installed on the floor without prior approval.

E. Install piping on warm side of building insulation.

F. For noise reduction isolate piping with resilient mounts where piping passes through studs and joists. Caulk pipe openings in floor and wall penetrations.

3.03 HEAT CABLE

A. Locate Heat Cable thermostat remote bulb below the floor deck near MS-1 trap. Install system in accordance with manufacturer's written recommendations.

3.04 PIPE TEST

A. Test and disinfect all piping per code requirements. Make all tests before pipes are concealed. Provide valves and temporary plugs or caps as needed to isolate sections of piping for testing.

B. Domestic Water Piping:
   1. Test hydrostatically at 125 psi. Remain under pressure for minimum of two hours with no leakage.
   2. Follow Oregon Plumbing Specialty Code for disinfection. Provide written certification at completion of Work to Owner and Architect.

3.05 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, make all repairs and replacement with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.06 CLEANING UP

A. Prior to acceptance of Work, thoroughly clean all exposed portions of the installation, removing all labels and all traces of foreign substances, using only a cleaning solution approved by the manufacturer of the plumbing item and being careful to avoid all damage to finished surfaces.

END OF SECTION

SANITARY WASTE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SHOP DRAWINGS

A. Provide Shop Drawings for the following equipment:
   1. Piping
   2. Plumbing Cleanouts

PART 2 - PRODUCTS

2.01 PIPING

A. Waste and vent exposed at street and garage: Cast Iron Soil Pipe.

B. Waste and vent within building and through roof: Plastic Drain Pipe, or Cast Iron Soil Pipe.

C. Water Heater Pan Drain: Copper tube.

2.02 PLUMBING CLEANOUTS

A. Plumbing cleanouts shall be installed in the drainage system where noted on Drawings or where specifically required by the governing plumbing code. Cleanouts to be full line size.

B. Cleanout types as follows:
   1. Wall Cleanout: Taper thread, bronze countersunk plug. In frame construction, round stainless steel flush access cover with satin top. Coverplate secured with vandalproof screws. Josam Series No. 58700, J.R. Smith 4472-U, Wade, Zurn, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Prior to all Work of this section, carefully inspect the installed Work of all other trades affected by Work of this section and verify that all such Work is completed to the point where installation may properly commence. Verify that plumbing may be installed in strict accordance with all pertinent codes and regulations and approved Shop Drawings.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PIPE AND FITTINGS

A. Route piping in general locations indicated. Coordinate with other piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight. Conceal piping above ceiling and within furring and walls unless otherwise indicated. Piping shall not be installed on the floor without prior approval.

E. For noise reduction isolate piping with resilient mounts where piping passes through studs and joists. Caulk pipe openings in floor and wall penetrations.

F. Waste Piping: Drainage piping sloped at 1/4" per foot unless otherwise noted on plans. Changes in size made with reducing and wye fittings.

G. Vent Piping: Vents through roof shall be flashed with Roofing Manufacturer's piping penetration kit compatible with roofing material and acceptable to Roofing Contractor. Joints shall be no hub cast iron or screwed cast iron drainage fittings with maximum of 25% of threads showing. Install piping sloped at minimum of 1/2" per 10 feet. Hold exposed piping as near framing as possible, parallel and plumb to building lines.

3.03 PIPE TEST

A. Test all piping per code requirements. Make all tests before pipes are concealed. Provide valves and temporary plugs or caps as needed to isolate sections of piping for testing.

B. Building Drainage, Waste and Vent Piping: Test hydrostatically by filling piping system with water to the highest point. The water shall be kept in the system for at least 15 minutes before inspection starts. System shall be tight at all points.

3.04 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, make all repairs and replacement with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.05 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the installation, removing all labels and all traces of foreign substances, using only a cleaning solution approved by the manufacturer of the plumbing item and being careful to avoid all damage to finished surfaces.

END OF SECTION

PLUMBING FIXTURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SHOP DRAWINGS

A. Provide Shop Drawings for the following equipment:
   1. Fixtures and Trim

PART 2 - PRODUCTS

2.01 FIXTURES AND TRIM

A. Furnish and install plumbing fixtures, traps, trims, escutcheons, hangers, supports, ledge rims, and accessories as listed. Manufacturer's name and number indicate typical quality and features of the fixture. Fixtures shall be of types approved by State Health Department and those designed for dispensing water shall be 'No-Lead' meeting the requirements of NSF/ANSI 61 and NSF/ANSI 372. Manufacturers per Schedule on Drawings or as listed below.
   1. Water closets, lavatories: American Standard, Kohler, or approved equal.
   2. Lavatory faucets: Sloan, Chicago, Moen Commercial, American Standard Commercial, or approved equal.
   3. Sinks: Just, Moen Commercial, Elkay, or approved equal.
   7. Mop Sink: Fiat, Mustee, or approved equal.
   8. Water Heater: Bradford White, AO Smith, Lochinvar, or approved equal.
   9. Substitutions: See Section 01 60 00 - Product Requirements.

B. Carriers: Carriers supported from floor with feet poured in concrete or bolted to floor per manufacturer's recommendations. Use compact carries where space is not available for a standard carrier. JR Smith, Wade, Josam, Zurn,Watts or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

C. Traps: Exposed traps which are readily accessible shall be not less than 17 gauge chromeplated brass tube, metal to metal ground joints. Standard brass of fixture, Dearborn Brass, Moen Commercial or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

D. Supplies and Stop Valves: All fixtures shall be fitted with chromeplated solid brass stops, replaceable neoprene seat, 3/8" tube riser, 1/2" brass nipple to wall, attached handle, escutcheon. Provide drop ear elbows and solid blocking as required for rigid installation. Brasscraft, American Standard, Kohler, Moen Commercial, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

E. Closet Seats: Solid white reinforced plastic, open front, non-metallic bumper, hinge with insert molded integrally in seat, concealed check. Color to match fixture. Olsonite, Church, Beneke, American Standard, Bemis or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

F. Water Heaters: Water heaters shall meet the requirements of NAECA and shall include an adjustable thermostat for set-point between 90 and 180 degrees F. Provide seismic safety strap restraint kit top and bottom of heater, USADAR Crop or equal. Provide drain pan where shown on drawings. Set heater off floor on masonry units as needed to slope pan drain. Provide expansion tank.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Prior to all Work of this section, carefully inspect the installed Work of all other trades affected by Work of this section and verify that all such Work is completed to the point where installation may properly commence. Verify that plumbing may be installed in strict accordance with all pertinent codes and regulations and approved Shop Drawings.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 FIXTURES

A. Fasten fixtures securely to supports and building structure. Fixtures shall be installed parallel and plumb to finish surfaces. All fixtures in contact with finished walls shall be caulked with waterproof, non-hardening, silicone sealant, color to match fixture.

3.03 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, make all repairs and replacement with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.04 CLEANING UP

A. Prior to acceptance of Work, thoroughly clean all exposed portions of the installation, removing all labels and all traces of foreign substances, using only a cleaning solution approved by the manufacturer of the plumbing item and being careful to avoid all damage to finished surfaces.

END OF SECTION

GENERAL HVAC REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Refer to Division 26 related electrical work.

B. Refer to Division 1, Summary of Work for description of alternates and phasing of work.

1.03 WORK INCLUDED

A. Provide all materials, labor, equipment together with all incidental items not shown or specified, which are required by code and good practice to provide complete systems. Refer to Division 1, Summary of Work.

1.04 COORDINATION

A. Coordinate all work in Division 23 with work specified in other Divisions to provide a complete installation. Expense of changes required because of lack of supervision or coordination shall be borne by the Contractor. Such changes shall be to the satisfaction of and directly supervised by the Architect.

1.05 CONTRACT DRAWINGS

A. Location of lighting, ductwork, piping, and equipment on Drawings is approximate. Plan exact location with respect to measurements on the job and work of other trades prior to work. If measurements differ slightly, modify work. If measurements differ substantially, notify Architect prior to fabrication.

1.06 SITE VISIT

A. Examine site of proposed work and become familiar with job conditions affecting work. No additional allowance will be granted due to lack of information of existing conditions.

1.07 SUBSTITUTIONS

A. Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Architect, pursuant to Subsection 106.07 of the 1994 Edition of the City of Springfield Stand Construction Specifications, to include all revisions at the date of bid opening. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification. Manufacturer's names and model numbers shown on drawings or in specifications form the

basis of design and indicate quality of equipment or materials. Manufacturers not listed require prior approval. Substitution requests must be made in writing to the Architect prior to bid in accordance with Division 1, 01 60 00 - Product Requirements.

1.08 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Provide shop drawings in accordance with Division 1 – Administrative Requirements (01 30 00; 3.08). Submittals shall include all information necessary as required for complete check including any changes or modifications to the drawings necessary. Include fan curves.

1.09 RECORD DRAWINGS

A. Provide record "as-built" drawings in accordance with Division 1, Closeout Submittals (01 78 00;3.01.A.1). Show all deviations from Contract Drawings, including addenda and change order items. Dimension all concealed piping from column grids or building lines

1.10 PERMITS, CODES, AND INSPECTIONS

A. Permits: Obtain all permits and pay fees required by governing agencies having jurisdiction over this work.

B. Codes, Standards: Applicable codes and standards contained therein shall determine minimum requirements for materials, methods, and labor practices not otherwise stated herein.

C. Inspections: Arrange and pay for inspections and tests required by codes or ordinances.

1.11 CUTTING AND PATCHING

A. In accordance with Division 1, Cutting and Patching (01 70 00).

1.12 TEMPORARY SERVICES

A. Provide in accordance with Division 1 (00 50 00), Temporary Facilities and Controls as required for completion of Work. Permanent heating and ventilating systems shall not be used for heating and ventilation during construction without prior approval by the Architect. Provide separate portable heaters and fans as required.

1.13 OPERATING AND MAINTENANCE DATA

A. Submit in accordance with Division 1, Operation and Maintenance Data (01 78 00). Include information only on the exact equipment installed. Include the following information where applicable:
   1. Manufacturer's printed operating, maintenance, and service information for equipment and control systems.
   2. Approved shop drawings.
   3. Manufacturer's parts list.
   4. Balance report.

1.14 START UP

A. The Mechanical Contractor shall be responsible for proper operation of all systems and shall coordinate start up procedures, calibration and system checkup with subcontractors present. System operational problems shall be diagnosed and corrected as required for system operation.

1.15 INSTRUCTION

A. After all equipment and systems are operating, instruct Owner's operating personnel in the operation and maintenance of all systems. Training shall be by individuals who are familiar and have minimum three years of experience with the systems. Provide the following minimum instruction:
   1. HVAC and exhaust systems – 1 hour

1.16 COMPLETION

A. General: When installation is complete, cleaned and adjustments specified herein made, operate system to demonstrate to Architect that system is complete and operating in conformance with these Specifications.

B. Substantial Completion: Work hereunder will not be reviewed for Substantial Completion until operating and maintenance data, record drawings and directories specified herein have been approved.

C. Final Completion: Entire installation turned over to the Owner in finished and satisfactory working condition.

1.17 WARRANTY

A. Provide a written warranty covering Work of the Division for a period of one year in accordance with Division 1 (01 78 00). Include manufacturer's written warranties for material and equipment.

PART 2 - PRODUCTS

2.01 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials and equipment in a manner to prevent damage and deterioration. Store in original container. Indoor units, if stored outside, must be covered.

2.02 MATERIALS

A. All materials employed in permanent construction shall be new, full weight, in first class condition and suitable for space provided. All similar materials shall be of one manufacturer.

2.03 ELECTRICAL EQUIPMENT

A. All electrical equipment UL and NEMA labeled or acceptable to electrical inspection authorities having jurisdiction. All equipment which requires electrical service of 50 amps or more shall have lugs suitable for either copper or aluminum supply conductors.

B. Provide any interlocking devices as required for automatic control. All wiring (and electrical Work pertaining to mechanical system) by Mechanical Contractor unless specified in Division 26.

C. Motors: Motors 1/2 HP or over voltage and phase as shown on Drawings. Motors rated less than 1/2 HP wound for 120 volt 60 cycle, single phase, 1750 rpm, unless otherwise specified. Provide manual switch with overload protection when required. All motors protected by thermal overload protection. Motor starters and fused disconnects shall be provided by the Mechanical Contractor unless specified in Division 26.

2.04 VARIATIONS IN EQUIPMENT

A. Manufacturer's names and model numbers shown on drawings or in specifications form the basis of design. If approved mechanical equipment of other manufacturer requires modification or additions to any Work as shown on the drawings, Mechanical Contractor shall arrange for and pay costs of such changes as part of this Work.

2.05 EQUIPMENT SPECIALTIES

A. Machinery Guards: All moving parts of machinery, such as shaft couplings and belt drives, shall be adequately covered with removable metal guards to protect personnel from possible injury.

B. V-Belt Motor Drives: Rated at 150% of motor capacity with adjustable cast iron drive sheave and enclosed with protective belt guard secured to equipment.

PART 3 - EXECUTION

3.01 CLEANING SYSTEMS

A. After all equipment, pipes, and duct systems are installed, system shall be thoroughly cleaned per Division 1. Remove all stickers and tags from equipment and fixtures. Clean all piping systems prior to installation of insulation or painting. Repair or replace any discoloration or damage to system, building finish, or furnishing resulting from failure to properly clean systems.

3.02 ACCESS TO EQUIPMENT AND ACCESSORIES

A. Install equipment with adequate access for service. Provide access doors where shown or required for proper access to valves, dampers, motors, and all other mechanical equipment requiring maintenance where area is not accessible by other means.

B. Access doors shall be minimum size of 12 X 12 inches. Access doors in public areas shall be lockable. Filter rack access shall have handles. Access doors shall have same fire rating as the surface they are installed in. Type, size, and exact location of access doors shall be coordinated with Architect prior to Work.

3.03 SEISMIC REQUIREMENTS

A. All piping, ductwork, and equipment shall be provided with hangers, transverse bracing, longitudinal bracing, bolts, and connection types per OSSC and SMACNA Seismic Restraint Manual Guidelines for Mechanical Systems. Seismic calculations shall be provided by the Contractor. Refer to seismic design requirements on structural drawings.

3.04 COMPONENT IDENTIFICATION

A. Piping: Identify all piping size with the name and direction of flow on the pipe at 20' intervals, at each take-off, and at penetrations through structure. Lettering shall be 1" high block. Marking Services MS-900 or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Equipment: Identify all equipment with nameplate attached to the equipment or adjacent to it. Use equipment designation per schedule on drawings, where possible. Nameplate shall be black bakelit or phenolic resin with 1/2" high white letters.

C. Controls: Identify all controls, switches, and indicating lights with nameplate securely attached to the device or adjacent to it. Nameplate shall be attached on the inside face of thermostats. Phenolic labels or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

3.05 PAINTING

A. Inside ducts visible through face of grilles or diffusers, paint one coat flat black.

B. All pipe hangers, ferrous piping, supports, and equipment without factory finish and where exposed below finished ceilings or on the exterior of the building shall be painted flat black.

C. Except as noted herein, prepare all mechanical equipment, piping, and ductwork for painting if painting is shown in finish schedule.

3.06 PIPE AND DUCTWORK PENETRATION

A. Where ducts and pipes pass through walls, ceilings, or floors, seal off void between opening and duct, or pipe and sleeve. Provide escutcheon in exposed locations.

B. Where ducts, pipes, conduit, equipment, or other material passes through or penetrates any fire-resistant wall, ceiling, or floor use UL listed fire stop systems meeting the requirements of the Authority having Jurisdiction. Provide packing materials, sealants, angles, and accessories. Completely seal voids the full thickness of material being penetrated. STI, Metacaulk, 3M, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

3.07 FLASHING

A. All pipe and duct penetrations through roof shall be manufactured piping penetration packages or flashing cones compatible with roofing material and acceptable to Roofing Contractor. Coordinate with General Contractor and Roofing Manufacturer. Stormtite Multiflash or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

3.08 VIBRATION ISOLATION AND EQUIPMENT BASES

A. Provide complete vibration isolation supports for all equipment where required to prevent transmission of vibration to the building. Size springs in accordance with manufacturer's recommendations. Where fan and motor are mounted separately, provide integral steel fan and motor base. Maximum of 10% transmissibility.

END OF SECTION

HVAC INSULATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUBMITTALS

A. Provide Shop Drawings for all insulation products to be used on this project.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All glass fiber coverings and liners shall have a composite fire and smoke hazard rating as tested by procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding 25 flame spread, 50 smoke developed. All insulation products shall be PBDE free per State of Oregon requirements. All accessories, such as adhesive, mastic cements, tape, and fabric cloths for fitting shall have the same component ratings as listed above. Materials and insulating characteristics shall meet OMSC and OEESC, latest edition.

2.02 DUCT INSULATION

A. Outside Duct Wrap: Formaldehyde-free fiberglass blanket with FSK foil reinforced fire-resistant facing, thermal conductance of 0.27 BTU per inch per square foot per deg. F. per hour at a mean temperature of 75F, and vapor barrier rating of 0.02 perms. JM Microlite EQ, Owens Corning, Knauf, Certainteed, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Inside Duct Liner: Flexible duct liner with acrylic coating, edge seals, thermal conductance of 0.24 BTU per inch per square foot per deg. F. per hour at a mean temperature of 75F, 1-1/2 pound per cubic foot density. Liner shall be a fire, mildew, and damage resistant surface meeting ASTM G1/C1338 for fungi resistance and ASTM G22 for bacteria resistance. Johns Manville Linacoustic RC, Owens Corning QuietR Rotary Duct Liner, Certainteed, Knauf, Casco, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:
   1. Prior to all Work of this section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where installation may properly commence.
   2. Verify that the Work of this section may be installed in accordance with all pertinent codes and regulations and the approved Shop Drawings.

B. Discrepancies:
   1. In the event of discrepancy, immediately notify the Architect.
   2. Do not proceed with installation in the areas of discrepancy until all such discrepancies have been fully resolved.

3.02 APPLICATION

A. Duct Insulation:
   1. Provide duct insulation as required by code. See Section 23 31 00 for additional requirements.
   2. Use internal liner to meet insulation requirements for exposed ducts, where exterior insulation would be subject to damage such as mechanical rooms, storage areas, etc., or where acoustical isolation is required.

3.03 INSTALLATION

A. General:
   1. Insulation shall be applied on clean, dry surfaces, after inspection and release for insulation.
   2. All insulation shall be continuous through wall and ceiling openings and sleeves.
   3. Insulate and cover all fittings, valve bodies, etc., as specified herein.

B. Duct Insulation:
   1. Inside Duct Liner - Attenuation: Apply to flat sheet metal before fabrication with minimum 90% adhesive coverage using a water based adhesive, DuroDyne SSG or approved equal. Substitutions: See Section 01 60 00 - Product Requirements. On ducts over 16" in height or width, the liner shall be additionally secured with impact driven or weld secured fasteners on 15" centers. All joints shall be tightly butted together and sealed with mastic. All exposed edges, leading edge of all cross joints, and shop fabrication cuts of the liner shall be coated with Manufacturer's coating material. All rips and tears on the air stream surface shall be repaired by Manufacturer's coating material. Channel metal nosings shall be securely installed over traverse edges facing the air stream at fan discharge and at any lined duct preceded by unlined duct.
   2. Outside Duct Wrap - Wrap insulation snugly around duct and lap 2 inch flap completely over facing and insulation at seams and joints. Adjacent sections shall be firmly butted together. Secure joints and seams with outward clinching staples placed approximately 6 inches on center. Seal joints and seams with pressure-sensitive tape designed for use with duct insulation requiring a vapor barrier. Wire where required and seal to maintain vapor barrier. Insulation on ducts larger than 24 inches wide shall be additionally secured with mechanical fasteners and speed clips spaced 18 inches on center. Cut fasteners flush and seal.

3.04 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it is complete and has passed all required inspections.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required; and, after it has been completely inspected and approved, make all repairs and replacements with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.05 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the insulation installation, removing all labels and all traces of foreign substance. Remove all debris accumulated by this Work.

END OF SECTION

TESTING, ADJUSTING, AND BALANCING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION

A. The work performed by the Testing, Adjusting, and Balancing Contractor under this Section shall be performed by a firm experienced in this work and as approved by the Architect. The work includes testing, adjusting, and balancing of the installed mechanical systems. The Mechanical Contractor shall be responsible for the coordination of the work of the Balancing Contractor and other Contractors involved in the installation of the systems being balanced.

B. The Balancing Contractor shall be a current member of AABC and/or NEBB, have at least three years of experience in projects similar to this project, and maintain an office within 100 miles of the job site. The Balancing Contractor shall be independent of the installer of the systems being tested.

C. Balancing Contractors: Air Balance Specialties, Neudorfer Engineers, Southern Oregon Air Balance, AIR Incorporated, Northwest Engineering, or other as approved. Substitutions: See Section 01 60 00 - Product Requirements.

1.03 SUBMITTALS

A. System Performance Report: All test results shall be recorded on forms which have been approved by the Architect. Reference to system points shall be designated by Architectural Room No. and points per room. Include in report drawings which relate all reference points in report to Contract Drawings. Report shall be bound and indexed. Submit 3 copies to Architect at completion of the work.

PART 2 - PRODUCTS

2.01 BALANCING EQUIPMENT

A. The Balancing firm shall supply all instruments, tools, and equipment necessary to perform the work specified herein. All instruments shall have been calibrated within the preceding six months. Provide proof of calibration to the Architect. Mechanical Contractor shall make changes in motor sheaves where required and provide any scaffolding, ceiling tile removal and replacement necessary to provide access to balancing dampers or to take required readings.

PART 3 - EXECUTION

3.01 FINISHED SURFACES

A. Protection: Use all means necessary to protect the installed work and materials of all other trades and existing surfaces.

B. Replacements: In the event of damage, immediately make all repairs and replacement necessary to the approval of the Architect at no additional cost to the Owner.

3.02 ADJUSTMENT AND BALANCING OF AIR SYSTEMS

A. Make the following observations and make corrections where necessary to report to Mechanical Contractor:
   1. Check for drafts, noise and vibration.
   2. Check building pressure under normal operating conditions.
   3. Establish equal pressure within the building from one room to another except special areas requiring positive or negative conditions.

B. Make the following measurements and adjustments to all new mechanical equipment, existing HP-2, and existing HP-12 systems serving the remodel area. Record results in System Performance Report.
   1. Identify and list size, type and manufacturer of all air terminals, fans, and heat transfer equipment.
   2. Record nameplate data for all motors, and record the actual running amperes for each fan motor.
   3. Test, adjust, and record supply, return, and exhaust fan rpm to deliver not less than 90% or more than 110% of total volume specified.
   4. Test, adjust, and record outside air to within 10% of specified volumes using duct traverse measurements.
   5. Test and record initial velocities and cfm at all supply, return and exhaust air terminals. Adjust and record until volumes are within 10% of air quantity specified. Adjust air flow pattern to minimize drafts to the extent design and equipment permits.
   6. Test and record entering and leaving dry bulb and wet bulb temperature for the heating and cooling cycle of each supply fan.
   7. Test and record static pressure at the inlet and outlet of all supply and exhaust air fans.
   8. After all air flow adjustments have been made, mark final position of balancing dampers.
   9. Check and record room thermostat settings and room temperature after all air flow adjustments have been made. Check operation of all controls.

3.03 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the installation. Remove all labels and all traces of foreign substance, using only a cleaning solution approved by the manufacturer of the equipment and being careful to avoid all damage to finished spaces. Remove all debris accumulated by this Work.

END OF SECTION

HVAC DUCTS AND ACCESSORIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SHOP DRAWINGS

A. Provide Shop Drawings for the following:
   1. Diffuser and Grilles
   2. Roof Vents
   3. Exhaust Fans
   4. Duct Heaters.

PART 2 PRODUCTS

2.01 GENERAL

A. All ductwork and accessories shall have a composite fire and smoke hazard rating as tested by procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding 25 flame spread, 50 smoke developed ratings.

2.02 DUCTWORK

A. Metal ducts and plenums: G90 galvanized steel ductwork per ASTM A653 complying with Oregon Mechanical Specialty Code, ASHRAE Equipment Volume and SMACNA HVAC Duct Construction Standards, latest editions.
   1. Supply ducts - 2" WG positive pressure.
   2. Return and exhaust ducts - 2" negative pressure.

B. Flexible Ducts: Polyethylene (CPE) core with coated spring steel spiral bonded to integral seamless air seal, and wrapped with 1" fiberglass insulation with vapor barrier outer jacket. Maximum working pressure of 1-1/2" w.g. Duct must be UL 181 listed and comply with NFPA 90A and 90B standards. Installation according to manufacturer's recommendations. Thermaflex M-KE, ATCO 037, Flex-Master, Gen Flex, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 AIR SYSTEMS SPECIALTIES

A. Volume Dampers: Smaller than 14 x 14 use butterfly type with locking quadrants, adjustable handle. Two gauges heavier than duct, minimum of 18 gauge galvanized sheet metal. Larger than 12 x 12 use manually adjustable opposed blade type with maximum 48" sections, controlled by an outside lockable arm. DuroDyne Stampline/Quadline. In non-accessible areas, use DuroDyne AD-38 rod and gear assembly with 8009 concealed regulator. DuroDyne, Young, Ventfabrics, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Turn Vanes: Non-adjustable 90 degree air turn, minimum 26 gauge galvanized double wall steel blade, minimum 24 gauge galvanized steel side rails. Vanes 2-1/8" on center. Install in all rectangular elbows, bends and tees. H-E-P High Efficiency Profile as manufactured by Aero Dyne Co., DuroDyne, Schuller SuperVane, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

C. Backdraft/Barometric Dampers: Minimum 14 gage steel frame, bearings, blade seals, adjustable counterweight, and linkage. Maximum width when fully open not to exceed 8 inches. Install at all outside air intakes and exhaust outlets where damper is not an integral part of the fan. Ruskin CBS7, Greenheck, American Warming, Air Balance or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 DIFFUSERS AND GRILLES

A. Grilles shall have factory applied flat white enamel prime coat on steel or clear anodized aluminum unless otherwise noted. Maximum NC of 25.

B. Manufactured by Carnes, NCA, Ruskin, Cesco, Titus, Price, Krueger, Nailor, Pottorf, Anemostat, Greenheck, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements. See Schedule on Drawings.

2.05 EXHAUST FANS, EF

A. AMCA certified for sound and air performance and shall be UL listed. Provide a minimum of three diameters of straight duct at connection to fan. Maximum sound rating and rpm as shown on schedule. Manufactured by Greenheck, Carnes, Penn, Cook, Acme, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. EF-1: Roof mounted direct drive centrifugal exhaust fan of aluminum construction. Fan housing shall be heavy gauge aluminum with rigid internal support, curb cap with mounting holes, and birdscreen. Motor with thermal overloads and mounted out of the airstream on vibration isolators. Factory installed disconnect switch located in motor compartment. Provide solid state speed controller factory mounted in fan housing. Provide manufacturer's prefabricated, welded, insulated roof curb with damper tray and backdraft damper. Intertie fan with existing HP-2 thermostat to operate fan during occupied time periods.

C. EF-2: Centrifugal ceiling fan with insulated housing, aluminum grille, backdraft damper, integral occupancy sensor with time delay, and vibration isolator kit for suspended installation. Motor mounted on vibration isolators. Provide solid state speed controller factory mounted inside fan housing. Low profile ceiling or in-line fans are not acceptable.

2.06 ROOF VENTS, RV

A. Gravity exhaust ventilator. Aluminum construction with integral galvanized birdscreen, welded curb and throat seams. Provide manufacturer's prefabricated, welded, insulated roof curb. Carnes, Greenheck, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 DUCT HEATERS, DH

A. Slip-in heater, UL listed for zero clearance to combustible surfaces. Coils to be high grade nickel chromium alloy supported by ceramic bushings. Primary protection to be disc type automatic reset thermal cut outs. Secondary protection to be disc type, load carrying manual reset thermal cutouts, factory wired in series with heater stages. Provide air flow pressure switch and 24 volt transformer.

B. Control by 24 volt wall mounted thermostat. Duct heater shall operate when air flow switch is met and thermostat calls for heating. Honeywell TH5110D or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

C. Manufacturer: Tutco, Redi-Heat, Indeeco, Warren or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 DUCT CONSTRUCTION

A. Construct all ductwork of sheet metal. Construct supply and return ductwork within six feet of HP unit duct risers of internally lined sheetmetal. Flexible ducts may be used at diffusers above suspended metal grid ceilings with no greater than 6'-0" total duct length and maximum 45 degree offset.

3.02 INSTALLATION

A. Ducts constructed and installed in accordance with Oregon Mechanical Specialty Code, ASHRAE Equipment Volume, SMACNA Duct Construction manual, and NFPA 90A, latest editions. Duct supports shall be strap, trapeze, or rod hangers, galvanized steel sheet, or threaded steel rod. Wire supports are prohibited. Refer to Section 23 05 00 for seismic requirements.

B. Install ductwork level and plumb. Allow for access to equipment and accessories. All ducts plugged during construction; kept clean.

C. Provide duct supports within 24 inches of elbows and 48 inches of branch tees. Locate supports to prevent stresses at duct fittings. Provide appropriate attachments to structure. Coordinate locations with other piping, conduit, and equipment.

D. Provide turn vanes in all elbows, tees and bends.

E. All duct dimensions shown are inside dimensions. Where inside duct insulation is required, duct dimensions are to inside face of insulation. See Insulation Specifications.

F. Seal all longitudinal and transverse joints and seams in sheetmetal ducts with water based solvent system Hardcast Versa-grip, 181Hardcast 1402 3" wide tape, or Hardcast DT Tape and with RTA-50 adhesive, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

G. Provide balancing damper in ductwork serving each diffuser and grille. Locate damper as far as possible from diffuser or grille. If there is no access to damper, provide concealed regulator. Opposed blade damper as part of diffuser or register may be used with prior approval.

H. Install all equipment and accessories and support from structure per manufacturer's recommended instructions. Provide adequate access for service. Mechanical Contractor shall coordinate startup of all equipment and systems. All moving and rotating parts shall be lubricated prior to equipment startup.

I. Provide flexible connectors at each side of fans and other rotating equipment. 4" fabric, 2" clearance between metal work.

I. Control system wiring (24 volt maximum) shall be routed in conformance with Division 26 using conduit except above fully accessible ceilings. Mount all control devices as high as possible, between 48 and 54 inches above finished floor per ADA requirements. Thermostats shall be labeled on the inside face.

3.03 DIFFUSER, GRILLE INSTALLATION

A. Install flush with ceiling, secured to ductwork. Provide full size sheet metal boot at diffuser for connection to ductwork.

3.04 FLEXIBLE DUCT INSTALLATION

A. Provide saddle at hangers a minimum of 6 inches wide or as required to prevent pinching of duct. Install duct fully extended and free of kinks with maximum sag of one inch per foot. Changes of direction shall not exceed 45 degrees. Maximum support spacing of 4 feet.

3.05 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose work until it has been properly and completely inspected and approved.

B. Should any of the work be covered up or enclosed prior to all required inspections and approvals; uncover the work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

3.06 CLEANING UP

A. Prior to acceptance of the Work, thoroughly clean all exposed portions of the installation. Remove all labels and all traces of foreign substance, using only a cleaning solution approved by the manufacturer of the equipment and being careful to avoid all damage to finished spaces. Remove all debris accumulated by this Work.

END OF SECTION

SUBMITTALS AND SHOP DRAWINGS

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Refer to General Divisions for submittal requirements and procedures.

1.02 DEFINITIONS

A. Manufacturer's Product Data: Manufacturer's product data consist of one or more levels of manufacturer's information as described below and as requested in the submittal schedule. The three levels of information include: manufacturer's list, manufacturer's catalog data, and manufacturer's technical and engineering data.

1. Manufacturer's List: Manufacturer's list shall include a typewritten list of manufacturer's name, sizes and model or catalog numbers, referenced to the specification section.
2. Manufacturer's Catalog Data: Manufacturer's catalog data shall include standard catalog information marked to indicate specific equipment proposed and point of operation, if appropriate. Include installation instructions.
3. Manufacturer's Technical and Engineering Data: Manufacturer's technical and engineering data shall include materials, dimensions, details, installation instructions, weights, capacities, illustrations, wiring diagrams, control diagrams, piping diagrams, connection diagrams, performance data (including performance curves), mix design, and any other information required for a complete and thorough evaluation of the equipment or items specified, and to verify compliance with specifications. Control diagrams or control schematics, where specified and required by the submittal schedule, shall include a detailed schematic of the proposed control modifications and their interface with existing control equipment, where appropriate, and a manufacturer and model number listing of all proposed control components shown on the control schematic.

B. Shop Drawings: Shop Drawings are construction drawings of items manufactured specifically for this project. Shop Drawings include dimensions, construction details, weights, and additional information to identify the physical features of the system or piece of equipment.

C. Samples: Samples illustrate functional characteristics of the product with integral parts and attachment devices. Samples shall allow evaluation of full range of manufacturer's standard colors, textures, and patterns.

D. Certificates, Test Data or Other Information: Requirements for certificates, test data, or other information will be listed under referenced specification sections.

1.03 SUBMITTALS REQUIRED

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

1. Manufacturer's list
2. Manufacturer's catalog data
3. Manufacturer's technical and engineering data
4. Shop Drawings
5. Samples
6. Certificates
7. Test data

8. Worker's qualifications
9. See individual sections for special requirements

1.04 SUBMITTAL SCHEDULE

~~Division 26 – Electrical~~	~~Codes~~
Section 26 09 23 - Lighting Control Equip.	2
Section 26 27 26 - Wiring Devices	1
Section 26 28 16 - Overcurrent Protective Devices	1
Section 26 29 13 - Motor and Circuit Disconnects	2,3
Section 26 51 13 - Interior Lighting	2,3
~~Division 28 – Electronic Safety and Security~~	~~Codes~~
Section 28 31 00 - Fire Alarm System	2,3,4,9

PART 2 - PRODUCTS

2.01 THIS PART NOT USED

PART 3 - EXECUTION

3.01 THIS PART NOT USED

END OF SECTION

COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.01 CONTRACT DOCUMENTS

A. The Contract Documents are complementary. What is required by any one, as affects this Division, shall be as binding as if repeated herein.

B. Separation of this Division from other Contract Documents shall not be construed as complete segregation of the Work.

1.02 SCOPE OF WORK

A. General: Provide and install complete and satisfactorily operating electrical systems as specified in this Division, as shown on Drawings, as required, and as reasonably intended. Work generally includes, but is not limited to electrical distribution, lighting, devices, wiring systems and control systems.

B. Omissions: Omission of expressed reference to any item of labor or material necessary for the proper execution of the work shall not relieve responsibility from providing such additional labor or material.

1.03 EXAMINATION OF SITE

A. Examine Site of Work before making Bid and ascertain all related physical conditions.

B. Field verify scale dimensions shown since exact locations, distances and levels will be governed by actual field conditions.

C. Owner will not be responsible for any loss or unanticipated costs which may be suffered by the successful Bidder as a result of such Bidder's failure to fully inform themselves in advance in regard to all conditions pertaining to the Work and character of the Work.

1.04 COORDINATION OF TRADES

A. Check Drawings of other trades to avert possible installation conflicts. Should major changes from original Drawings be necessary to resolve such conflicts, notify Architect and secure written approval and agreement on necessary adjustments before installation is started.

B. Check equipment connections and equipment locations on the job for coordination with other Divisions equipment and connections, structure, and the like.

1.05 MINOR DEVIATIONS

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

1.06 1.05 SUBSTITUTIONS

A. Brand Name or Equal Specification means a specification that uses one or more manufacturers' names, makes, catalog numbers or similar identifying characteristics to describe the standard of quality, performance, functionality or other characteristics

needed to meet the contracting agency's requirements. The "Equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equal in reference to the project design requirements will be made by the Architect pursuant to Subsection 106.07 of the 1994 Edition of the City of Springfield Stand Construction Specifications, to include all revisions at the date of bid opening. Unless otherwise specified, whenever a manufacturer's name brand or model is mentioned, it is to be understood that the phrase "approved equal" is assumed to follow thereafter, whether it does in fact or not. Such specification authorizes Contractors to offer goods or services that are equivalent or superior to those brands named or described in the specification. Manufacturer's names and model numbers shown on drawings or in specifications form the basis of design and indicate quality of equipment or materials. Manufacturers not listed require prior approval. Substitution requests must be made in writing to the Architect prior to bid in accordance with Division 1, 01 60 00 - Product Requirements.

1.07 RECORD DRAWINGS

A. Maintain a marked set of prints at job site at all times. Show all changes from Contract drawings, whether visible or concealed. Dimension accurately from building lines, floor or curb elevations. Show exact location, elevation, and size of conduit, access panel and doors, and all other information pertinent to the work.

B. At project completion, submit marked set to Architect for approval.

1.08 WARRANTY

A. Warrant all Work, materials, and equipment. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 - PRODUCTS

2.01 THIS PART NOT USED

PART 3 - EXECUTION

3.01 THIS PART NOT USED

END OF SECTION

ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.01 SCOPE

A. It is the intent of these documents to provide the necessary information and adjustments to the electrical system required to meet Code, and accommodate installation of the new work.

B. Contractor shall coordinate with the Owner so that work can be scheduled not to interrupt operations, normal activities, building access, access to different areas. The Owner will cooperate to the best of their ability to assist in a coordinated schedule, but will remain the final authority as to time of work permitted.

1.02 EXISTING CONDITIONS:

A. The locations of existing utilities and equipment are shown in an approximate way only and have not been independently verified by the Owner or its representative. The Contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the Contractor's failure to exactly locate and preserve any and all utilities and equipment. Replace damaged items with new material to match existing. Promptly notify Owner if utilities are found which are not shown on the drawings.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All materials accumulated during the demolition process are the Owner's property and shall be removed from the job site as directed by the Owner.

PART 3 - EXECUTION

3.01 DEMOLITION

A. Remove all existing fixtures, clocks, switches, receptacles, and other electrical equipment and devices and associated wiring from walls, ceilings, floors, and other surfaces scheduled for remodeling, relocation, or demolition unless specifically shown as retained or relocated on the Drawings.

B. Disconnect all existing mechanical equipment scheduled for removal, relocation or abandonment. See mechanical Drawings for scope of work. Remove abandoned cables and unusable raceways. Relabel panels and motor control centers to reflect changes.

C. Maintain electrical continuity of all existing systems. Remove or relocate electrical boxes, conduit, wiring, equipment, fixtures, etc. as may be encountered in removed or remodeled areas in the existing construction affected by this work. Wiring which serves usable existing outlets shall be removed and restored clear of the construction or demolition. If existing junction boxes will be made inaccessible, or if abandoned outlets serve as feed through boxes for other existing electrical equipment which is being retained, new conduit and wire shall be provided to bypass the abandoned outlets. If existing conduits pass through partitions or ceiling which are being removed or remodeled, new conduit and wire

shall be provided to reroute clear of the construction or demolition and maintain service to the existing load.

D. Extend circuiting and devices in all existing walls to be furred out.

E. Verify exact location of existing electrical outlets and light fixtures in the field. Only partial existing electrical shown. Locations of items shown on the Drawings as existing are partially based on as-built and other drawings which may contain errors. The contractor shall verify the accuracy of the information shown prior to bidding and provide such labor and material as is necessary to accomplish the intent of the contract documents.

F. Remove all abandoned wiring to leave site clean.

G. Keep outages to occupied areas to a minimum and prearrange all outages with the Owner's representative. Requests for outages shall state the specific dates and hours and the maximum durations, with the outages kept to these specific dates and hours and the maximum durations. This Contractor will be liable for any damages resulting from un-scheduled outages or for those not confined to the preapproved times. Outages shall take place at times when the facility is not in operation or occupied by non-essential personnel. Include all costs for overtime labor as necessary to maintain electrical services in the initial bid proposal. Temporary wiring and facilities, if used, shall be removed and the site left clean before final acceptance. Requests for outages must be submitted at least (5) days prior to intended shutdown time.

H. No circuit breaker or disconnects shall be turned off without prior approval from Owner. Coordinate with the Owner's representative responsible for the area or equipment affected for any electrical interruptions which affect the operation of the remaining portions of the facility.

I. Verify with the General Contractor a location for storage of materials, supplies, tools, rubbish, etc. prior to start of work.

END OF SECTION

LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Wires and Cables

B. Wire Connections

1.02 REFERENCE STANDARDS

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

1.03 DELIVERY, STORAGE AND HANDLING

A. Deliver new wire to Site in new standard coils or reels with approved tag denoting length, wire size, insulation type and manufacturer's name.

B. Protect from weather and damage during storage and handling.

PART 2 - PRODUCTS

2.01 CONDUCTOR AND CABLE MATERIALS

A. Building Wiring: 98 percent conductivity copper, 600 volt insulation, stranded. Type THHN for interior dry and damp locations. Type THWN or XHHW for wet and exterior locations.

B. Branch Circuit Wiring: Conductors smaller than No. 12 AWG for power system branch circuits not permitted.

C. Motor control wires shall be No. 14 minimum.

D. Wire for special areas shall be as specified on the Drawings.

2.02 TWIST-ON CONNECTOR

A. UL pressure-type, solderless, insulated, wound spring grip twist on connector.

B. Solderless pressure connectors for terminals, taps, and splices.

2.03 COMPRESSION ADAPTER

A. For terminating a single aluminum wire into mechanical connectors, such as a circuit breaker or set screw lugs. Burndy "Hyplug" Type AYP, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 TERMINAL, CRIMP-ON

A. Flat, fork tongue, self-insulating.

B. For connection of stranded wire to screw terminals.

C. T & B "Sta-Kon," or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 CONDUCTOR AND CABLE INSTALLATION

A. Make conductor length for parallel feeders identical.

B. Lace or clip groups of feeder conductors at distribution centers, pullboxes, and wireways.

C. Provide copper grounding conductors and straps. A ground wire shall be pulled through conduits and used as the equipment grounding conductor.

D. Install wire and cable in code conforming raceway.

E. Use wire pulling lubricant for pulling No. 4 AWG and larger wire. UL approved type only.

F. Install wire in conduit runs after concrete and masonry work is complete and after moisture is swabbed from conduits.

G. Splice only in accessible junction or outlet boxes. Splice in feeders and services not permitted. Splices or taps in branch circuits permitted only in junction boxes where circuits divide.

H. Color code conductors to designate neutral, phase, and ground as follows:

CONDUCTOR	120/208 OR 120/240	277/480
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Gray
Ground	Green	Green
Switchlegs	Pink or Tan	Pink or Tan
Travelers	Purple	Purple
Fire Alarm	Red	
Intercom/Clock/Bell	Grey	
Security	Orange	
HVAC Control	Green	
Data/Telecom	White (CAT6)	

I. Wires shall be factory color coded by integral pigmentation. Colored plastic tape permitted on No. 6 and larger where integral pigmentation impractical. Apply tape in spiral half-lap over exposed portions in manholes, boxes, panels, switchboards and other enclosures.

J. All circuit conductors shall be identified with circuit number at all terminals, intermediate outlets, disconnect switches, circuit breakers, motor control centers, etc. Both ends of a given conductor shall be identified alike.

K. DO NOT install wires of different voltage systems in same raceway, box, gutter or other enclosure.

L. Radius of cable bends shall not be less than 10 times the outer diameter of the cable.

3.02 CONNECTIONS AND SPLICES

A. Follow manufacturer's instructions using manufacturers recommended tools.

B. Stripping Insulation: Carefully strip, avoid nicking conductor. No "ringing."

C. Design: Connectors shall be designed and approved for the purpose used. Connectors between aluminum and copper shall be listed "AL/CU" for the purpose of preventing electrolytic action.

D. Bare Connectors and Conductor Free Ends: Wrap with insulating rubber or friction tape to equivalent insulation of wire.

E. Ground Continuity to Metallic Surfaces: Remove any paint coating and polish surface beneath connection.

F. Copper conductors may be terminated in any approved compression or mechanical connector, including set screws.

G. No splices or taps permitted in feeder or branch circuit terminating in a single outlet.

H. Branch circuit splices and taps in junction and outlet boxes: Twist-on connectors.

I. Conductor and cable copper shall not be reduced at the terminal for making connections.

J. Slack shall be left at equipment, pullboxes, or outlet boxes to allow for a neat termination.

END OF SECTION

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Electric and power system grounding

B. Communication system grounding

1.02 REQUIREMENTS OF REGULATORY AGENCIES AND REFERENCE STANDARDS

A. Provide grounds in accordance with National Electrical Code and additional requirements as required herein.

PART 2 - PRODUCTS

2.01 GROUNDING CONDUCTORS

A. Size: Equipment grounding conductor: Table 250-122.

B. Material: Copper

C. Protection: Conductors not in raceway or concealed shall be insulated. Provide conduit where shown or required for physical protection.

D. Bonding Jumpers: Same requirements

PART 3 - EXECUTION

3.01 POWER SYSTEM GROUNDING

A. Circuit Grounding: Install grounding bushings, studs, and jumpers at distribution centers, pullboxes, motor control centers, panelboards, and junction boxes.

B. Ground Connections: Clean surfaces thoroughly before applying ground lugs or clamps. If surface is coated, the coating must be removed down to the bare metal. After the coating has been removed, apply a noncorrosive approved compound to cleaned surface and install lugs or clamps. Where galvanizing is removed from metal, it shall be painted or touched up.

C. Conduit Systems:
1. Ground all metallic conduit systems.
2. Non-metallic conduit systems shall contain a grounding conductor.
3. Conduit provided for mechanical protection containing only a grounding conductor, bond to that conductor at the entrance and exit from the conduit.

D. Feeders and Branch Circuits: Install green grounding conductors with feeders and branch circuits as follows:
1. Feeders.
2. Circuits serving preparation and kitchen equipment.
3. Receptacle outlets.
4. Directly connected laboratory equipment.

5. Motors and motor controllers.
6. Fixed equipment and appliances.
7. Items of equipment where the final connection is made with flexible metal conduit shall have a grounding wire.
8. Additional locations and systems as shown.

E. Boxes, Cabinets, Enclosures, and Panelboards:
1. Bond the grounding wires to each pullbox, junction box, outlet box, cabinets, and other enclosures through which the ground wires pass (except for special grounding systems for intensive care units and other critical units shown.
2. Provide lugs in each box and enclosure for ground wire termination.
3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs for terminating the ground wires.

F. Receptacles - Refer to Section 26 27 26 – WIRING DEVICES.

G. Ground lighting fixtures to the green grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.

END OF SECTION

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Raceway Supports

PART 2 - PRODUCTS

2.01 RACEWAY SUPPORTS

A. Single Runs: Steel rod hangers, galvanized single hole conduit straps, or ring bolt type hangers with specialty spring clips. Plumbers perforated tape or "J-nails" not acceptable.

B. Multiple Runs: Conduit rack with 25 percent spare capacity. Maximum width per manufacturer's recommendations.

C. Vertical Runs: Channel support with conduit fittings.

D. All hardware such as inserts, straps, bolts, nuts, screws and washers shall be galvanized or cadmium-plated steel.

2.02 ANCHOR METHODS

A. Hollow Masonry and Framed Walls: Toggle bolts or spider type expansion anchors.

B. Solid Masonry: Lead expansion anchors or preset inserts

C. Metal Surfaces: Machine screws, bolts, or welded studs

D. Wood Surfaces: Wood screws

E. Concrete Surfaces: Self-drilling anchors or powder-driven studs

PART 3 - EXECUTION

3.01 INSTALLATION

A. Layout to maintain headroom, neat mechanical appearance, and to support equipment loads required.

B. Exact location and spacing between supports per manufacturer's recommendations and NEC requirements as minimum.

C. Conduit shall be installed in such a manner as to prevent the collection of trapped condensation. All runs of conduit shall be arranged so as to be devoid of traps wherever possible.

END OF SECTION

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Conduit, Tubing, and Fittings

B. Flexible Conduit

C. Electrical boxes and fittings as required for a complete installation

1.02 REFERENCE STANDARDS

A. National Fire Protection Association (NFPA).
   1. NFPA 70 National Electrical Code--Chapter 3

PART 2 - PRODUCTS

2.01 MATERIALS AND COMPONENTS

A. Conduit and Tubing: Galvanized steel rigid threaded conduit, electrical metallic tubing, intermediate metallic conduit, Schedule 40 PVC.

B. Flexible Conduit: Steel armor, flexible plastic jacketed type with liquidtight connectors (liquidtight flexible metallic conduit).

C. Fittings:
   1. General: Approved for purpose. Water, concrete tight where required.
   2. Galvanized Rigid Steel Conduit (GRC): Threaded - no pressure type. Bushings with factory insulated throat.
   3. Electrical Metallic Tubing (EMT): Connectors and couplings to be case steel. Preinsulated connectors and couplings shall be compression, setscrew type. All connectors shall have insulated throats.
   4. Flexible Metallic Conduit: Clamp type, galvanized malleable iron with insulated throat.
   5. Liquidtight Flexible Metallic Conduit: Continuous copper ground in core; approved watertight.

D. Expansion Joints: Offset or sliding type with bending straps and clamps. Approved for purpose.

2.02 TYPE

A. Utilize GRC or IMC in concrete with concrete-tight connectors or exterior with watertight connectors.

B. Utilize electrical metallic tubing concealed in interior spaces or exposed in unfinished, interior where not subject to physical damage.

C. Utilize surface metal raceways for exposed runs in finished areas. Paint to match wall finish.

D. Make connections to motors and equipment with flexible metallic conduit or liquidtight flexible metallic conduit. Use liquidtight type in damp locations. Minimum size 1/2-inch for motor connections. Use 3/8-inch only for fixture and control wiring. Provide sufficient length of flexible conduit to avoid transmission of vibration. Sizes not noted on the Drawings shall be as required by the NEC.

E. Utilize schedule 40 PVC with rigid steel elbows and risers under slab or underground.

2.03 OUTLET BOXES

A. Minimum Box: 4-inch box, 1-1/2-inches deep. Provide raised covers on bracket surface mounted outlets, plaster rings on flush outlets.

B. Flush Switch and Receptacle Outlets for One or Two Devices: 4-inch square box, 1-1/2-inches or more deep, with single or two-gang plaster ring.

C. Three or More Devices at One Location: Use one piece gang boxes with device cover, install one device per gang.

D. Provide galvanized steel interior outlet wiring boxes, of the type, shape and size, including depth of box, to suit each respective location and installation; constructed with stamped knockouts in back and sides, and with threaded holes with screws for securing box covers or wiring devices.

E. Provide outlet box accessories as required for each installation, including mounting brackets, wallboard hangers, extension rings, fixture studs, cable clamps and metal straps for supporting outlet boxes, compatible with outlet boxes being used and meeting requirements of individual wiring situations. Choice of accessories is Installer's option.

F. Outlet Box Plate Covers:
   1. Flush Mounting: Bevelled, pressure formed, type 302 stainless steel, match device installed.
   2. Surface Mounting: Bevelled, steel, pressure formed.

2.04 WEATHERPROOF OUTLET BOXES

A. Provide corrosion-resistant cast metal weatherproof outlet wiring boxes, of the type, shape and size, including depth of box, with threaded conduit ends, cast metal face plate with spring-hinged waterproof cap suitably configured for each application, including face plate gasket and corrosion proof fasteners.

B. Weatherproof boxes to be constructed to have smooth sides, gray finish.

C. Boxes used in contact with soil shall be cast iron alloy with gasketed screw cover and water-tight hubs.

D. Weatherproof Plates: Cast metal, gasketed, for switches and receptacles provide spring loaded doors.

2.05 WEATHERPROOF JUNCTION AND PULL BOXES

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

2.06 PULLBOXES

A. Pullboxes and Junction Boxes: Sheet metal (indoors) or cast metal (exterior or damp locations) construction, conforming to National Electrical Code, with screw-on cover.

B. Flush Mounted Pullboxes: Provide overlapping covers with flush-head retaining screws, finished in light gray enamel.

C. Box volumes shall meet NEC for size and number of entering conduits.

PART 3 - EXECUTION

3.01 RACEWAY INSTALLATION

A. Install conduit concealed in all areas excluding mechanical and electrical rooms, connections to motors, connections to surface cabinets, underfloor spaces, and above suspended ceilings.

B. For exposed runs, attach surface mounted conduit with clamps.

C. Coordinate installation of conduit in masonry work.

D. Install conduit free from dents and bruises. Plug ends to prevent entry of dirt or moisture.

E. Clean out conduit before installation of conductor.

F. Alter conduit routing to avoid structural obstructions, minimizing crossovers. Bends and offsets shall be avoided where possible, but when necessary shall be made with an approved hickey or conduit bending machine. The use of a pipe tee or a vise for bending conduit will not be permitted.

G. Provide UL approved expansion fittings complete with grounding jumpers where conduits cross building expansion joints and for long runs where conduit expansion may be excessive. Provide bends or offsets in conduit adjacent to building expansion joints where conduit is installed above suspended ceilings.

H. Route all exposed conduits parallel or perpendicular to building lines.

I. Allow minimum of 6 inches clearance at flues, steam pipes, and heat sources.

J. Vertical Runs: Straight and plumb.

K. Raceways Running in Groups: Run at same relative elevation, properly spaced and supported.

L. Dissimilar Metals: Avoid contact with pipe runs of other systems.

M. Lengths and Bends: Maximum number of bends in any run shall be the equivalent of four quarter bends (360 degrees total). Maximum length of any run shall be 300 feet, less 50 feet for each equivalent quarter bend. Junction and pull boxes shall be provided to maintain these limits.

N. Provide waterproof seal for all exterior wall and underground raceway penetrations.

O. All empty raceways shall be provided with pull string or #12 conductor.

3.02 BOX INSTALLATION

A. Locate outlet boxes flush in areas other than mechanical rooms, electrical rooms, and above suspended ceilings.

B. For boxes mounted in exterior walls make sure that there is insulation behind outlet boxes to prevent condensation in boxes.

C. Coordinate location and mounting heights with built-in units. Adjust outlet mounting height to agree with required location for equipment served.

D. Locate pullboxes and junction boxes above suspended ceilings or in electrical rooms, utility rooms, or storage areas.

E. Support: Secure boxes independent of entering conduits, by attaching directly to structure with bar hanger, blocking or flat side bracket.

F. Identify each junction and pullbox with system description including branch circuit numbers of enclosed circuits.

G. Conduit shall be securely fastened to all sheet metal outlet, junction, and pullboxes with galvanized locknuts, and bushing.

H. Do not mount boxes back-to-back. Boxes on opposite sides of wall shall be separated by at least 3 inches.

END OF SECTION

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Permanent Identification of all electrical system components.

1.02 REQUIREMENTS OF REGULATORY AGENCIES AND REFERENCE STANDARDS

A. Identification shall conform to the latest edition of the National Electrical Code (NEC), Articles 110-21 and as a minimum requirement.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Laminated Plastic:
1. Three layer, black front and back with white core.
2. Engraved through outer layer to show white characters on black background.
3. Beveled edges.
4. Other colors as specified.

B. Panelboard Directory Card: Fiberboard neatly typed for newly installed panels. Circuit changes to existing panels shall be noted on the directory card by hand printing in ink. When more than five changes have been made on the directory card, a new card shall be typed.

PART 3 – EXECUTION

3.01 ITEMS TO BE IDENTIFIED

A. Motor starters, power panels, lighting panels and the disconnecting devices contained therein

B. Disconnecting devices that are located in the area and not part of the items listed in 3.01 (A)

C. Control panels, starters, pushbutton stations, pilot lights and other control devices

D. Transformers

E. Remote control devices

F. Conductors at both device and terminal strip terminations for control and instrumentation cables and conductors

G. Other items as specified or noted

3.02 USE OF NAMEPLATES AND TAGS

A. Panel designations, as described in paragraph 3.04 (A), and disconnecting devices in motor control centers shall be identified by nameplates that are engraved or etched. Nameplates that are engraved or etched shall have a black background with white letters. Letters for panel designations shall be a minimum of 1/2 inch high and letters for disconnect devices, mentioned in this paragraph, shall be smaller than the panel designation but have a minimum height of 3/8 inch.

B. Disconnect devices in lighting panels and power panels shall be identified on the panelboard directory card.

C. All wiring shall be identified with self-laminating, machine made thermal transfer labels.

3.03 APPLYING NAMEPLATES AND TAGS

A. Nameplates that are engraved or etched, shall be attached with screws.

B. Panelboard directory cards shall be placed in holders, provided for this purpose, located inside the panel doors.

3.04 IDENTIFICATION ON NAMEPLATES AND TAGS

A. The voltage designation shall also be shown on the nameplate.

B. Nameplates for disconnecting devices contained in panels and motor control centers shall show the equipment name and location by floor and column number. Voltage designation shall not be included when the voltage is the same as for the panel or motor control center.

C. Nameplates on disconnect devices located in the area but not part of a panel or motor control center shall have the equipment name, power source identification, and voltage designation. Nameplates for disconnect devices located remotely from the equipment shall also show the equipment location by floor and column number.

D. Nameplates on items listed in paragraph 3.01 (C) shall have the equipment name while the individual switches and lights shall have the function (such as start, stop, on, off, etc.).

E. Panelboard directory cards shall list the circuit numbers and show the equipment name and location supplied by the circuits. Equipment locations shall be shown by floor and column numbers or by room numbers.

END OF SECTION

LIGHTING CONTROL EQUIPMENT

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Provide lighting control equipment:
   1. Automatic wall switches
   2. Motion sensors

1.02 QUALITY ASSURANCE

A. Minimum Standards:
   1. UL 916 Energy Management Equipment
   2. NEMA enclosure standards

1.03 SUBMITTALS

A. Shop Drawings:
   1. System diagram, including lighting control panel and all accessories.
   2. Switch input wiring

PART 2 - PRODUCTS

2.01 LIGHT LEVEL SENSOR

A. Light level sensor shall use an internal photodiode and a Fresnel lens system to measure light levels uniformly across 60 degree field of view.

B. Light level sensor shall be capable of controlling standard electronic dimming ballasts directly by supplying 2-10 VDC to ballast. Each light level sensor shall be capable of controlling up to 50 ballasts.

C. Adjustments:
   1. Light level shall be adjustable from 10 to 150 footcandles.
   2. At least two rate of change speeds, 10 seconds and 60 seconds, shall be selectable.

D. Light level sensor shall not protrude more than 0.75 inches from ceiling.

E. Acceptable product: Watt Stopper LS-30, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 AUTOMATIC WALL SWITCH

A. Automatic wall switch shall be completely self-contained and shall replace standard toggle switch. Motion sensor shall sense motion by using both passive infrared, and sound technology.

B. Switch shall sense motion in room and switch 120 or 277 V electronic or magnetic ballasts using zero crossing circuitry.

C. Time delay and sensitivity shall be adjustable.

D. Switch shall be immune to RFI, EMI, and voltage fluctuations.

E. Switch shall have manual on / automatic off mode.

F. Switch shall not require a neutral connection.

G. Acceptable products: Sensorswitch WSD-PST with switch or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 DUAL ULTRASONIC / INFRARED CEILING MOTION SENSOR

A. Motion sensor shall sense motion by using passive infrared and ultrasound sensors.

B. X Time delay shall be adjustable.

C. Sensor shall be immune to false activation due to air movement.

D. Switch shall be immune to RFI, EMI, and voltage fluctuations.

E. Acceptable products: Sensorswitch CM-PDT, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 MOTION SENSOR POWER PACK

A. Power pack shall be self-contained DC power supply and relay module. Relay shall be capable of switching 20 A ballast load using zero crossing circuitry. Power supply shall provide DC output to motion sensor.

B. Voltage to match fixtures controlled.

C. Power pack and ceiling motion sensor from same manufacturer.

D. Acceptable product: Sensorswitch or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

A. System shall be installed as shown on Drawings.

B. Motion sensor manufacturer shall verify Drawings to ensure coverage is adequate.

C. At Owner's request, return once within 60 days to adjust sensitivity of all motion sensors and to adjust programming of lighting control system.

3.02 WARRANTY

A. Lighting control system shall have a 2 year warranty.

B. Light level sensors, automatic wall switches, and ceiling motion sensors shall have a 5 year warranty.

END OF SECTION

WIRING DEVICES

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Wall Switches

B. Receptacles

C. Ground Fault Receptacles

1.02 QUALITY ASSURANCE

A. Receptacles shall be Industry Class 5362.

B. Acceptable Manufacturers: Hubbell, P&S, Sierra, Bryant, Arrow-Hart, Leviton, GE, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Switches: 120/277 Volt. AC Quiet, slow make, slow break design, toggle handle, with totally enclosed case, rated 20 ampere, specification grade. Provide matching two-pole, three-way and four-way switches.

B. Duplex Receptacles: Full gang size, polarized, duplex, parallel blade, U-grounding slot, specification grade, rated at 20 amperes, 125 volts (unless otherwise noted), designed for split feed service.

C. Ground Fault Receptacles: Specification grade duplex receptacle with integral ground fault circuit interrupter. Test and reset buttons. Matching wall plate.

D. Wall Plates: Satin stainless steel, Type 302. Nominal .040-inch thick. Match device configuration.

E. Nameplates: Provide engraved or embossed plastic nameplates for receptacles other than standard duplex receptacles indicating voltage, phase, amperes, circuit and panel.

F. Color: Provide gray switches and receptacles in all areas.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Furnish and install wiring devices of number, rating and type shown.

B. Devices to include appropriate outlet box, cover, wall plate and other necessary installation materials for a complete operating outlet.

C. Mount switches 42 inches (to center line of faceplate) above floor except as otherwise noted on the Drawings.

D. Coordinate switch mounting location with architectural detail.

E. Mount receptacles vertically at 15 inches (to bottom of faceplate) above finished floor, with grounding pole at bottom.

F. Coordinate receptacle height with benches and counters.

G. When mounting receptacle above bench or counter, mount horizontally with grounding pole at left.

H. Back wiring wells may be used for receptacles.

I. Grounding: Install a separate green or bare wire between the receptacle strap grounding (green) screw and a screw into the outlet box. Self-grounding strap not approved as grounding means.

END OF SECTION

OVERCURRENT PROTECTIVE DEVICES

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Fuses

B. Circuit Breakers

1.02 APPLICABLE REGULATIONS AND REFERENCE STANDARDS

A. Underwriters' Laboratories (UL).
1. UL 489-72 Molded Case Circuit Breakers and Circuit Breaker Enclosures.
2. UL 198 E Class R Fuses.
3. UL 198.2 High Interrupting - Capacity Fuses, Current Limiting Type.
4. UL 869 Service Disconnects.

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

PART 2 - PRODUCTS

2.01 FUSES

A. Feeder, Branch Circuit and Service Entrance Fuses: 600 amperes and below, UL Class J or RK1 current limiting type, 600 volt 200,000 ampere interrupting capacity.

B. Motor and Inductive Circuit Fuses: UL class RK5 time delay current limiting type, 600 volt, 200,000 ampere interrupting capacity.

C. Control Circuit Fuses: UL Class J or R current, limiting type, 600V.

2.02 MOLDED CASE CIRCUIT BREAKERS

A. Circuit Breakers:
1. Connection to Bus: Bolt-on.
2. Thermal-magnetic, molded case, with inverse time current overload and instantaneous magnetic tripping unless otherwise shown.
3. Quick-make, quick-break, with tripped indication clearly shown by breaker handle taking a position between ON and OFF.
4. Multi-pole breakers shall have a common internal trip. No handle ties between single pole breakers.
5. Contacts: T-rated, for heavy duty switching applications.
6. Breakers feeding convenience outlets shall have sensitive instantaneous trip settings of not more than 10 times the breaker trip rating to prevent repeated arcing shorts resulting from frayed appliance cords.
7. Additions to existing panelboards and switchboards shall match or be compatible with existing.
8. Provide handle ties per NEC for breakers serving circuits with shared neutral conductors.
9. Where used as service disconnects, breakers shall be listed for use as service entrance equipment.

PART 3 - EXECUTION

3.01 FUSE INSTALLATION

A. Label each switch to indicate type and rating of fuse installed.

B. All fuses shall be selected to provide selective system coordination.

C. Provide 10% (3 minimum) spare fuses of each size and rating used.

3.02 CIRCUIT BREAKER INSTALLATION

A. Label each breaker located in switchboard or separate enclosure to indicate load served.

B. Adjust settings on breakers to operate properly under actual field conditions and to provide selective system coordination.

C. Update directory in panelboards which have new breakers installed.

END OF SECTION

MOTOR AND CIRCUIT DISCONNECTS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Provide and install motor disconnects as shown and as required by Codes.

B. Provide and install circuit disconnects as shown and as required by Codes.

C. Disconnects to include mounting stands, brackets, plates, supports, and required hardware and accessories for complete installation.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Conform to National Electrical Code and to applicable inspection authority.

B. Provide circuit and motor disconnects in the proper enclosure as required by NEC for the location installed unless more stringent requirements otherwise noted on the Drawings or herein.

1.03 REFERENCE STANDARDS

A. Underwriters' Laboratory (UL).
1. Annual Product Directories
2. UL-98 Enclosed Switches

B. National Electrical Manufacturer's Association (NEMA).
1. NEMA KS-1 Enclosed Switches

PART 2 - PRODUCTS

2.01 COMPONENTS

A. Motor and circuit disconnects shall have an Underwriters' Laboratory label.

B. Three-Phase Disconnect Switches: Three-pole heavy duty quick make, quick break 600 volt. Number of poles and ampacity as noted or required by Code. Fusible where noted with fuse clips suitable for dual element fuses unless current limiting fuses are noted. Short circuit rating sufficient to withstand the available fault current or let-through current before the fuse melts without damage or changes in rating.

C. Compression or set-screw lugs approved for use with copper wire.

D. ON/OFF Positions: Clearly marked, lockable in "OFF" position.

E. Cover Interlock:
1. Prevents switch from being opened when "on."
2. Prevents closing switch when cover is open.
3. Defeater to permit authorized personnel to open door and inspect switch when "on," or operate with cover open.

F. Enclosure for Dry, Indoor Locations: NEMA 1 minimum. Enclosures for outdoor locations: NEMA 3R minimum. Others as required for location installed.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install motor and circuit disconnects as recommended by manufacturer and as required by Code and UL.

B. Maintain Code clearances.

C. Provide a nameplate on each motor and circuit disconnect identifying the equipment item served. Where disconnect is to be installed in existing motor control center replace existing nameplate with new nameplate identifying new equipment item served.

END OF SECTION

FIRE ALARM SYSTEM

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish and install a complete and satisfactory operating addition to the existing automatic fire alarm and detection system.

B. System to include control panel modifications, detection devices, notification appliances, manual stations, accessories, raceways, wiring, batteries, and any other necessary accessories and installation materials.

C. Provide plans, specifications, equipment list and calculations for permit review by the Fire Marshall.

1.02 DESCRIPTION OF SYSTEM

A. Supervised non-coded annunciated multiplex style, addressable, solid state system with intelligent analog alarm initiation.

B. System Operation:
1. Alarm Caused By: Activation of any automatic detection or manual device, or water flow within sprinkler system.
2. Alarm Initiation to Cause:
   a. Audible and visual zone identification at Control Panel and annunciators.
   b. Lamp to light in base of initiating detector; or if detector is concealed from view, light a remote lamp at nearest visible location.
   c. Closing of selected supply air dampers and HVAC units.
   d. Transmission of alarm to remote monitoring station via 2 line automatic telephone dialer.
   e. All smoke and fire doors to close.
   f. All horns to sound selected tone.
   g. All strobes to flash.
3. Audible alarm may be manually silenced at Control Panel. Alarm signal circuit and zone alarm light shall remain initiated until actuated devices have been restored to normal and Control Panel reset.
4. Trouble Signal Caused By:
   a. An open or short in detector or signaling loop wiring.
   b. Removing any initiating or signaling device from system.
   c. Moving any sprinkler system valve from the full open position.
   d. Failure of battery charger.
5. Trouble initiation to cause: audible and visual indication at the Control Panel.
6. Audible trouble indication may be silenced at Control Panel. Trouble circuit and zone light to remain initiated until trouble corrected.
7. Trouble circuit to be self-restoring after correction of problem, or have automatic "ring-back" if left in silenced condition.
8. Alarm shall override trouble.

1.03 PLAN SUBMITTAL AND INSPECTION REQUIREMENTS

A. Plans and Specifications submittal: Three complete plans and specifications for fire alarm systems shall be submitted for review and approval prior to system installation. Plan review fees must be paid before picking up the approved set of plans. Plans and specifications shall be submitted to the Permit and Information Center. Provide Owner with a copy of the approved plans.

B. Plans and specifications shall include, at minimum, the following information. Provide additional information as required by Fire Marshall.

C. Floor plan with rooms labeled and occupancy use noted.
1. Location of all initiating, notifications devices, control panel, and remote annunciator.
2. Mounting heights and ceiling description where detectors are installed.

D. Point to point system wiring diagram.
1. Devices, controls, and end-of-line location for each circuit.
2. Number of conductors and wire gauge for each circuit run.
3. Zone identification.

E. Voltage drop calculation
1. Devices, length, resistance of wire, and end-of-line voltage for each circuit.

F. Battery calculation.

G. Other information required by the local authority having jurisdiction.

H. Location and Security: The alarm control unit, remote annunciator panel, and access keys to locked fire alarm equipment shall be installed and maintained in a lock box location approved by the Fire Marshall. Lockbox to be provided by the Contractor. Written operating instructions shall be provided within the alarm control unit. Lock box to meet requirements of Fire Marshal.

1.04 REFERENCE STANDARDS

A. NFPA 72: National Fire Alarm Code

B. NFPA 101: Life-Safety Code

C. Uniform Fire Code

D. Oregon Structural Specialty Code

E. UL-STD 864, UL-UOJZ

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Match existing, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FIRE ALARM MASTER PANEL

A. Features:
1. Solid-state. "Mother/Daughter" board configuration.
2. Plug-in modules.
3. Separately fused inputs.
4. Multiple two wire addressable communication loops for zones and devices required.
5. Supervision and sensitivity testing of all circuits and devices.
6. All necessary 24 VDC power supplies.
7. Alarm reset switch.
8. Ground fault indicator.
9. Lamp test switch or lamp supervision.
10. Trouble silencing switch: self-restoring, or with ring-back.
11. Separate system trouble indicator: Supervises circuits and control panel wiring.
12. Audible and visual trouble indication including location and address of device. Visual indication shall be English language readout.
13. Power-on indicator.
14. Separate supervised alarm and trouble indicators for each circuit.
15. Detector circuit to accommodate intermixing of all types of detection and contact devices without resistors or circuits compensating devices at each initiating device.
16. Terminals for remote annunciators and controls.
17. Addressable auxiliary contacts: Two each NO/NC for alarm and trouble.
18. Fire drill switch and an audible alarm silence switch.
19. Detector sensitivity, calibration and identification to be supervised by control panel. Detector sensitivity capable of being changed from the control panel.

2.03 MANUAL STATIONS

A. Addressable non-coded semi-flush mount, single-action, fully compatible with ionization and thermal detectors. Key reset, so that once station has been pulled, it cannot be reset by unauthorized personnel. Bright red finish. Engraved "FIRE ALARM."

B. Provide protective shields for all manual pull stations unless otherwise noted. Tamper-proof, clear lexan shield and red frame that easily fits over manual pull stations. When shield is lifted, it sounds a loud, piercing warning horn. Battery-operated horn. Acceptable Example Model: Safety Technology International Stopper II or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 THERMAL DETECTORS

A. Addressable Combination Rate of Rise/Fixed Temperature:
1. Plug-in base, interchangeable with other detectors, 2-wire loop operation.
2. Alarm indicator lamp.
3. Rate of Rise Initiation: 15°F rise over a one-minute period.
4. Fixed temperature initiation: 135°F or 200°F, as shown.
5. Integral communications and built-in device type identification.

2.05 SMOKE DETECTORS

A. Features:
1. Optical sensing, photoelectric type addressable smoke detector.
2. No moving parts.
3. Alarm indicator LED to pulse only for trouble and alarm signals.
4. Capable of having sensitivity tested and adjusted.
5. Nominal 24V DC 2-wire loop operation.

6. Provision for connecting a remote alarm lamp.
7. Terminal base connection.
8. Concealed socket head screw to prevent tampering.
9. Integral communications and built-in device type identification.
10. The detector shall be capable of bi-directional communication with the control panel.
11. The detector shall be dynamically supervised and uniquely identifiable by the control panel. The control panel shall be capable of analyzing the signal of the detector's analog value for calibration, identification and sensitivity. These values can be displayed by the control panel and monitored for processing according to control panel instructions. The detector's sensitivity shall be individually adjustable from the control panel. Should the detector sensitivity voltage shift beyond an acceptable level and stay there for a predetermined length of time, a discrete detector trouble signal shall be annunciated at the control panel.

B. Duct detectors shall be similar with duct mounting enclosure, sampling tubes, remote test and reset station. Provide relay base with each duct detector. Connect to shut down associated HVAC unit upon alarm.

2.06 COMBINATION HORN/STROBE

A. Electronic Horn:
1. Selectable horn or temporal (Code 3) tones.
2. 3 selectable dBA levels: 90, 95, 99 dBA Anechoic at 10’ for both tones.

B. Electronic Strobe:
1. Capable of being synchronized by adding synchronization module.
2. 0.2 sec maximum pulse duration with 40% duty cycle.
3. Flash rate of 1 Hz to 2 Hz.
4. Clear or nominal white light source not to exceed 1000 cd.
5. Minimum intensity: 75 candela. 15/75 candela unit is not acceptable.

C. Audio and strobe inputs shall be supervised.

2.07 ELECTRONIC HORN

A. Selectable horn or temporal (Code 3) tones.

B. 3 selectable dBA levels: 90, 95, 99 dBA Anechoic at 10’ for both tones.

C. Exterior horns shall be weatherproof and listed for outdoor use.

2.08 ELECTRONIC STROBE

A. Capable of being synchronized by adding synchronization module.

B. 0.2 sec maximum pulse duration with 40% duty cycle.

C. Flash rate of 1 Hz to 2 Hz.

D. Clear or nominal white light source not to exceed 1000 cd.

E. Input shall be supervised.

F. Minimum intensity: 75 candela. 15/75 candela unit is not acceptable.

2.09 WIRING

A. Type:
1. UL listed limited energy cable for fire protective signaling.
2. Conductors: Minimum size No. 18 AWG, solid, color coded, shielded where required by manufacturer.
3. Overall PVC jacket, red color.
4. Belden Fire Alarm Cable or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Size: The sizes and quantity of the different wires shall be those specified by the manufacturer. Color code shall be used where specified.

PART 3 - EXECUTION

3.01 WIRING

A. Raceway:
1. Raceway not required where wiring is accessible and concealed above ceiling or in chase. Raceway is required in all other areas.
2. Install surface non-metallic raceway for surface wiring in finished areas. Install conduit in all other areas where raceway is required.

B. Wire:
1. All wires shall be tagged at all junction points and shall be free from ground or crosses between conductors.
2. One-inch conduit between the FACP and the central station transmitter connection as indicated. Install number of conductors and electrical supervision for connecting wiring as required to suit central-station monitoring function. Provide telephone conductors, jacks, and boxes for connection between transmitter and MPOP.

3.02 INSTALLATION

A. Manufacturer to provide supervision of installation and make final connection of tagged wiring.

B. Maintain existing system fully operational until new has been tested and accepted. As new equipment is installed label existing equipment "NOT IN SERVICE UNTIL ACCEPTED".

C. Ground equipment and conductor and cable shields. For audio circuits, minimize to the greatest extent possible ground loops, common mode returns, noise pickup, cross talk, and other impairments. Provide 5-ohm ground at main equipment location. Measure, record, and report ground resistance.

D. The Contractor shall provide for a communication line from the fire alarm master to the building security panel for monitoring alarm conditions. The Contractor shall pay all costs associated with connecting to the building security panel.

3.03 FIELD QUALITY CONTROL

A. Provide services of a factory-authorized service representative to supervise the field assembly and connection of components and the pretesting, testing, and adjustment of the system.

B. Provide a 10-day minimum notice in writing when the system is ready for final acceptance testing.

C. Final Acceptance Test: Test the system according to the procedures outlined in NFPA 72. Minimum required tests are as follows:
1. Verify the absence of unwanted voltages between circuit conductors and ground.
2. Megger test all conductors other than those intentionally and permanently grounded with electronic components disconnected. Test for resistance to ground. Report readings less than 1-megaohm for evaluation.
3. Test all conductors for short circuits utilizing an insulation-testing device.
4. With each circuit pair, short circuit at the far end of the circuit and measure the circuit resistance with an ohmmeter. Record the circuit resistance of each circuit on the record drawings.
5. Verify the control unit is in the normal condition as detailed in the manufacturer's operating and maintenance manual.
6. Test initiating and indicating circuits for proper signal transmission under open circuit conditions. One connection each should be opened at not less than 10 percent of the initiating and indicating devices. Observe proper signal transmission according to class of wiring used.
7. Test each initiating and indicating device for alarm operation and proper response at the control unit. Test smoke detectors with actual products of combustion.
8. Test the system for all specified functions according to the manufacturer's operating and maintenance manual. Systematically initiate specified functional performance items at each station including making all possible alarm and monitoring initiations and using all communications options. For each item, observe related performance at all devices required to be affected by the item under all system sequences. Observe indicating lights, displays, signal tones, and annunciator indications. Observe all voice audio for routing, clarity, quality, freedom from noise and distortion, and proper volume level.
9. Test both primary power and secondary power. Verify, by test, the secondary power system is capable of operating the system for the period and in the manner specified.

D. Retesting: Correct deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify by the system test that the total system meets the Specifications and complies with applicable standards.

E. Report of Tests and Inspections: Provide a written record of inspections, tests, and detailed test results in the form of a test log. Submit log upon the satisfactory completion of tests.

F. Tag all equipment, stations, and other components at which tests have been satisfactorily completed.

3.04 CLEANING AND ADJUSTING

A. Remove paint splatters and other spots, dirt, and debris. Touch up scratches and mars of finish to match original finish. Clean unit internally using methods and materials recommended by manufacturer.

3.05 CERTIFICATION

A. The installer shall provide written certification to the fire marshal and to the Owner that the system has been installed in accordance with the approved plans and specifications.

END OF SECTION

INDOOR LIGHTING FIXTURES, LAMPS AND BALLASTS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. This Section includes supply and installation of luminaires, supports and accessories; and supply of plaster frames, trim rings and backboxes for plaster, tile, drywall or concrete ceilings.

B. Provide and install lamps in all light fixtures. Refer to lighting fixture schedule.

1.02 REFERENCE STANDARDS

A. National Electrical Manufacturer's Association (NEMA).
   1. NEMA LE1: Fluorescent Luminaires.

1.03 COORDINATION

A. Confirm compatibility and interface of other materials with luminaire and ceiling system. Report discrepancies to the Architect, and defer ordering until clarified.

B. Supply plaster frames, trim rings and backboxes to other trades.

C. Coordinate with Division 23 to avoid conflicts between luminaires, supports, fittings, and mechanical equipment.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Refer to Fixture Schedule. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 BALLASTS

A. Linear Fluorescent Electronic Ballast
   1. Program start, universal voltage, extreme system
   2. THD < 10%
   3. Ballast Power Factor > 99%
   4. 0 degree F minimum lamp starting temperature
   5. Operating input voltage +/- 20%
   6. Operating input frequency 50/60 Hz
   7. Audible noise rating “A” or better
   8. Output frequency > 40 KHz with no visible flicker
   9. Lamp current crest factor < 1.5
   10. Constant light output for line voltage variation of +/- 10%
   11. Ballast factor 0.71
   12. No PCBs
   13. 5 year warranty + $15.00 labor allowance.
   14. Meets FCC Class A specifications for EMI/RFI
   15. Meets ANSI C62.41 Cat A for transient protection
   16. UL listed
   17. Acceptable product: Osram Sylvania Xtreme System Low Ballast Factor, Advance, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

B. Compact Fluorescent Electronic Ballast
1. Program rapid start
2. THD < 10%
3. Ballast Power Factor > 99%
4. 0 degree F minimum lamp starting temperature
5. Operating input voltage +/- 10%
6. Operating input frequency 50/60 Hz
7. Audible noise rating “A” or better
8. Output frequency > 25 KHz with no visible flicker
9. Lamp current crest factor < 1.5
10. Constant light output for line voltage variation of +/- 10%
11. Ballast factor > 0.95
12. No PCBs
13. 5 year warranty + $10.00 labor allowance
14. Meets ANSI C62.41 Cat A for transient protection
15. UL listed (Osram/Sylvania)
16. Acceptable product: Sylvania Quicktronic Professional or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

C. HID Ballasts
1. Metal halide, pulse start.
   a. -40 degrees F minimum lamp starting temperature.
   b. Operation input frequency 50/60 Hz.
   c. Lamp current crest factor of 1.6.
   d. Constant Wattage multitap auto transformer (CWA) type.
   e. No PCBs.
   f. 5 year warranty and $10 labor allowance.
   g. UL listed.
   h. Acceptable Products: Venture Lighting, Advanced, Sylvania, or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 FLUORESCENT LUMINAIRES

A. Prime coat and finish in high reflectance baked white enamel, two coats minimum on exposed and reflective surfaces, giving reflectance of 85 percent. Paint after fabrication.

B. Reflective plates: 22-gauge (0.80 mm) metal.

C. Provide 20-gauge (0.90 mm) steel housing.

D. Provide Hinged Frames with Catches; removable for cleaning without tools. Support lay-in lenses on four sides with flip ends on short dimension.

E. Provide gasketing, stops, and barriers to form light traps and prevent light leaks.

F. Design luminaire to dissipate ballast and lamp heat.

G. Use formed or ribbed backplates, endplates, reinforcing channels.

H. Suitable for mounting on low density ceilings, where applicable.

2.04 RECESSED LUMINAIRES

A. Recessed Incandescent Luminaires: Prewired type with junction box forming an integral part of the assembly.
B. Supply recessed luminaire complete with trim type required for ceiling system installed. Before ordering, confirm ceiling construction details and architectural finish for each area.

2.05 PENDANTS/CABLE HANGERS

A. Swivel sockets permitting normal fixture motion and self-adjustment. Adjustable to provide fixture height alignment.

B. One piece, white finish, with matching canopies.

C. Fixtures shall be factory counter-weighted and balanced to provide level hanging. Weights shall not be visible.

D. Cable hangers shall be adjustable for a minimum of 18”.

2.06 LAMP TYPE AND COLOR

A. Refer to Lighting Fixture Schedule.

B. All lamps of each type and color shall be by the same manufacturer.

2.07 LINEAR FLUORESCENT LAMPS

A. Low mercury, TCLP compliant, 85 CRI, 4100K color temperature.

B. Minimum of 3100 Initial Lumens.

C. Acceptable manufacturers: Osram Sylvania F032/850/XPS/ECO3, GE, Philips or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.08 COMPACT FLUORESCENT LAMPS

A. Low mercury, TCLP compliant 81 CRI, 4100K color temperature.

B. Acceptable manufacturers: GE, Philips, Osram Sylvania or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

2.09 HID LAMPS

A. Metal Halide: Pulse start, coated, 88 CRI, 4200K color temperature.

B. High Pressure Sodium: Low mercury, TCLP compliant.

C. Acceptable manufacturers: GE, Philips, Osram Sylvania or approved equal. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 COORDINATION

A. Refer to Reflected Ceiling Plans for exact locations with respect to ceiling construction.

B. Consult Finish Schedule for ceiling and wall construction and finish.

C. Prior to ordering lighting fixtures, coordinate style of mounting with ceiling construction and trim details for ceiling system finally selected.

3.02 SURFACE MOUNTING

A. Attach with means that will draw fixtures snugly to finished surface without bending or tipping. Twist-on clips with studs not allowed on exposed "T" grid ceilings, except where specified. Support from channel above ceiling framing members with bolt at each corner of fixture.

3.03 PENDANTS

A. Support from structure per paragraph titled “SUPPORT”.

B. Provide steel, stranded safety cable between fixture and structure to support fixture in the event of a pendant breakage.

3.04 SUPPORT

A. Suspended ceiling:
1. Positively attach all light fixtures to the suspended ceiling system. The attachment device shall have a capacity of 150% of the lighting fixture weight acting in any direction.
2. Support grid with No. 12 minimum gage hangers attached to the grid members within 3 inches of the corner of each fixture, attached to structure above.
3. Attach two No. 12 minimum hangers from the fixture housing to the structure above. These wires may be slack.
4. Where suspended fixtures do not align with grid, provide “bridging” above grid and support from structure.
5. Support pendent-hung lighting fixtures directly from the structure above with No. 9 minimum wire or approved alternate support.

B. Support all other fixtures from structure by method rated at least five times support weight.

3.05 ACCESS

A. Recessed fixtures shall have code accessible supply. Use reach-through type fixtures in non-accessible ceilings or other suitable means. Coordinate with ceiling installer.

3.06 FIRE RATED CEILINGS

A. Where a ceiling carries a fire rating, recessed fixtures shall carry UL rating for use in protective enclosures. Coordinate installation of protective enclosures to provide sufficient air space for heat dissipation. 3 inch minimum all around.

3.07 CLEAN-UP

A. At time of acceptance, fixtures and lamps shall be clean, with visible labels removed. Touch-up any blemishes.

B. Remove ballast leakage and dispose of cleaning materials in accordance with EPA regulations.

3.08 FIXTURES AS RACEWAYS

A. Code Reference: NEC 410-31.

B. Through-Wiring: In continuous rows of fluorescent lighting, a connection to a single point in the row indicates that the branch circuit conductors are to be routed through the fixture wiring compartments and a connection made to each ballast.

3.09 LAMP INSTALLATION

A. Install lamps in accordance with manufacturer's instructions.

3.10 EXTRA STOCK

A. Provide extra lamps of all types, based on initial lamping quantity: Incandescent 25%, all others 10%. Where a fraction occurs, round up to next larger integer.

3.11 BURNOUT REPLACEMENT

A. Make replacements from extra stock as required until 90 days after Substantial Completion date. Deliver remaining lamps to Owner.

END OF SECTION

Springfield Wellness Center

CITY OF SPRINGFIELD

225 Fifth Street, Springfield, OR 97477

CONSTRUCTION DOCUMENTS

10 MAY 2016

ABBREVIATIONS

AB	ANCHOR BOLT
ACT	ACOUSTICAL CEILING TILE
ADDL	ADDITIONAL
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ANOD	ANODIZE(D)
APPROX	APPROXIMATE
ARCH	ARCHITECT (URAL)
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
C	CHANNEL
CB	CATCH BASIN
CF/OI	CONTRACTOR FURNISHED; OWNER INSTALLED
CG	CORNER GUARD
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CONTR	CONTRACT (OR)
COORD	COORDINATE
CPT	CARPET (ED)
CT	CERAMIC TILE
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
E	EAST
EA	EACH
EL	ELEVATION
ELEC	ELECTRIC (AL)
ELEV	ELEVATOR
ENCL	ENCLOSE (URE)
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FAF	FLUID APPLIED FLASHING
FD	FLOOR DRAIN
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FACE
FH	FUME HOOD
FIN	FINISH (ED)
FLR	FLOOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FRMG	FRAMING
FRTW	FIRE RETARDANT TREATED WOOD
FT	FOOT, FEET
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED, GALVANIC
GAR	GARAGE
GB	GRAB BAR, GYPSUM BOARD
GC	GENERAL CONTRACTOR
GL	GLASS
GYP	GYPSUM
H	HIGH
HB	HOSE BIBB
HC	HANDICAP
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
INCL	INCLUDING (ED)
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
L	LONG
LAV	LAVATORY
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFD	MANUFACTURED
MFR	MANUFACTURE (R)
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF/CI	OWNER FURNISHED; CONTRACTOR INSTALLED
OF/OI	OWNER FURNISHED; OWNER INSTALLED
OH	OVERHANG
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
OVHD	OVERHEAD
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLWD	PLYWOOD
PT	PAINT, PRESSURE TREATED
PVG	PAVING
R	RADIUS, RISER
RB	RUBBER/RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN, ROAD
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SAM	SELF ADHERING MEMBRANE
SAM-HT	SELF ADHERING MEMBRANE HIGH TEMP
SAM-MC	SELF ADHERING MEMBRANE METAL CLAD
SCHED	SCHEDULE
SF	SQUARE FOOT (FEET)
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SPKLR	SPRINKLER
SQ	SQUARE
SS	SANITARY SEWER, STANDING SEAM
SST	STAINLESS STEEL
ST	STAIRS, STREET
STD	STANDARD
STOR	STORAGE
STRUCT	STRUCTURE (AL)
SUSP	SUSPEND(ED)
SV	SHEET VINYL
T	TREAD
TB	TACK BOARD
TFF	TOP OF FINISH FLOOR
THRU	THROUGH
TMPD	TEMPERED
TOM	TOP OF MASONRY
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
VEH	VEHICLE
VERT	VERTICAL
VRFY	VERIFY
VIF	VERIFY IN FIELD
W	WEST, WIDE, WASHER
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD, WOOD DOOR
WDW	WINDOW
WR	WEATHER RESISTANT, WATER REPELLENT
WRB	WEATHER RESISTIVE BARRIER
WSCT	WAINSCOT

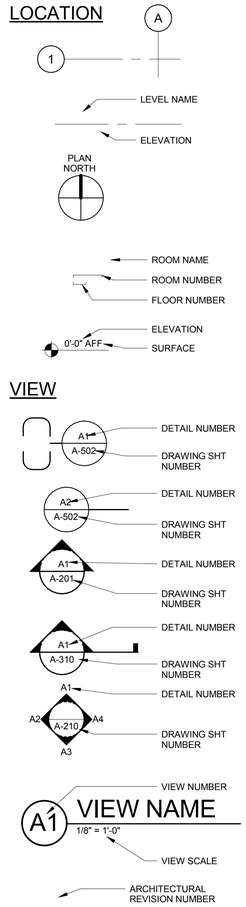
PATTERNS

MATERIAL

- CONCRETE
- GYPSUM BOARD
- INSULATION - ACOUSTICAL
- INSULATION - BATT
- INSULATION - RIGID
- METAL - ALUMINUM
- METAL - STEEL
- WOOD - BLOCKING
- WOOD - CONTINUOUS
- WOOD - FINISH

SYMBOLS

LOCATION



GRID LINES

LEVEL HEAD

NORTH ARROW

ROOM NAME & NUMBER

SPOT ELEVATION

CALLOUT VIEW

DETAIL VIEW

EXTERIOR ELEVATION

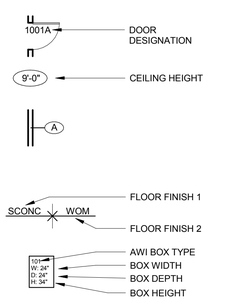
BUILDING SECTION/ WALL SECTION

INTERIOR ELEVATION

DRAWING BLOCK TITLE

REVISION

COMPONENT



DOOR

CEILING

ASSEMBLY

WINDOW\LOUVER

FLOOR FINISH TRANSITION

STANDARD CASEWORK

GENERAL NOTES

1. WORK MUST COMPLY WITH APPLICABLE CODES AND ORDINANCES IN FORCE AT TIME OF BUILDING PERMIT ISSUANCE.
2. READ, UNDERSTAND AND COMPLY WITH ALL APPLICABLE PROVISIONS OF THE CONSTRUCTION DOCUMENTS FOR THE PROJECT.
3. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS SHOWN ARE:
   -AT INTERIOR PARTITIONS: TO THE CENTER LINE OF STUD (TO THE FACE OF STUD) (TO THE FACE OF FINISHED WALL MATERIAL)
   -AT COLUMNS: TO THE CENTERLINE OF COLUMNS
   -AT CONCRETE OR CMU: TO THE FACE OF CONCRETE OR CMU
   -AT EXTERIOR WALLS: TO THE FACE OF STUD (TO THE EDGE OF SLAB) (TO THE FACE OF FOUNDATION WALL)
4. PLACE DOORS NOT LOCATED BY DIMENSION ON PLANS SIX INCHES FROM FACE OF ADJOINING PARTITION TO HINGE EDGE OF DOOR OPENING. PROVIDE 18" MINIMUM CLEAR FROM FACE OF ADJOINING PARTITION OR OTHER OBSTRUCTION TO STRIKE JAMB EDGE OF DOOR OPENING, UNLESS OTHERWISE NOTED. NOTIFY ARCHITECT IF REQUIRED CLEARANCES ARE NOT AVAILABLE
5. PROVIDE FIRE RESISTANT CLOSURE MEETING THE REQUIREMENTS OF THE GOVERNING FIRE AUTHORITIES AT ALL GAPS AROUND PENETRATING DUCTS, PIPES, CONDUITS, ETC. AT ALL FIRE RATED BUILDING WALLS, PARTITIONS, CEILINGS, FLOORS AND ROOFS.
6. ROOM AND DOOR NUMBERS SHOWN ON DRAWINGS ARE FOR CONSTRUCTION PURPOSES ONLY.
7. CONCEAL ALL PIPING, CONDUITS, DUCTS, ETC INSIDE WALLS AND ABOVE CEILINGS AT ALL ROOMS EXCEPT ELECTRICAL AND TELEPHONE CLOSETS AND MECHANICAL ROOMS, IN SPACES OPEN TO STRUCTURE, ONLY PIPING CONDUITS AND DUCTS THAT SERVE THE SPACE MAY BE EXPOSED. LOCATE SUCH INSTALLATIONS TO MINIMIZE VISIBILITY AND ORGANIZE TO MINIMIZE RUN LENGTHS AND OVERLAPPING. ARCHITECT TO REVIEW SHOP DRAWINGS FOR EXPOSED MECHANICAL, ELECTRICAL, PLUMBING ITEMS PRIOR TO FABRICATION AND INSTALLATION.
8. COORDINATE WORK WITH ALL OWNER FURNISHED ITEMS AND PROVIDE ALL REQUIRED MECHANICAL AND ELECTRICAL CONNECTIONS INCLUDING STUB OUTS.
9. VERIFY ALL DIMENSIONS, EXISTING AND NEW CONDITIONS ON THE JOB BEFORE PROCEEDING WITH THE WORK.
10. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES NOTED AMONG OR BETWEEN THE CONTRACT DOCUMENTS, OWNER-PROVIDED INFORMATION, SITE CONDITIONS, MANUFACTURER RECOMMENDATIONS, OR CODES, REGULATIONS, OR RULES OF JURISDICTIONS HAVING AUTHORITYPRIOR TO COMMENCEMENT OF ANY PORTION OF THE WORK.
11. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY AND WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL.
12 PROVIDE REPETITIVE FEATURES NOT INDICATED IN THE DRAWINGS EVERYWHERE THAT THEY OCCUR AS IF DRAWN IN FULL. NOT ALL OCCURRENCES OF A FEATURE ARE NOTED IN EVERY CASE.
13 CONSULT PLANS OF ALL TRADES FOR ALL OPENINGS AND ROUGH-CUTS THROUGH SLABS, WALLS, CEILINGS AND ROOFS FOR DUCTS, PIPES, CONDUITS, CABINETS AND EQUIPMENT, AND SHALL VERIFY SIZE AND LOCATION BEFORE PROCEEDING WITH WORK.
14 VERIFY ALL ROUGH-IN DIMENSIONS REQUIRED FOR EQUIPMENT, INCLUDING THAT FURNISHED BY OTHERS, PRIOR TO PROCEEDING WITH WORK.
15 COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS FOR EXACT LOCATIONS, TYPES AND SIZES OF ACCESS DOORS REQUIRED BY THEIR WORK. PROVIDED ACCESS FOR ALL CONCEALED VALVES, DAMPER CONTROLS, FIRE DAMPER LINKAGE, ELECTRICAL JUNCTION BOXES, ETC. DRAWINGS MAY NOT SHOW ALL REQUIRED ACCESS PANELS. INDICATE REQUIRED ACCESS DOORS ON THE COORDINATION DRAWINGS. OBTAIN ARCHITECT'S APPROVAL FOR LOCATIONS OF ACCESS DOORS PRIOR TO INSTALLATION.
16 PRESERVATIVE TREAT ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY AS REQUIRED BY CODE.
17 DO NOT SCALE DRAWINGS.
18 CONSTRUCT RECESSES LOCATED WITHIN FIRE RATED PARTITIONS TO MAINTAIN THE REQUIRED FIRE RATING OF THE PARTITION.
19 SITE SURVEY, GEOTECHNICAL INVESTIGATION, AND HAZARDOUS MATERIALS DOCUMENTATION WAS PREPARED BY CONSULTANTS TO THE OWNER AND NOT UNDER THE DIRECTION OF THE ARCHITECT. THIS DOCUMENTATION IS INCLUDED IN THE CONTRACT DOCUMENTS AS AN ACCOMMODATION TO THE OWNER.
20 REFER TO DOCUMENTS FOR GENERAL LOCATIONS OF VISIBLE EQUIPMENT, SIGNAL DEVICES, SIGNAGE, AND OTHER VISIBLE ITEMS. CONSULT WITH ARCHITECT FOR EXACT MOUNTING LOCATION.
21 SIX DIGIT NUMBERS AT DRAWING NOTES (09 26 00 GYPSUM BOARD FOR EXAMPLE) REFERENCE RELATED SPECIFICATION SECTIONS IN THE PROJECT MANUAL, THEY ARE NOT INTENDED TO ASSIGN WORK TO SUB-CONTRACTORS. ALL ITEMS ARE INCLUDED IN SCOPE WHETHER OR NOT A SPECIFICATION REFERENCE IS CITED.
22 REPAIR / PATCH / OR REINSTALL CEILINGS & WALLS REMOVED FOR MECHANICAL AND ELECTRICAL WORK ON THE FLOORS BELOW AND IN OTHER AREAS OF THE BUILDING BEYOND THE AREAS INDICATED.
23 IN GENERAL, NEW FINISHED FLOOR ELEVATIONS ARE TO ALIGN WITH EXISTING FINISHED FLOOR ELEVATIONS. THE FLOOR ELEVATIONS INDICATED ARE APPROXIMATE. VERIFY THE EXISTING ABUTTING FLOOR ELEVATIONS AND ADJUST THE NEW ELEVATIONS INDICATED AS NECESSARY. NOTIFY THE ARCHITECT WHERE DEVIATIONS EXCEEDING 1/2" ARE ENCOUNTERED.
24 FIRE-RETARDANT TREAT ALL WOOD BLOCKING AS REQUIRED BY APPLICABLE CODES.
25 CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND PATHCHING WORK REQUIRED TO COMPLETE NEW WORK AS SHOWN ON DRAWINGS OR AS SPECIFIED
26 PROTECT EXISTING SURFACES AND EQUIPMENT NOT SCHEDULED FOR REMOVAL
27 AT TIME OF DEMOLITION, REMOVE AND PROTECT EXISTING ACOUSTIC CEILING TILES TO BE REUSED AFTER INSTALLATION OF MECHANICAL AND ELECTRICAL
28 CONTRACTOR TO PROVIDE NEW LIGHT FIXTURE SWITCHES AS REQUIRED WHERE SWITCHES ARE LOCATED IN DEMOLISHED WALLS. COORDINATE WITH OWNER ON LOCATION OF NEW SWITCHES
29 COORDINATE LOCATION OF NEW ELECTRICAL AND DATA RECEPTACLES, AND WITH LAYOUT OF NEW SYSTEMS FURNITURE.
30 RELOCATED EXISTING LIGHT CONTROL SWITCHES, OCCUPANCY SENSORS, AND THERMOSTATS AT DIRECTION OF OWNER AND RECONNECT TO SYSTEMS
31 REPAINT ALL WALLS AND DOOR FRAMES IN SUITE
32 FOR ANY MATERIAL WITH A PATTERN, DIRECTIONALITY TO VE VERIFIED PRIOR TO INSTALLATION.

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A-2	DEMOLITION CEILING PLAN
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A-4	REFLECTED CEILING PLAN
A-5	INTERIOR ELEVATIONS
A-6	INTERIOR ELEVATIONS
A-7	ACCESSIBLE MOUNTING HEIGHTS AND DETAILS
A-8	ASSEMBLY TYPES (WALLS AND CEILINGS)
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S-1.0	STRUCTURAL NOTES & SYMBOLS (FOR REFERENCE ONLY)
S-2.0	ROOF FRAMING PLAN - SOUTH EAST (FOR REFERENCE ONLY)
S-8.1	STRUCTURAL DETAILS (FOR REFERENCE ONLY)

PROJECT DATA

PROJECT DESCRIPTION:	TENANT INFILL
PROJECT ADDRESS:	225 Fifth Street, Springfield, OR 97477
PARCEL NO:	
RELATED PERMITS:	
DEFERRED SUBMITTALS:	

PROJECT TEAM

OWNER — **CITY OF SPRINGFIELD**
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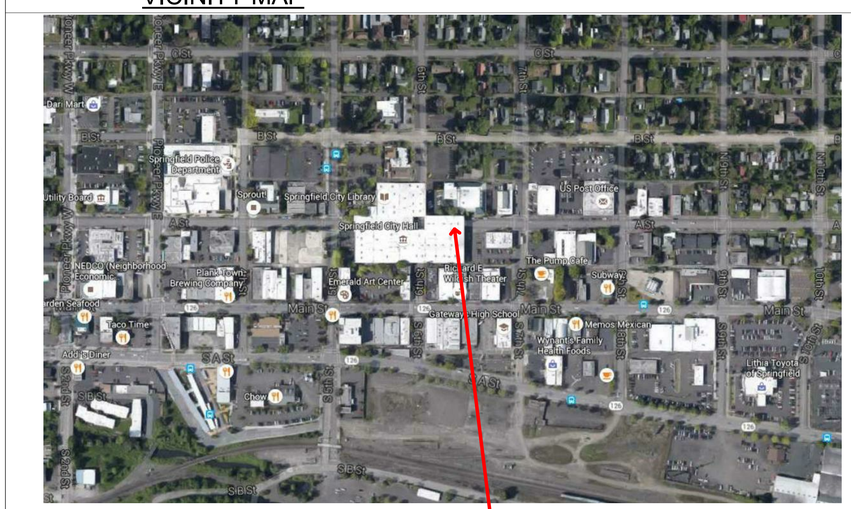
CHIPMOULDS@MSN.COM

VICINITY MAP



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COVER SHEET

G-1

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CODE EVALUATION

THE FOLLOWING INFORMATION IS BASED ON THE 2014 OREGON STRUCTURAL SPECIALTY CODE (OSSC):

OCCUPANCY CLASSIFICATION: B (OFFICES)
NO CHANGES PROPOSED TO OCCUPANCIES OR OCCUPANT LOAD

BUILDING HEIGHT: 2 STORIES
PROPOSED AREA OF TENANT INFILL: 2957 SF

(E) BUILDING IS SPRINKLERED WITH FIRE ALARM & DETECTION SYSTEM.

NO MAJOR MODIFICATIONS PROPOSED TO STRUCTURAL ELEMENTS, EXISTING FIRE RATED ELEMENTS, OR TO EXTERIOR WALLS.

ALL FIRE PROTECTION SYSTEMS SHALL BE MAINTAINED DURING CONSTRUCTION.
IF THE SYSTEM IS SHUTDOWN, A FIRE WATCH IS REQUIRED UNTIL THE SYSTEM IS RESTORED.
2007 YELLOW BOOK POLICY 04-08, OFC 901.7

SPRINKLER CHANGES SHALL COMPLY WITH NFPA 13.
CHANGES OF LESS THAN 15 HEADS OR ADDITIONS OF LESS THAN 10 HEADS.
MODIFICATIONS ARE CUMULATIVE AND ALL FLOORS ARE CONSIDERED IN THE 15 HEAD LIMIT.
PROVIDE SPRINKLER CERTIFICATION FORM AT THE TIME OF FINAL INSPECTION. OFC 901.2

ADDITIONS/MODIFICATIONS TO EXISTING FIRE ALARM SYSTEMS SHALL MEET NFPA 72.
ADDITIONS OF LESS THAN 11 INITIATING DEVICES OR 6 INDICATING DEVICES DO NOT REQUIRE A SEPARATE FIRA ALARM PLAN REVIEW.
PROVIDE CERTIFICATION FORM AT THE TIME OF FINAL INSPECTION. IFC 907.1.1

PROVIDE A CURRENT SERVICE REPORT WITH ANY DEFICIENCIES CORRECTED AT THE TIME OF FINAL INSPECTION
FOR FIRE PROTECTION SYSTEMS (ALARM, SPRINKLERS, HOOD , ETC.) OFC 907.20.5

A SUPRA LOCK BOX, OR A KEY TO THE BUSINESS FOR AN EXISTING LOCK BOX, IS REQUIRED FOR EMERGENCY FIRE ACCESS.
AVAILABLE AT NATIONAL FIREFIGHTER CORP., OMLID & SWINNEY OR SUPRA COMPANY AT 1-800-5470252.
PLACE TO THE LEFT OF MAIN ENTRANCE AT A MAX HEIGHT OF 6 FT. OFC 506.1

PORTABLE FIRE EXTINGUISHERS (FIRE CODE 906.1):
LIGHT (LOW) HAZARD OCCUPANCY

MINIMUM RATED SINGLE EXTINGUISHER 2-A:10BC
MAX FLOOR AREA FOR EXTINGUISHER 6,000 SF
MAX TRAVEL DISTANCE TO EXTINGUISHER 75'
MAX DISTANCE FROM HANDLE TO FLOOR 60"

MEANS OF EGRESS:
SUITE OCCUPANT LOAD= 27

1 EXIT OR EXIT ACCESS DOORWAYS REQUIRED FOR OCCUPANCY LOAD OF 1 TO 49

EXIT TRAVEL DISTANCE (1016.2) 250' FOR B OCCUPANCY

PLUMBING FIXTURE COUNT (TABLE 2902.1):
DRINKING FOUNTAIN NOT REQUIRED

GROUP B
WATER CLOSETS = 1 PER 500 GROSS, LAVATORIES = 1 PER 750 GROSS
0 WATER CLOSET & LAVATORY REQUIRED
2 WATER CLOSET & LAVATORY PROVIDED

LIFE SAFETY PLAN LEGEND

OCCUPANCY LOAD TAG
TEXT — FUNCTION OF SPACE
50 — TOTAL OCCUPANTS
20 — FLOOR AREA PER OCCUPANT
1000 SF — FLOOR AREA NET & GROSS PROVIDED WHERE PERMITTED

REQUIRED CAPACITY WIDTH AT STAIRS
34" 20" 100
REQUIRED CAPACITY WIDTH (BASED ON EGRESS CAPACITY FACTOR **0.2" X OCCUPANT**, WITH SPRINKLER SYSTEM)
OF OCCUPANTS USING EXIT / PATH
PROVIDED CLEAR WIDTH

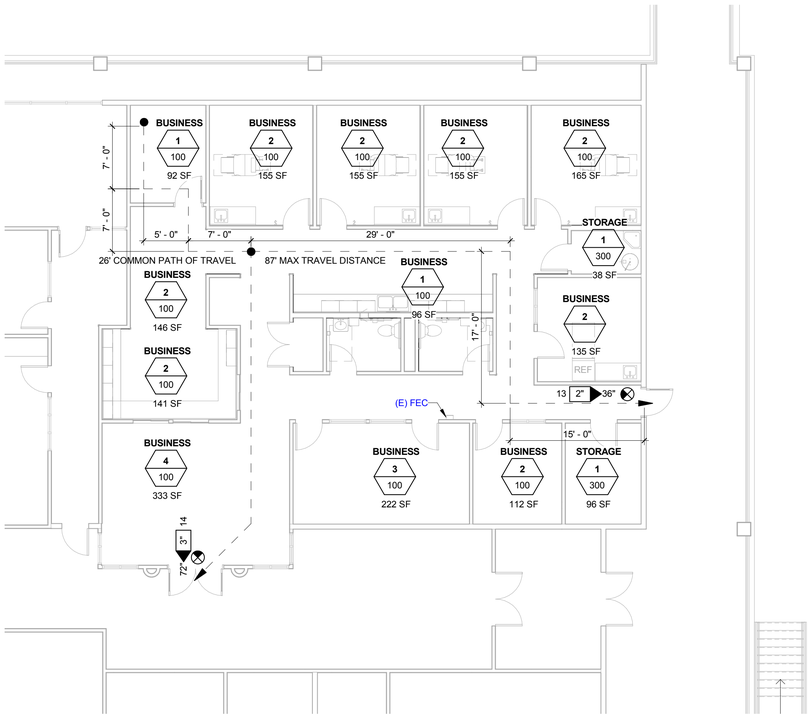
REQUIRED CAPACITY WIDTH AT NON-STAIR LOCATIONS
34" 15" 100
REQUIRED CAPACITY WIDTH (BASED ON EGRESS CAPACITY FACTOR **0.15" X OCCUPANT**, WITH SPRINKLER SYSTEM)
OF OCCUPANTS USING EXIT / PATH
PROVIDED CLEAR WIDTH (REFER TO DOOR SCHEDULE FOR PANEL SIZE)

ROOM OCCUPANT LOAD EGRESS DISTRIBUTION
50 — OCCUPANTS

ILLUMINATED EXIT SIGN

WALL RATINGS
NON RATED WALL
30-MIN RATED WALL
1-HOUR RATED WALL
2-HOUR RATED WALL
30-MIN SMOKE BARRIER
1-HOUR SMOKE BARRIER

PATH OF EGRESS
XX' TRAVEL DISTANCE



A1 / G-2 LIFE SAFETY PLAN
1/8" = 1'-0"

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LIFE SAFETY PLAN

G-2

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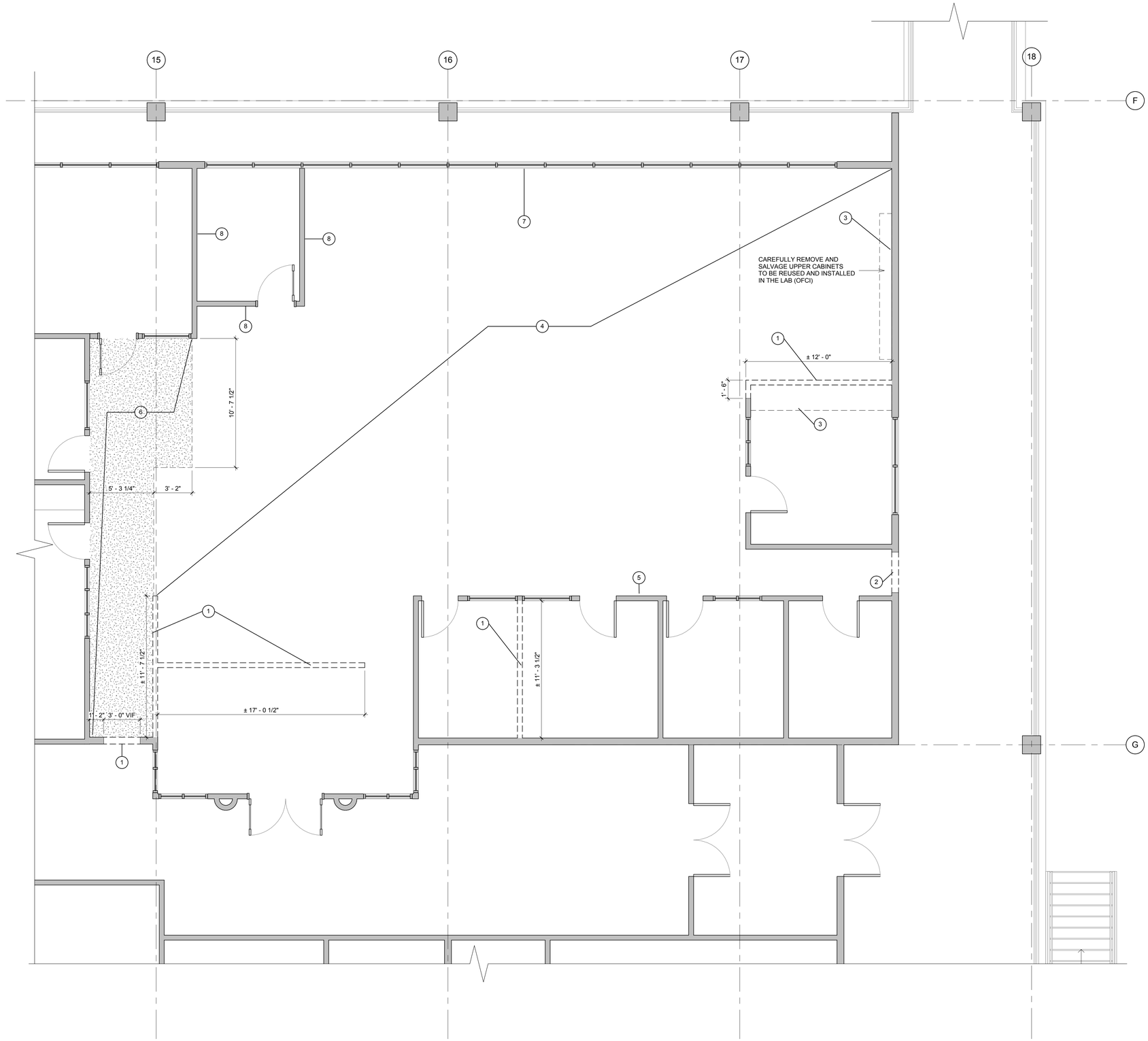

A1 A-1 DEMOLITION FLOOR PLAN
1/4" = 1'-0"

PLAN NORTH

DEMO PLAN GENERAL NOTES

A. VERIFY CONDITIONS PRIOR TO BEGINNING WORK. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS.
B. DEMOLITION PLAN DESCRIBES IN GENERAL REQUIRED DEMOLITION WORK. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION REQUIRED TO COMPLETE NEW WORK AS SHOWN ON DRAWINGS OR AS SPECIFIED.
C. SPECIFIC AREAS OF DEMOLITION WILL REQUIRE REFERENCE TO OTHER SHEETS OR DETAILS TO DETERMINE DIMENSIONAL EXTENT OF WORK.
D. REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION.
E. PROTECT ALL EXISTING FINISHES, CASEWORK, AND EQUIPMENT TO REMAIN.
F. PATCH EXISTING SURFACES AFFECTED BY DEMOLITION WORK TO MATCH ADJACENT. U.O.N. REFINISH AS SCHEDULED.
G. AREAS ADJACENT TO THE AREA OF WORK ARE INTENDED TO BE IN USE BY THE OWNER DURING CONSTRUCTION. COORDINATE ACTIVITIES WITH THE SCHOOL, INCLUDING ALLOWABLE SCHEDULE FOR LOUD CONSTRUCTION ACTIVITY AND ACCESS TO AREA WORK FOR DELIVERY AND REMOVAL OF MATERIAL. OWNER TO CONTRACT SEPARATELY FOR REMOVAL OF ASBESTOS CONTAINING MATERIALS.

DEMO PLAN KEYNOTES

Number	Description
1	DEMO WALL
2	REMOVE DOOR AND FRAME
3	REMOVE EXISTING CASEWORK. SALVAGE UPPER CABINETS FOR REINSTALLATION IN SAME ROOM. PATCH AND REPAIR WALL TO MATCH ADJACENT.
4	REMOVE CARPET FLOORING
5	SALVAGE FIRE ALARM PULL SYSTEM AND LOWER/RELOCATE TO COMPLY WITH ADA
6	TEMPORARILY REMOVE AND REINSTALL EXISTING CARPET IN NEW HALL 5
7	SALVAGE RUBBER BASE TO BE REUSED FOR NEW EAST WALL IN HALL 5
8	REMOVE GYP BD DOWN TO STUDS THIS SIDE ONLY
10	REMOVE AND RELOCATE EXISTING DIFFUSER. REFER TO MECH
11	REPLACE WITH OTHER EXISTING DIFFUSER OR ROTATE. REFER TO MECH
12	REMOVE AND RELOCATE LIGHT. REFER TO ELEC
13	REMOVE EXISTING LIGHT FIXTURES AND FINS IN CEILING SOFFIT

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DEMOLITION PLAN

A-1

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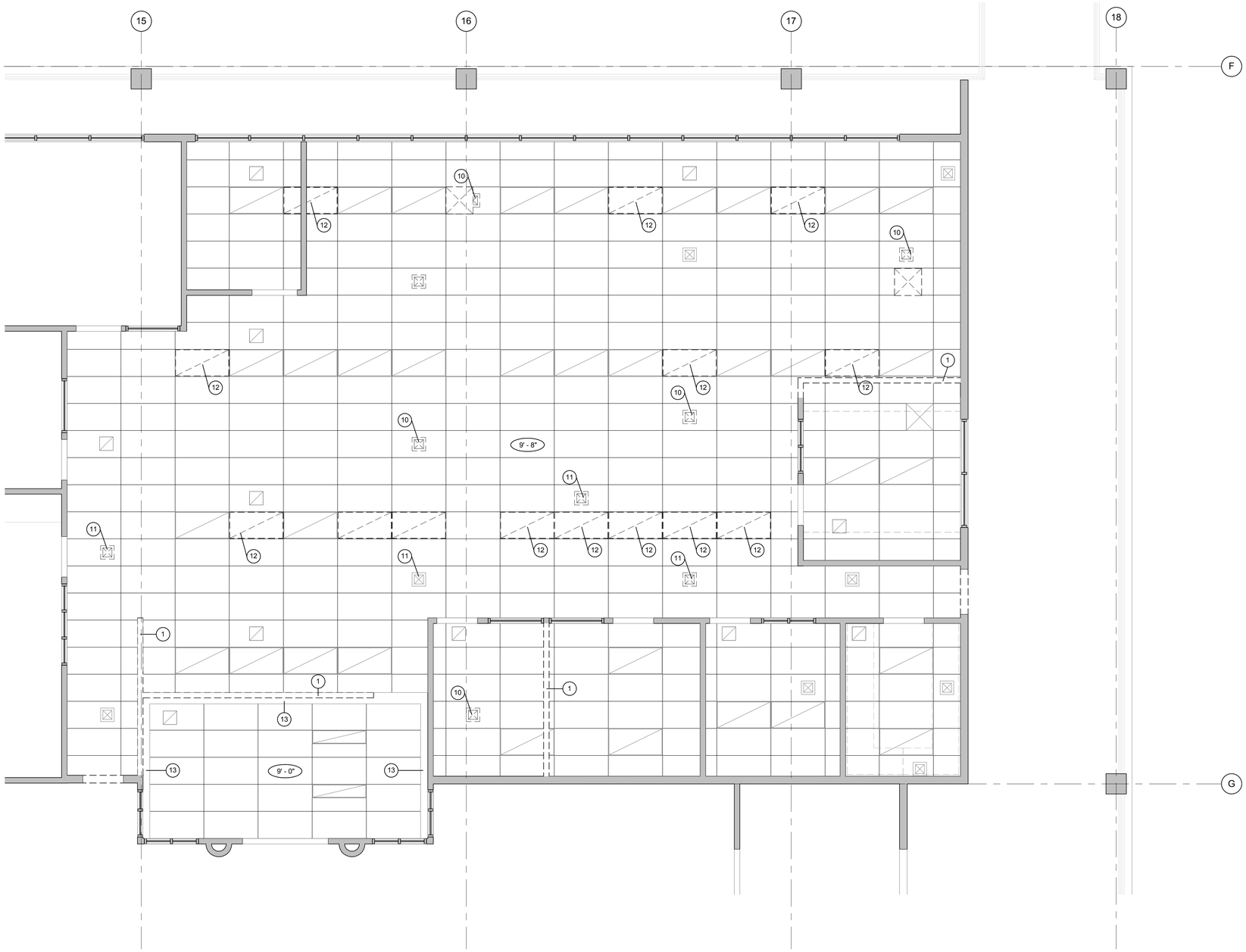

Note: Deliver all the demolished diffusers to the Mechanical Contractor for reuse.

A1 / A-2 DEMOLITION REFLECTED CEILING PLAN
1/4" = 1'-0"

RCP GENERAL NOTES

A. HALFTONE (GRAY) LIGHT FIXTURES, DIFFUSERS, AND WALLS ARE EXISTING. REFER TO DEMOLITION, MECHANICAL AND ELECTRICAL PLANS.
B. LIGHT FIXTURES AND ELECTRICAL EQUIPMENT SHOWN FOR LOCATION AND ORIENTATION ONLY. REFER TO ELECTRICAL DRAWINGS FOR QUANTITIES AND ALL ADDITIONAL INFORMATION.
C. MECHANICAL DUCTS, DIFFUSERS AND GRILLES SHOWN FOR LOCATION ONLY.
D. REFER TO MECHANICAL DRAWINGS FOR QUANTITIES AND ALL ADDITIONAL INFORMATION.
E. ALL CEILING SUSPENSION SYSTEMS SHALL HAVE SEISMIC RESTRAINTS THAT COMPLY WITH APPLICABLE CODES AND ORDINANCES IN FORCE AT TIME OF CONSTRUCTION.
F. CENTER ALL LIGHTS, EQUIPMENT, SIGNS ETC, U.N.O.
G. CENTER ACOUSTICAL CEILING TILE IN ROOM U.N.O.

KEYNOTES

DEMO PLAN KEYNOTES

Number	Description
1	DEMO WALL
2	REMOVE DOOR AND FRAME
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10	REMOVE AND RELOCATE EXISTING DIFFUSER. REFER TO MECH
11	REPLACE WITH OTHER EXISTING DIFFUSER OR ROTATE. REFER TO MECH
12	REMOVE AND RELOCATE LIGHT. REFER TO ELEC
13	REMOVE EXISTING LIGHT FIXTURES AND FINS IN CEILING SOFFIT

RCP MATERIAL LEGEND

09 51 00 ACOUSTICAL CEILING TILE-24X48 (ACT-2)

RCP SYMBOL LEGEND

8' - 6" CEILING HEIGHT FROM FINISH FLOOR

SUPPLY - CEILING DIFFUSERS & GRILLES

RETURN - CEILING DIFFUSERS & GRILLES

EXHAUST - CEILING DIFFUSERS & GRILLES

1X4 LIGHT FIXTURE

2X4 NEW OR RELOCATED LIGHT FIXTURE

PLAN NORTH

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DEMOLITION CEILING PLAN

A-2

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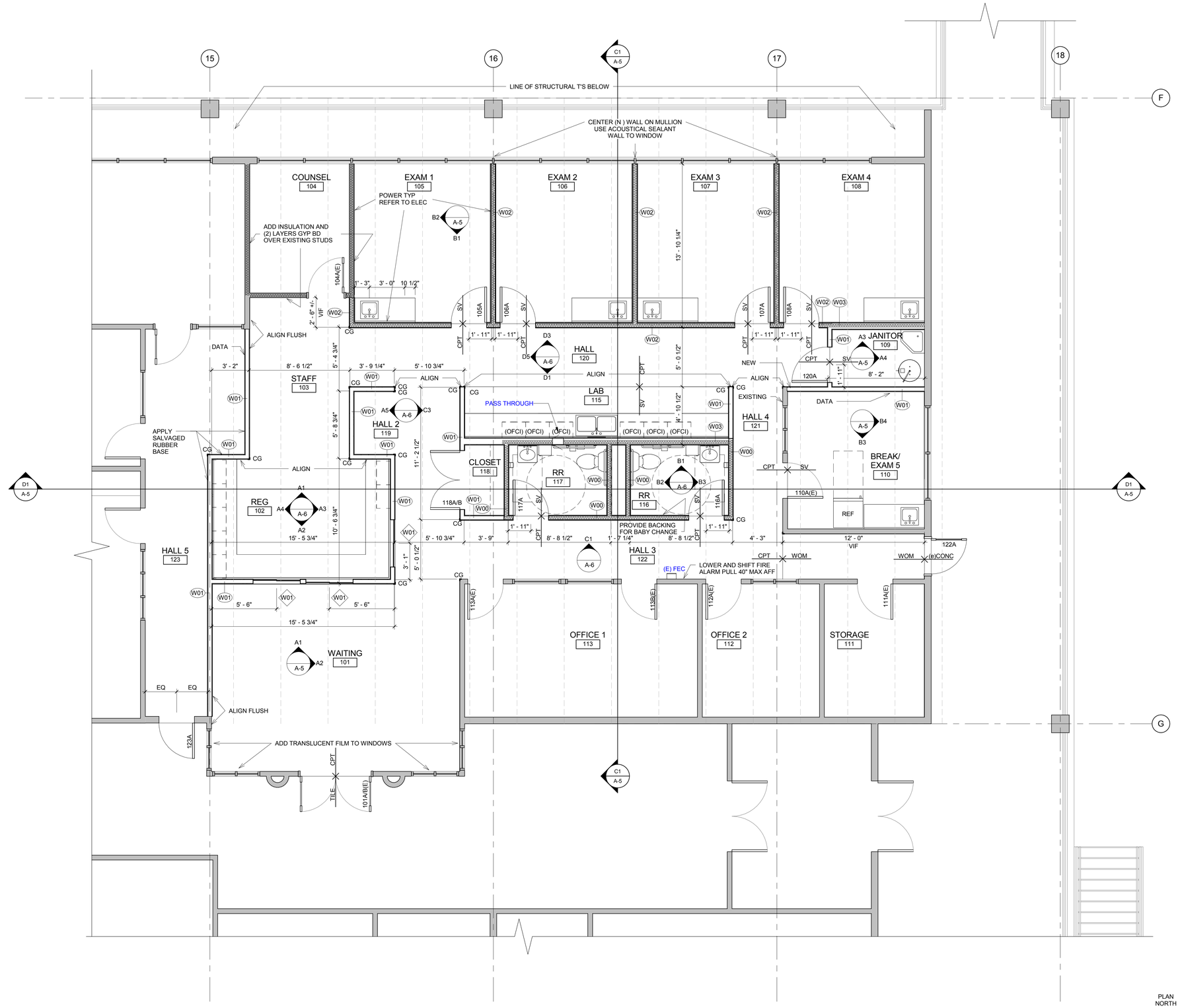

A1 A-3 FLOOR PLAN
1/4" = 1'-0"

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FLOOR PLAN

A-3

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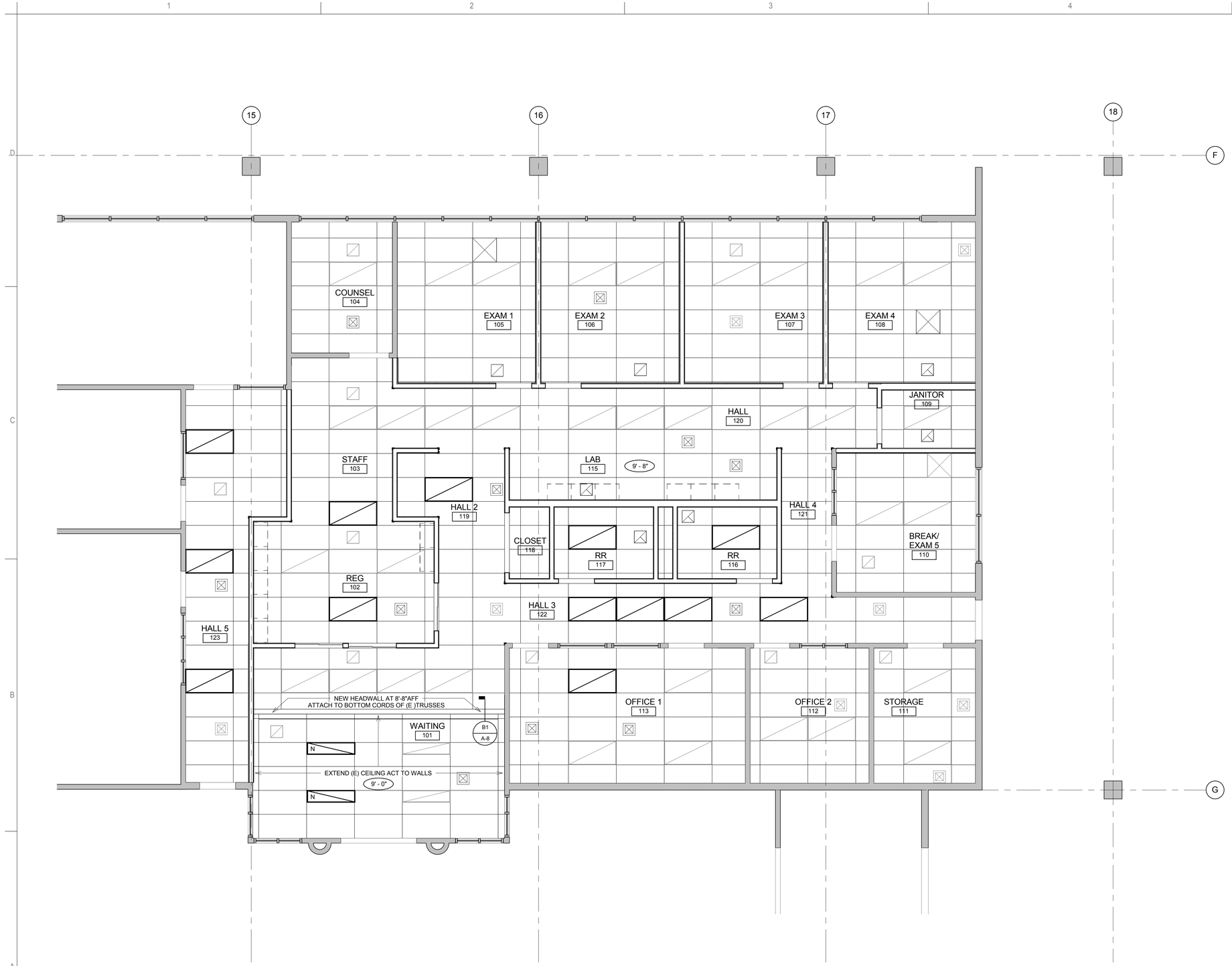

A1 REFLECTED CEILING PLAN
1/4" = 1'-0"

RCP GENERAL NOTES

A. HALFTONE (GRAY) LIGHT FIXTURES, DIFFUSERS, AND WALLS ARE EXISTING. REFER TO DEMOLITION, MECHANICAL AND ELECTRICAL PLANS.
B. LIGHT FIXTURES AND ELECTRICAL EQUIPMENT SHOWN FOR LOCATION AND ORIENTATION ONLY. REFER TO ELECTRICAL DRAWINGS FOR QUANTITIES AND ALL ADDITIONAL INFORMATION.
C. MECHANICAL DUCTS, DIFFUSERS AND GRILLES SHOWN FOR LOCATION ONLY.
D. REFER TO MECHANICAL DRAWINGS FOR QUANTITIES AND ALL ADDITIONAL INFORMATION.
E. ALL CEILING SUSPENSION SYSTEMS SHALL HAVE SEISMIC RESTRAINTS THAT COMPLY WITH APPLICABLE CODES AND ORDINANCES IN FORCE AT TIME OF CONSTRUCTION.
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G. CENTER ACOUSTICAL CEILING TILE IN ROOM U.N.O.

KEYNOTES

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REFLECTED CEILING PLAN

A-4

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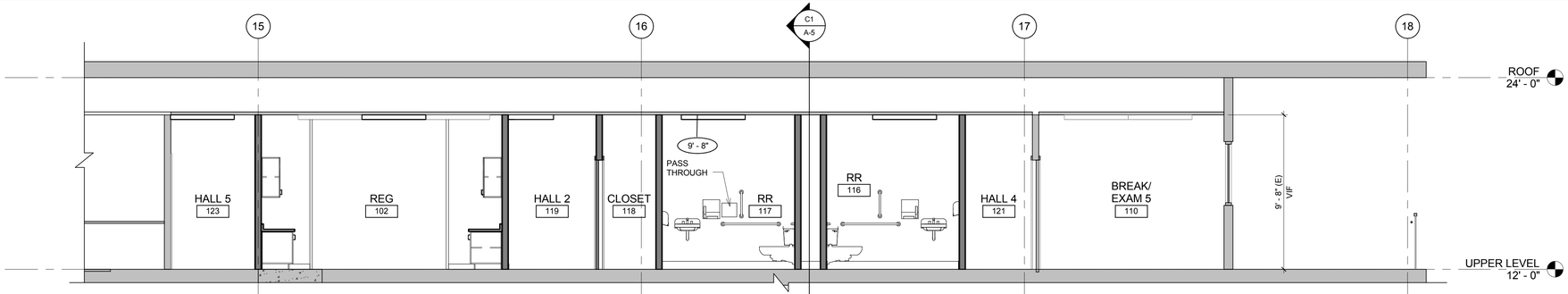
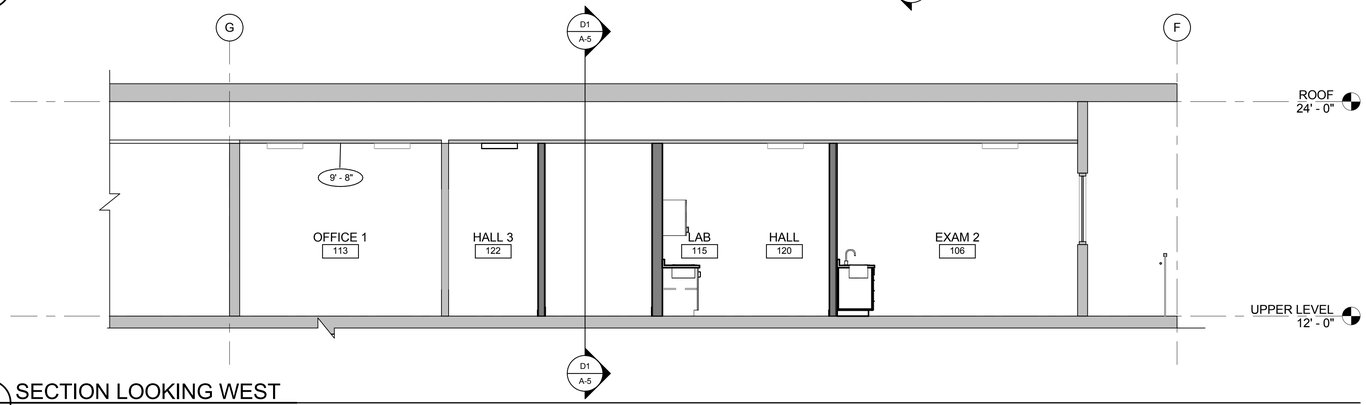
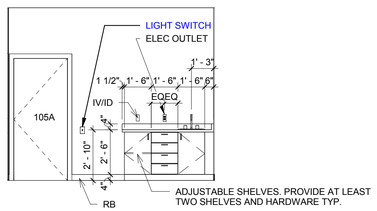


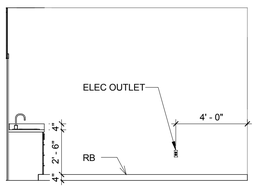
D1 A-5 SECTION LOOKING NORTH
1/4" = 1'-0"



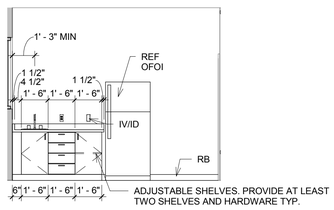
C1 A-5 SECTION LOOKING WEST
1/4" = 1'-0"



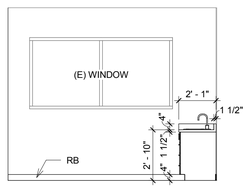
B1 A-5 EXAM 1 SOUTH
1/4" = 1'-0"



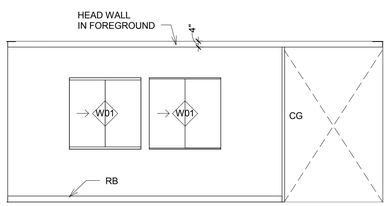
B2 A-5 EXAM 1 WEST
1/4" = 1'-0"



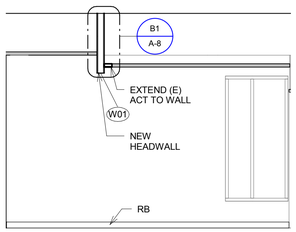
B3 A-5 BREAK SOUTH
1/4" = 1'-0"



B4 A-5 BREAK EAST
1/4" = 1'-0"



A1 A-5 WAITING NORTH
1/4" = 1'-0"



A2 A-5 WAITING EAST
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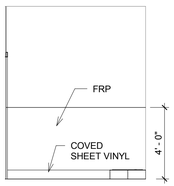
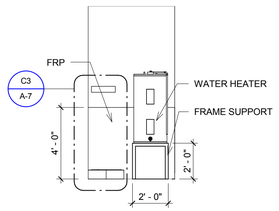


A3 A-5 JANITOR NORTH
1/4" = 1'-0"



A4 A-5 JANITOR EAST
1/4" = 1'-0"

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REGISTERED ARCHITECT
CARL R. SHERWOOD
EUGENE, OREGON
STATE OF OREGON

CITY OF SPRINGFIELD
Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

MARK	DATE	DESCRIPTION

ISSUE DATE: 10 MAY 2016
ISSUE: CONSTRUCTION DOCUMENTS
PROJECT NO: P11004
DRAWN BY: MEB
CHECKED BY: CS

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INTERIOR ELEVATIONS

A-5

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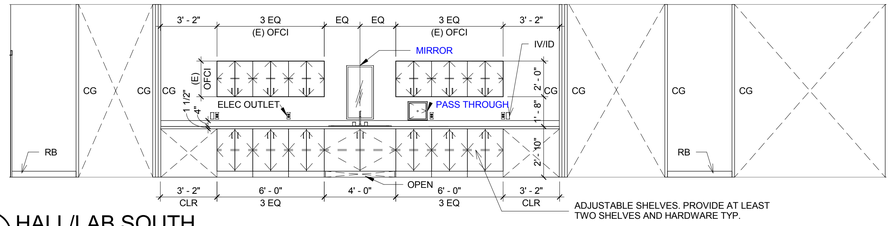

D1 A-6 HALL/LAB SOUTH
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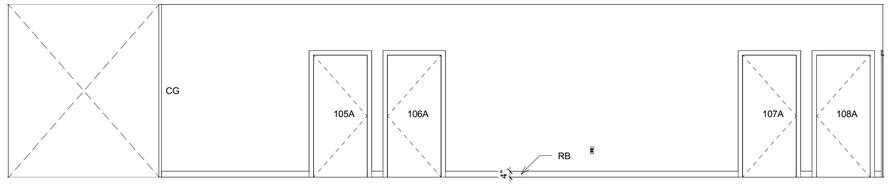
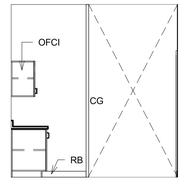
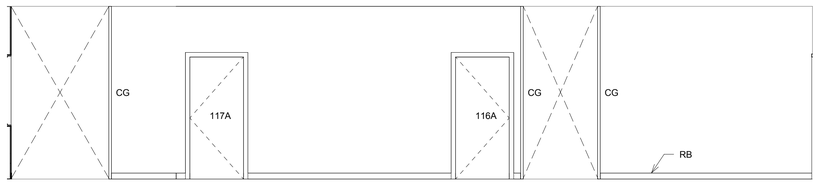


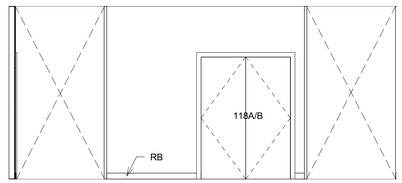
D3 A-6 HALL NORTH
1/4" = 1'-0"



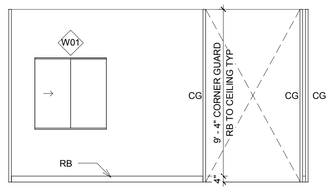
D5 A-6 HALL/LAB WEST
1/4" = 1'-0"



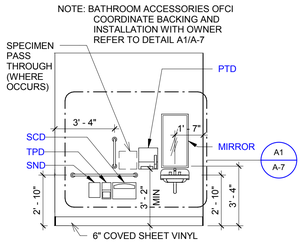
C1 A-6 HALL 3 NORTH
1/4" = 1'-0"



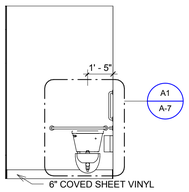
C3 A-6 HALL 2 EAST
1/4" = 1'-0"



A5 A-6 HALL 2 WEST
1/4" = 1'-0"



B1 A-6 RESTROOM NORTH
1/4" = 1'-0"



B2 A-6 RESTROOM WEST
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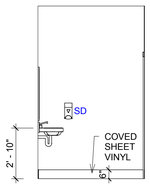
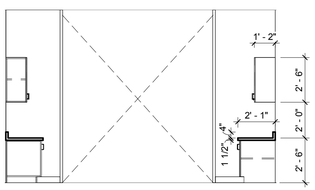
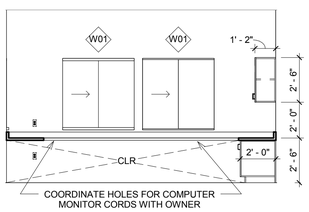


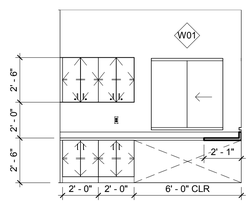
B3 A-6 RESTROOM EAST
1/4" = 1'-0"



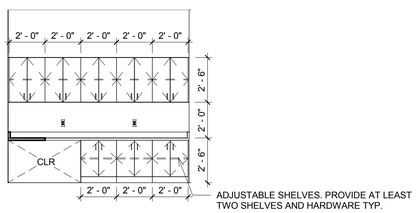
A1 A-6 REGISTRATION NORTH
1/4" = 1'-0"



A2 A-6 REGISTRATION SOUTH
1/4" = 1'-0"



A3 A-6 REGISTRATION EAST
1/4" = 1'-0"



A4 A-6 REGISTRATION WEST
1/4" = 1'-0"

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REGISTERED ARCHITECT
CARL R. SHERWOOD
EUGENE, OREGON
STATE OF OREGON

CITY OF SPRINGFIELD

Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

MARK	DATE	DESCRIPTION

ISSUE DATE: 10 MAY 2016
ISSUE: CONSTRUCTION DOCUMENTS
PROJECT NO: P11004
DRAWN BY: MEB
CHECKED BY: Checker

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INTERIOR ELEVATIONS

A-6

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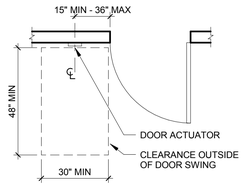
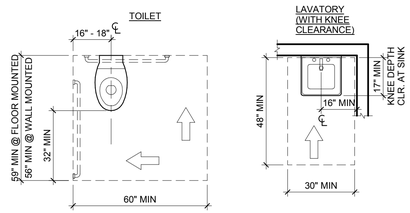


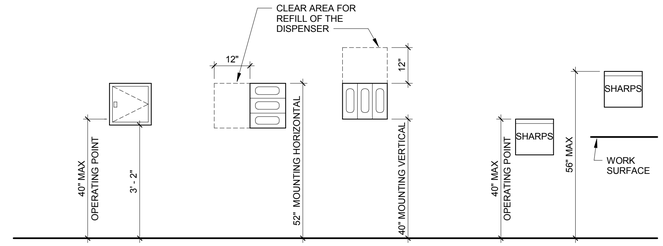
ACCESSIBLE CLEARANCE AT POWER DOOR ACTUATOR



ACCESSIBLE CLEARANCES

D1 A-7 REQUIRED CLEARANCES - PUBLIC

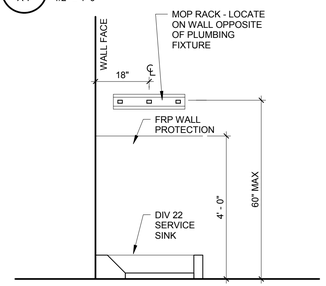
3/8" = 1'-0"



SPECIMEN PASS THRU CABINET | GLOVE DISPENSER HORIZONTAL | GLOVE DISPENSER VERTICAL | SHARPS DISPOSAL CONTAINER

D3 A-7 ACCESSIBLE MOUNTING HEIGHTS - MEDICAL

1/2" = 1'-0"



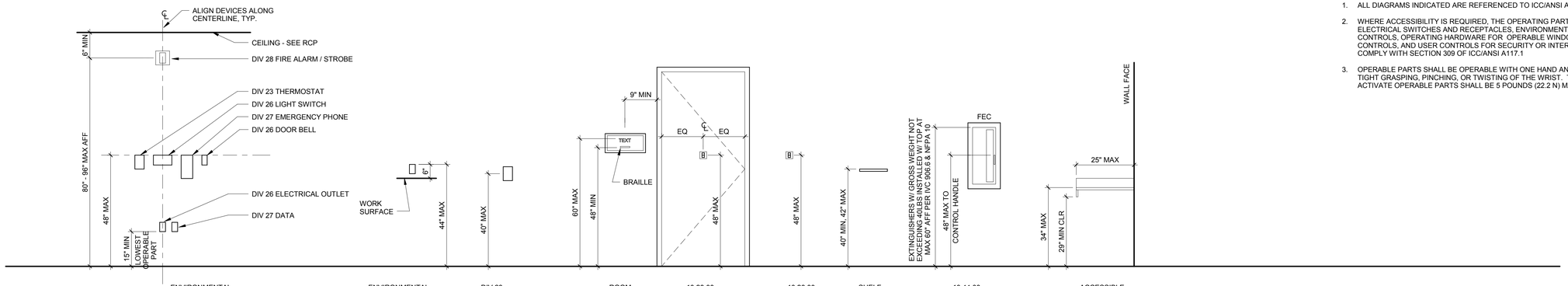
10.28.00 MOP RACK

C3 A-7 JANITOR TYPICAL MOUNTING HEIGHTS

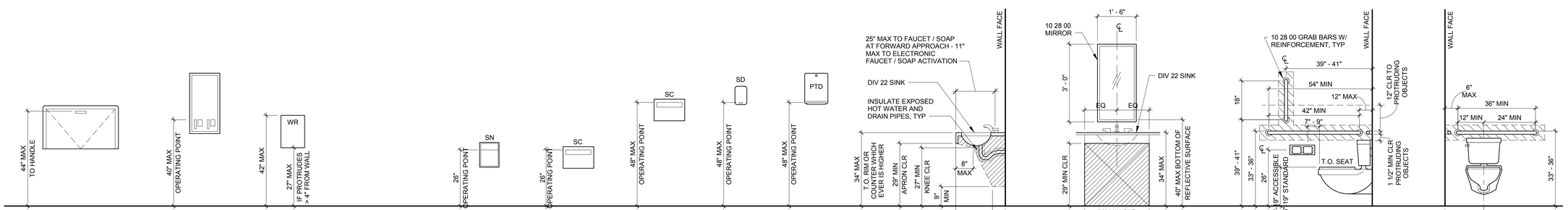
1/2" = 1'-0"

GENERAL NOTES:

1. ALL DIAGRAMS INDICATED ARE REFERENCED TO ICC/ANSI A117.1-2003 & 2009.
2. WHERE ACCESSIBILITY IS REQUIRED, THE OPERATING PARTS OF LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLES, ENVIRONMENTAL CONTROLS, APPLIANCE CONTROLS, OPERATING HARDWARE FOR OPERABLE WINDOWS, PLUMBING FIXTURE CONTROLS, AND USER CONTROLS FOR SECURITY OR INTERCOM SYSTEMS SHALL COMPLY WITH SECTION 309 OF ICC/ANSI A117.1
3. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22.2 N) MAX.



ENVIRONMENTAL CONTROLS, ELECTRICAL AND COMMUNICATION | ENVIRONMENTAL CONTROLS, ELECTRICAL AND COMMUNICATION | DIV 28 FIRE ALARM PULL STATION | ROOM SIGNAGE | 10 28 00 COAT HOOK AT DOOR | 10 28 00 COAT HOOK | SHELF | 10 44 00 FIRE EXTINGUISHER CABINET | ACCESSIBLE WORKSPACE



10 28 00 BABY CHANGING STATION | 10 28 00 FEMININE HYGIENE DISPENSER | 10 28 00 WASTE RECEPTACLE | 10 28 00 SANITARY NAPKIN DISPOSAL | 10 28 00 SEAT COVER DISPENSER AT SIDE WALL | 10 28 00 SEAT COVER DISPENSER AT BACK WALL | 10 28 00 SOAP DISPENSER | 10 28 00 SURFACE MOUNTED PAPER TOWEL DISPENSER | DIV 22 LAVATORY OR KITCHEN SINK | DIV 22 LAVATORY OR KITCHEN SINK / 10 28 00 MIRROR | 10 28 00 GRAB BARS | 10 28 00 TOILET PAPER DISPENSER | DIV 22 TOILET | DIV 22 TOILET

A1 A-7 ACCESSIBLE MOUNTING HEIGHTS

1/2" = 1'-0"

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REGISTERED ARCHITECT CARL R. SHERWOOD EUGENE, OREGON STATE OF OREGON

CITY OF SPRINGFIELD

Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

MARK	DATE	DESCRIPTION

ISSUE DATE:	10 MAY 2016
ISSUE:	CONSTRUCTION DOCUMENTS
PROJECT NO:	P11004
DRAWN BY:	Author
CHECKED BY:	Checker

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ACCESSIBLE MOUNTING HEIGHTS AND DETAILS

A-7

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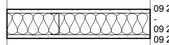
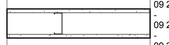
INT WALL ASSEMBLIES



09 21 16 GYPSUM WALLBOARD
-
09 21 16 METAL STUD FRAMING; 3 5/8"
09 21 16 ACOUSTIC BATT INSULATION
-
09 21 16 GYPSUM WALLBOARD

MARK		
W00	**FIRE RESISTANCE/**	0 HOUR(S)
	SOURCE:	
	STC RATING/SOURCE:	35-39: NGC-2404



09 21 16 GYPSUM WALLBOARD
-
09 21 16 METAL STUD FRAMING; 3 5/8"
-
09 21 16 GYPSUM WALLBOARD

MARK		
W01	**FIRE RESISTANCE/**	0 HOUR(S)
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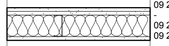
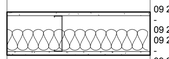
	STC RATING/SOURCE:	35-39: NGC-2404



09 21 16 GYPSUM WALLBOARD
09 21 16 GYPSUM WALLBOARD
-
09 21 16 METAL STUD FRAMING; 3 5/8"
09 21 16 ACOUSTIC BATT INSULATION
-
09 21 16 GYPSUM WALLBOARD

MARK		
W02	**FIRE RESISTANCE/**	0 HOUR(S)
	SOURCE:	
	STC RATING/SOURCE:	35-39: NGC-2404



09 21 16 GYPSUM WALLBOARD
-
09 21 16 METAL STUD FRAMING; 6"
09 21 16 ACOUSTIC BATT INSULATION
-
09 21 16 GYPSUM WALLBOARD

MARK		
W03	**FIRE RESISTANCE/**	0 HOUR(S)
	SOURCE:	
	STC RATING/SOURCE:	35-39: NGC-2404

GENERAL WALL NOTES
3-5/8" STEEL STUDS (6" STUDS AT PLUMBING WALL) AT 16" ON CENTER W/ 5/8" GYPSUM BOARD EACH SIDE. WALL TOE RUN TO UNDERSIDE OF EXISTING CEILING; BRACE TOP OF WALL AS REQUIRED TUP TO STRUCTURE ABOVE, MINIMUM 4'-0" ON CENTER. FINISH AND BASE TO MATCH EXISTING ADJACENT WALLS. FILL SUTD CAVITY WITH ACOUSTICAL BATT INSULATION AT RESTROOMS AND EXAM ROOMS. ANCHOR STEEL STUDS TO CONCRETE FLOOR WITH HILTI 0.145" DIA. POWDER DRIVEN FASTENERS @ 16" OC.

PARTITION NOTES

1. PARTITION TYPE SYMBOLS ARE NOTED ON THE FLOOR PLANS.

2. STUDS ARE 16" O.C. UNLESS NOTED OTHERWISE.

3. ALL FIRE-RATED ASSEMBLIES ARE BASED UPON IBC, U.L. AND U.S. GYPSUM ASSOCIATION (GA) TEST DATA. FIRE RATED PARTITIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TESTING AGENCIES. REFER TO SPECIFIC TEST REPORTS INDICATED FOR REQUIRED COMPONENTS AND ASSEMBLY.

4. ACOUSTIC PARTITIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF TESTING AGENCIES. REFER TO SPECIFIC TEST REPORTS FOR REQUIRED COMPONENTS AND ASSEMBLY. PROVIDE 07 90 05 ACOUSTIC SEALANT AROUND WALL PERIMETER & OPENINGS AT BASE GYP LAYER. SEAL ALL PENETRATIONS & OFFSET BY (1) STUD MINIMUM. INSTALL STUD RUNNER WITH ACOUSTIC FOAM TAPE WHERE DESIGNATED BY ASSEMBLY.

5. ALL OTHER PARTITIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIC MATERIALS MANUFACTURER AND INDUSTRY STANDARDS.

6. PROVIDE ALL NECESSARY ANCHORAGE BLOCKING, BACKING AND FRAMING FOR WALL MOUNTED CABINETS, SHELVING, MIRRORS, EQUIPMENT, DOORSTOPS, HOLD-OPENS, TOILET ROOM PARTITIONS & ACCESSORIES AND OTHER LOCATIONS AS REQUIRED BY MANUFACTURER SPECIFICATIONS OR INDUSTRY STANDARDS.

7. PROVIDE BRACING AT ALL LOCATIONS PER US GYPSUM GUIDELINES FOR PARTITION FRAMING.

8. PROVIDE ACOUSTIC SEALANT AT ALL THROUGH WALL PENETRATIONS.

9. COMPLETELY SEAL AROUND PENETRATIONS THROUGH ACOUSTICAL WALLS. FILL DEPTH OF GAPS AROUND CUT-OUTS FOR ELECTRICAL BOXES, PIPES AND PLUMBING, AND OTHER PENETRATIONS. PROVIDE INSULATION BETWEEN THE CONCEALED FACE OF FINISH MATERIALS (WITHIN THE STUD OR JOIST CAVITY) AND PIPES, PLUMBING, THE BACK OF BOXES, OR OTHER RECESSED FIXTURES.

10. INSTALL ACOUSTIC INSULATION BLANKET, UNO.

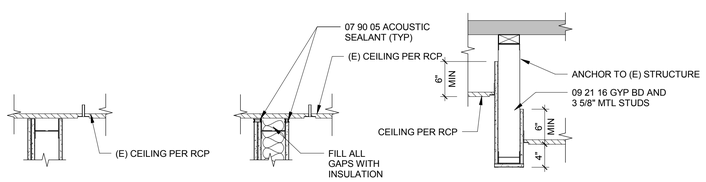
11. AT FURRING ASSEMBLIES PROVIDE NAILING AS PER GA. NO. ASSOCIATED TO THAT ASSEMBLY.

12. REFERENCE PROJECT SPECIFICATIONS:
    07 21 00 BATT INSULATION
    07 90 05 JOINT AND ACOUSTIC SEALANTS
    09 21 16 GYPSUM BOARD ASSEMBLIES
    SEE NOTED ASSEMBLY DETAIL FOR ALL OTHER SECTIONS

13. MAINTAIN FIRE RESISTANCE RATING FOR ALL CONSTRUCTION INDICATED AT THROUGH-WALL PENETRATIONS, BUILT-IN WALL FIXTURES, ACCESSORIES, AND BEHIND MAILBOXES, FIRE EXTINGUISHER CABINETS, PLUMBING FIXTURES, ELECTRIC PANELS AND SIMILAR ITEMS, IN COMPLIANCE WITH REQUIREMENTS OF APPLICABLE CODES. COORDINATE CONSTRUCTION OF FIRE-RATED ASSEMBLIES WITH DESIGNATED DESIGN NUMBER.

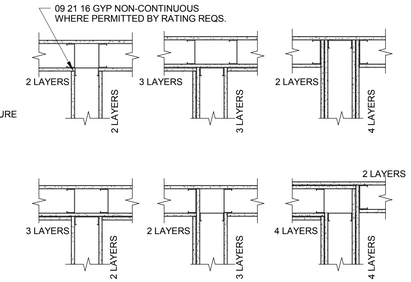
14. WHERE LARGER STUDS OR FURRING ARE REQUIRED TO COVER DUCTS, PIPING, CONDUIT, ETC, THE LARGER STUD SIZE OR FURRING SHALL BE PROVIDED AND SHALL EXTEND THE FULL SURFACE OF THE WALL LENGTH AND HEIGHT WHERE THE FURRING OCCURS.

15. FRAME AND FINISH OPENINGS FOR MECHANICAL AND ELECTRICAL SYSTEMS AS REQUIRED BY MECHANICAL/ELECTRICAL DOCUMENTS.



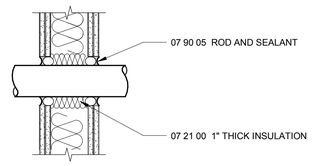
A TYP WALL TO CEILING (NON-ACOUSTIC PARTITION)
B TYP WALL TO CEILING (ACOUSTIC PARTITION)
C HEADWALL TO STRUCTURE (AT WAITING)

B1 A-8 WALL CONFIGURATION - HEAD
1" = 1'-0"

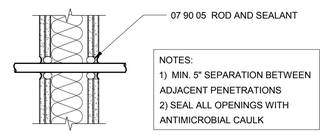


B2 TYPICAL PARTITION INTERSECTIONS
1" = 1'-0"

DUCT PENETRATION

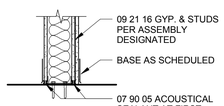


PIPE PENETRATION GREATER THEN 1" DIA.

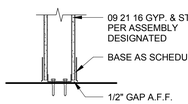


CONDUIT PENETRATION 1" DIA. OR LESS

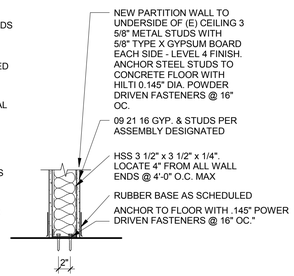
A4 A-8 THROUGH WALL PENETRATIONS
1 1/2" = 1'-0"



1 ACOUSTIC PARTITION

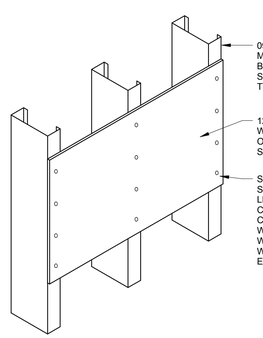


2 TYPICAL PARTITION

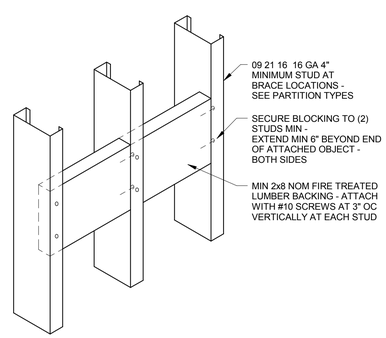


3 PARTIAL HEIGHT PARTITION (ALL NEW WALLS)

A1 A-8 WALL CONFIGURATION - BASE
1" = 1'-0"



A FOR USE AT LOCATIONS SUPPORTING LOADS 50 LBS OR LESS



B FOR USE AT LOCATIONS SUPPORTING LOADS GREATER THAN 50 LBS

A2 A-8 BACKING DETAIL
1 1/2" = 1'-0"

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REGISTERED ARCHITECT
CARL R. SHERWOOD
EUGENE, OREGON
STATE OF OREGON

CITY OF SPRINGFIELD
Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

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ISSUE DATE:	10 MAY 2016
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PROJECT NO:	P11004
DRAWN BY:	Author
CHECKED BY:	Checker

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ASSEMBLY TYPES (WALLS AND CEILINGS)

A-8

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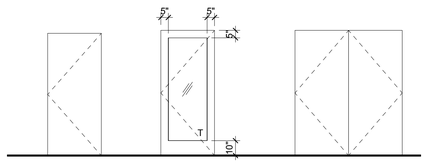


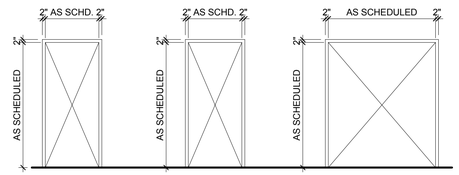
S-F
SINGLE, FLUSH

S-FG
ALUM, SINGLE, FULL GLASS

D-F
DOUBLE, FLUSH

DOOR PANEL TYPES

1/4" = 1'-0"



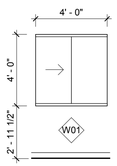
ALUM-1
ALUMINUM

HM-1
HOLLOW METAL

HM-2
HOLLOW METAL

DOOR FRAME TYPES

1/4" = 1'-0"



WINDOW TYPES

1/4" = 1'-0"

DOOR & FRAME SCHEDULE

DOOR NO.	DOOR PANEL WIDTH	HEIGHT	TYPE	MATL	FINISH	DOOR FRAME TYPE	MATL	FINISH	HEAD	JAMB	SILL	UL LABEL	HDW	COMMENTS
101A/B(E)	6' - 0"	7' - 7"											7	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME ON SUITE SIDE COLOR PT-X
104A(E)	3' - 0"	6' - 10"	(E)S-FG			(E)HM-1		PT-X					7	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
105A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					2	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
106A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					2	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
107A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					2	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
108A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					2	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
110A(E)	3' - 0"	7' - 0"	(E)S-F			(E)HM-1		PT-X					6	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
111A(E)	3' - 0"	7' - 0"	(E)S-F			(E)HM-1		PT-X					6	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
112A(E)	3' - 0"	7' - 0"	(E)S-F			(E)HM-1		PT-X					7	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
113A(E)	3' - 0"	7' - 0"	(E)S-F			(E)HM-1		PT-X					7	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
113B(E)	3' - 0"	7' - 0"	(E)S-F			(E)HM-1		PT-X					6	CLEAN EXISTING DOOR AND FRAME/ PAINT EXISTING DOOR FRAME
116A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					3	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
117A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					3	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
118A/B	5' - 0"	6' - 10"	D-F	WD	FF	HM-2	STL	PT-X					4	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
120A	3' - 0"	6' - 10"	S-F	WD	FF	HM-1	STL	PT-X					5	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
122A	3' - 0"	7' - 0"	S-FG	ALUM	FF	ALUM-1	ALUM	FF					1	PT-X IS MATCH ADJACENT COLOR GREEN (STD CITY COLOR)
123A	3' - 0"	7' - 0"	(E)S-F	(E) WD	(E) FF	HM-1	STL	PT-X					8	INSTALL OFCI DOOR. CFCI NEW FRAME TO MATCH (E) ADJACENT FRAMES

DOOR AND FRAME SCHEDULE GENERAL NOTES:

1. INTERIOR DOORS CARRY THE ROOM NUMBER INTO WHICH THEY SWING AND A SEQUENCE LETTER.
2. EXTERIOR DOORS CARRY THE NUMBER OF THE ROOM IN WHICH THEY ARE LOCATED AND A SEQUENCE LETTER.
3. PAIRS OF DOORS ARE SCHEDULED TOGETHER.
4. SEE SECTION 08710 OF THE PROJECT MANUAL FOR HARDWARE GROUP LISTING AND SPECIFICATIONS
5. ABBREVIATIONS ARE AS FOLLOWS:
   - ALUM ALUMINUM
   - ISGU INSULATED SAFETY GLASS UNIT
   - F FLUSH
   - FF FACTORY FINISH
   - FG FULL GLASS
   - HM HOLLOW METAL
   - MIN MINUTE
   - S SINGLE
   - SCW SOLID WOOD CORE
   - SG SAFETY GLASS
   - STL STEEL
6. VERIFY HAND OF DOORS AND FRAMES WITH THE FLOOR PLANS.
7. DOOR DIMENSIONS ARE NOMINAL. SHOW EXACT DIMENSIONS ON SHOP DRAWINGS.
8. FIRE-RATED NOTED UNDER "RATING" APPLIES TO THE ENTIRE DOOR/ FRAME/ HARDWARE ASSEMBLY.

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH	BASE FINISH	Wall Material North	WALL FINISH NORTH	Wall Material East	WALL FINISH EAST	Wall Material South	WALL FINISH SOUTH	Wall Material West	WALL FINISH WEST	Ceiling Finish	COMMENTS
101	WAITING	CPT	RB	GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB/GB	PT-1	(E) ACT	
102	REG	CPT	RB	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
103	STAFF	CPT	RB	(E)GB	PT-1	GB	PT-1	--	PT-1	(E)GB/GB	PT-1	(E) ACT	
104	COUNSEL	CPT	RB	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	
105	EXAM 1	SV	RB	(E)GB	PT-1	GB	PT-1	GB	PT-1	(E)GB/GB	PT-1	(E) ACT	
106	EXAM 2	SV	RB	(E)GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
107	EXAM 3	SV	RB	(E)GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
108	EXAM 4	SV	RB	(E)GB	PT-1	(E)GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
109	JANITOR	SV	SV	GB	FRP/PT-1	(E)GB	FRP/PT-1	GB	FRP/PT-1	GB	FRP/PT-1	(E) ACT	INSTALL FRP UP TO 4'-0" AFF
110	BREAK/ EXAM 5	SV	RB	GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	
111	STORAGE	CPT	RB	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	
112	OFFICE 2	CPT	RB	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	
113	OFFICE 1	CPT	RB	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	
115	LAB	SV	RB	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
116	RR	SV	SV	GB	EP-1	GB	EP-1	GB	EP-1	GB	EP-1	(E) ACT	COVE SHEET VINYL BASE 6" AFF
117	RR	SV	SV	GB	EP-1	GB	EP-1	GB	EP-1	GB	EP-1	(E) ACT	COVE SHEET VINYL BASE 6" AFF
118	CLOSET	CPT	RB	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
119	HALL 2	CPT	RB	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	(E) ACT	
120	HALL	CPT	RB	GB	PT-1	GB	PT-1	GB	PT-1	--	PT-1	(E) ACT	
121	HALL 4	CPT	RB	--	PT-1	(E)GB	PT-1	--	PT-1	GB	PT-1	(E) ACT	
122	HALL 3	CPT & WOM	RB	GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	--	PT-1	(E) ACT	WALK-OFF MAT AT EXTERIOR DOOR APPROX. 48 SF
123	HALL 5	(E) CPT	RB	(E)GB	PT-1	GB	PT-1	(E)GB	PT-1	(E)GB	PT-1	(E) ACT	TEMPORARILY REMOVE AND REINSTALL EXISTING CARPET. INSTALL SALVAGED RUBBER BASE.

ROOM FINISH SCHEDULE LEGEND

09 51 00	ACT	ACOUSTICAL CEILING TILE
09 68 13	CPT	CARPET TILE
	(E)	EXISTING
10 26 23.16	FRP	FIBERGLASS REINFORCED PANEL
09 21 16	GB	GYPSUM BOARD
09 90 00	PT-X	LATEX PAINT
09 90 00	EP-X	EPOXY PAINT
09 65 00	RB	RUBBER BASE
09 65 00	SV	SHEET VINYL
09 68 13	WOM	WALK OFF MAT

A-ROOM FINISH SCHEDULE LEGEND
12" = 1'-0"

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REGISTERED ARCHITECT
CARL R. SHERWOOD
EUGENE, OREGON
STATE OF OREGON

CITY OF SPRINGFIELD
Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
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CHECKED BY: CS

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FINISH SCHEDULE & DOOR SCHEDULE

A-9

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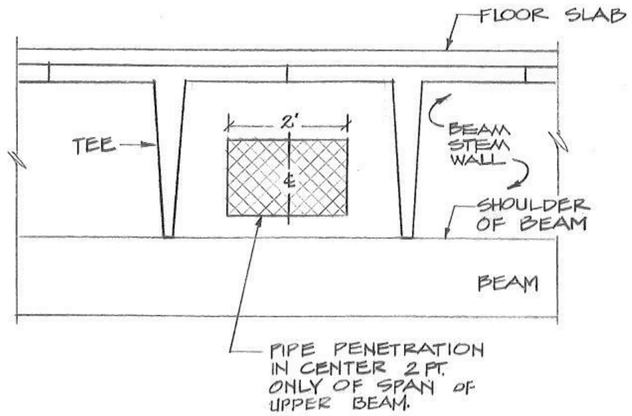
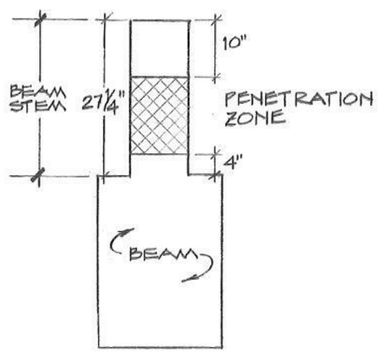


ELEVATION LOOKING AT END OF "TEE"

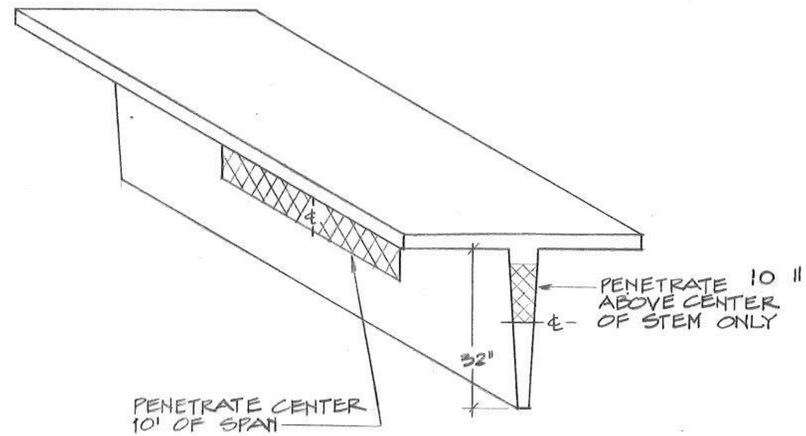


ELEVATION

UPPER BEAM PENETRATIONS FROM 'A' THROUGH 'M'

NOT TO SCALE.

A 15003

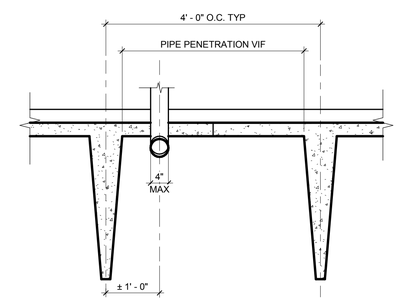


TEE STEM PENETRATIONS

NOT TO SCALE.

B 15003

CENTRAL BLUEPRINT CO.



A5 / A-10 FLOOR PENETRATION

3/4" = 1'-0"

Lutes/Sanetel/Architects
417 NORTH A STREET, SPRINGFIELD, OREGON 97477, (503) 726-7944

SPRINGFIELD CIVIC CENTER
SPRINGFIELD, OREGON

• BEAM PENETRATION DTL.
• 'TEE' STEM PENETRATION DTL.

DWN: JSM
CHK: NDD
DATE: 2 JUN 80
PROJ: 7803

15003

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PENETRATION DETAILS

A-10

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LEGEND

		PIPE DOWN (DN), PIPE UP
VTR		VENT THROUGH ROOF
FFE		FINISHED FLOOR ELEVATION
AFF		ABOVE FINISHED FLOOR
BFF		BELOW FINISHED FLOOR
BBD		BELOW BOTTOM OF DECK
IE		INVERT ELEVATION
	SOV	SHUT OFF VALVE
CO	CO	CLEANOUT
WCO	WCO	WALL CLEANOUT
	W	WASTE PIPING
	V	VENT PIPING
	CW	COLD WATER PIPING
	HW	HOT WATER PIPING
	(E) CW	(E) COLD WATER
	(E) W	(E) WASTE PIPING
FS	(E) FS	(E) FIRE SPRINKLER PIPING

(E)		EXISTING
200 SDC-1 8X12-4W		CFM, GRILLE & SIZE DESIGNATION
		SINGLE LINE DUCTWORK
		DUCTWORK
	SA	SUPPLY AIR DUCTWORK
	RA	RETURN AIR DUCTWORK
	EA	EXHAUST AIR DUCTWORK
T HP-1		THERMOSTAT WITH UNIT NUMBER
B		BALANCING, BAROMETRIC DAMPER
HP		HEAT PUMP
EF		EXHAUST FAN
DH		DUCT HEATER
SDC		SUPPLY DIFFUSER CEILING
RGC		RETURN GRILLE CEILING
EGC		EXHAUST GRILLE CEILING
C		CONNECT TO EXISTING
X · X · X · X · X · X · X · X ·		REMOVE/DEMO
		EXISTING MECHANICAL

PLUMBING FIXTURE SCHEDULE

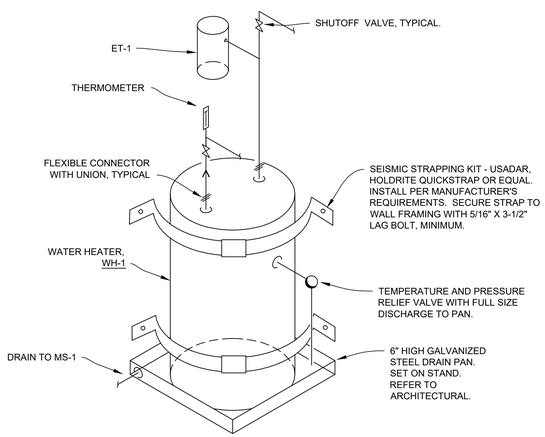
CODE	FIXTURE	CONNECTIONS				MANUFACTURER & MODEL	REMARKS
		W	V	HW	CW		
ET-1	THERMAL EXPANSION TANK	----	----	----	1/2	WATTS PLT-5	HYDRO-PNEUMATIC THERMAL EXPANSION ABSORBER. 150 PSIG WORKING PRESSURE. TANK VOLUME OF 2.1 GALLONS, 1.26 GAL ACCEPTANCE.
LAV-1A	LAVATORY ADA	2	1-1/2	1/2	1/2	AMERICAN STANDARD DECLYN 0321.075	WHITE WALL MOUNT VITREOUS CHINA 18-1/2" X 17" WITH CONCEALED ARM FLOOR MOUNTED CARRIER. MOEN L64601 SINGLE LEVER FAUCET WITH GRID STRAINER DRAIN, 1.5 GPM AERATOR. PROVIDE WATTS LFUSG-B MIXING VALVE. PROVIDE INSULATION KIT. ADA INSTALLATION.
MS-1	MOP SINK	3	2	3/4	3/4	MUSTEE 63M	MOLDED COMPOSITE, FLOOR MOUNT, STAINLESS STEEL DOME STRAINER, PVC DRAIN OPENING, AND LINT BASKET WITH 63.600A VACUUM BREAKER BACKFLOW PREVENTION FAUCET, 65.700 HOSE AND BRACKET, 67.2424 STAINLESS STEEL WALL GUARDS AND 63.401 BUMPER GUARD ON EXPOSED EDGES.
S-1	SINK EXAM	2	1-1/2	1/2	1/2	DAYTON D11515	12" X 10" X 5-1/8" DEEP STAINLESS STEEL SELF RIMMING. AMERICAN STANDARD 6542.170 WIDESPREAD FAUCET WITH WRIST BLADE HANDLES, GOOSENECK SPOUT, 1.5 GPM AERATOR AND GRID STRAINER DRAIN. PROVIDE WATTS LFUSG-B MIXING VALVE
S-2	SINK LAB	2	1-1/2	1/2	1/2	DAYTON DSE23322	TWO 12" X 15-3/4" X 8" DEEP STAINLESS STEEL SELF RIMMING BOWLS WITH BASKET STRAINER. AMERICAN STANDARD 6542.170 WIDESPREAD FAUCET WITH WRIST BLADE HANDLES, GOOSENECK SPOUT, 1.5 GPM AERATOR AND GRID STRAINER DRAIN. PROVIDE WATTS LFUSG-B MIXING VALVE
WC-1A	WATER CLOSET ADA	4	2	---	1/2	AMERICAN STANDARD GLENWALL 2093.1016	WALL MOUNT 1.6 GPF WHITE ELONGATED BOWL, TANK TYPE, PRESSURE ASSIST WITH BEMIS 1955SSCT SELF SUSTAINING HEAVY DUTY PLASTIC SEAT. LEVER ON WIDE SIDE. PROVIDE SIDE OUTLET FLOOR MOUNTED CARRIER. ADA INSTALLATION.
WH-1	WATER HEATER	----	----	1	1	BRADFORD WHITE RE340S6	40 GALLON ELECTRIC RATED AT 21 GALLONS/HR AT 90°F TEMPERATURE RISE. DUAL NON-SIMULTANEOUS 208 VOLT 1ϕ 4500 WATT ELEMENTS. PROVIDE 18" METALLIC FLEXIBLE CONNECTORS, SEISMIC RESTRAINTS TOP AND BOTTOM. FACTORY INSTALLED HEAT TRAPS, MINIMUM EF=0.95. ROUTE TEMP AND PRESSURE RELIEF FULL SIZE TO MS-1.

WASTE AND WATER MAIN SIZING

FIXTURE TYPE	TOTAL FIXTURES	WASTE UNITS, EACH/TOTAL		WATER UNITS, EACH/TOTAL	
WATER CLOSET, TANK TYPE	2	4	8	2.5	5
EXAM SINK	5	2	10	2	10
LAVATORY	2	1	2	1	2
LAB SINK	1	3	3	2	2
MOP SINK	1	3	3	3	3
TOTAL FIXTURE UNITS			26		22

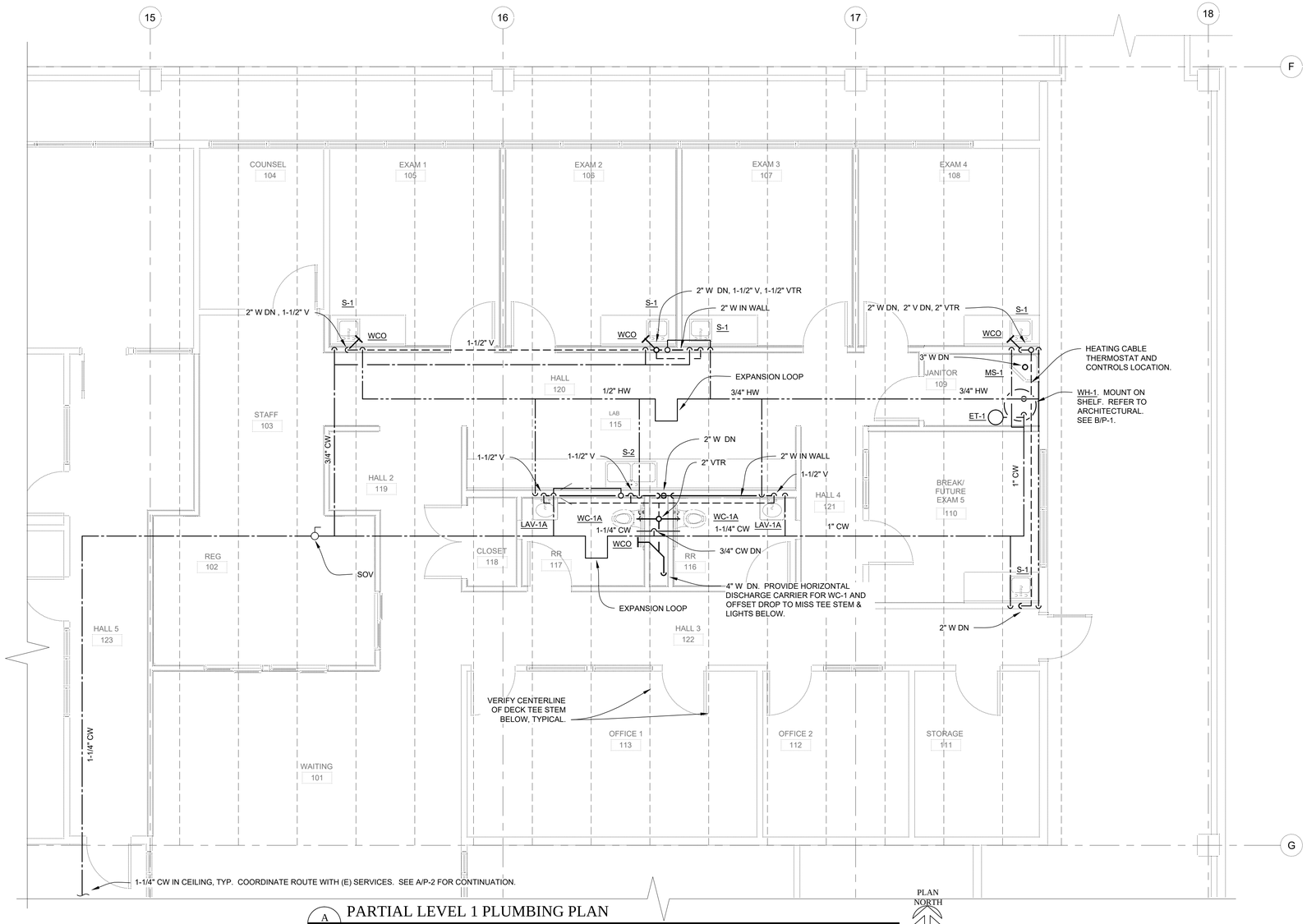
NOTES:

1. WASTE: 26 TOTAL FIXTURE UNITS REQUIRES 3" W, 4" PROVIDED.
2. WATER: 22 TOTAL FIXTURE UNITS (16 GPM) REQUIRES 1" MINIMUM SERVICE, 1-1/4" PROVIDED.



B / P-1 WATER HEATER DETAIL

1/4" = 1'-0"



A / P-1 PARTIAL LEVEL 1 PLUMBING PLAN

1/4" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER 11,651 OREGON JULY 16, 1982 CHRIS B. MOULDS
Chris B. Moulds
EXP. 12-31-16

CITY OF SPRINGFIELD

Springfield Wellness Center
225 5th St, Springfield, OR 97477
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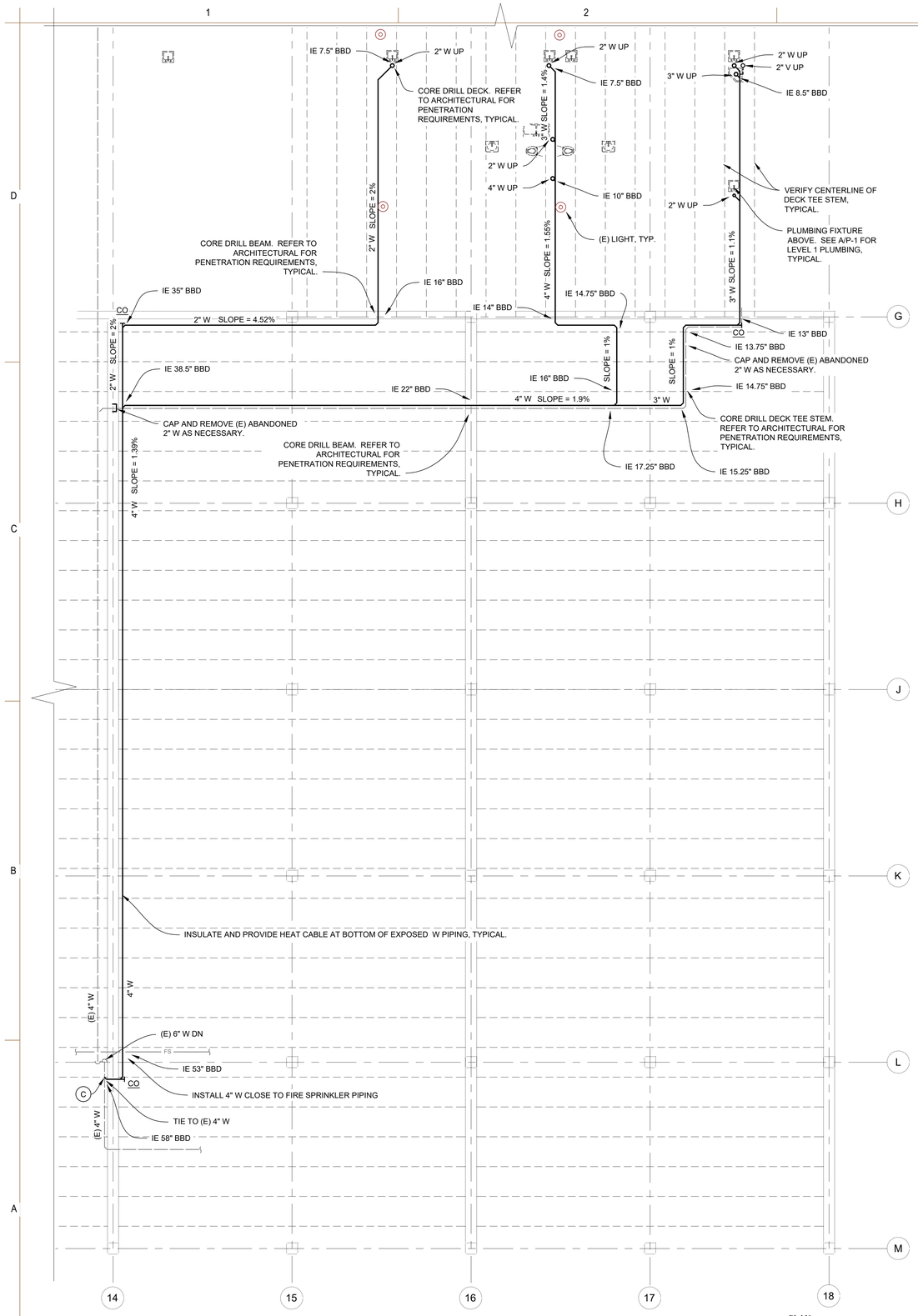
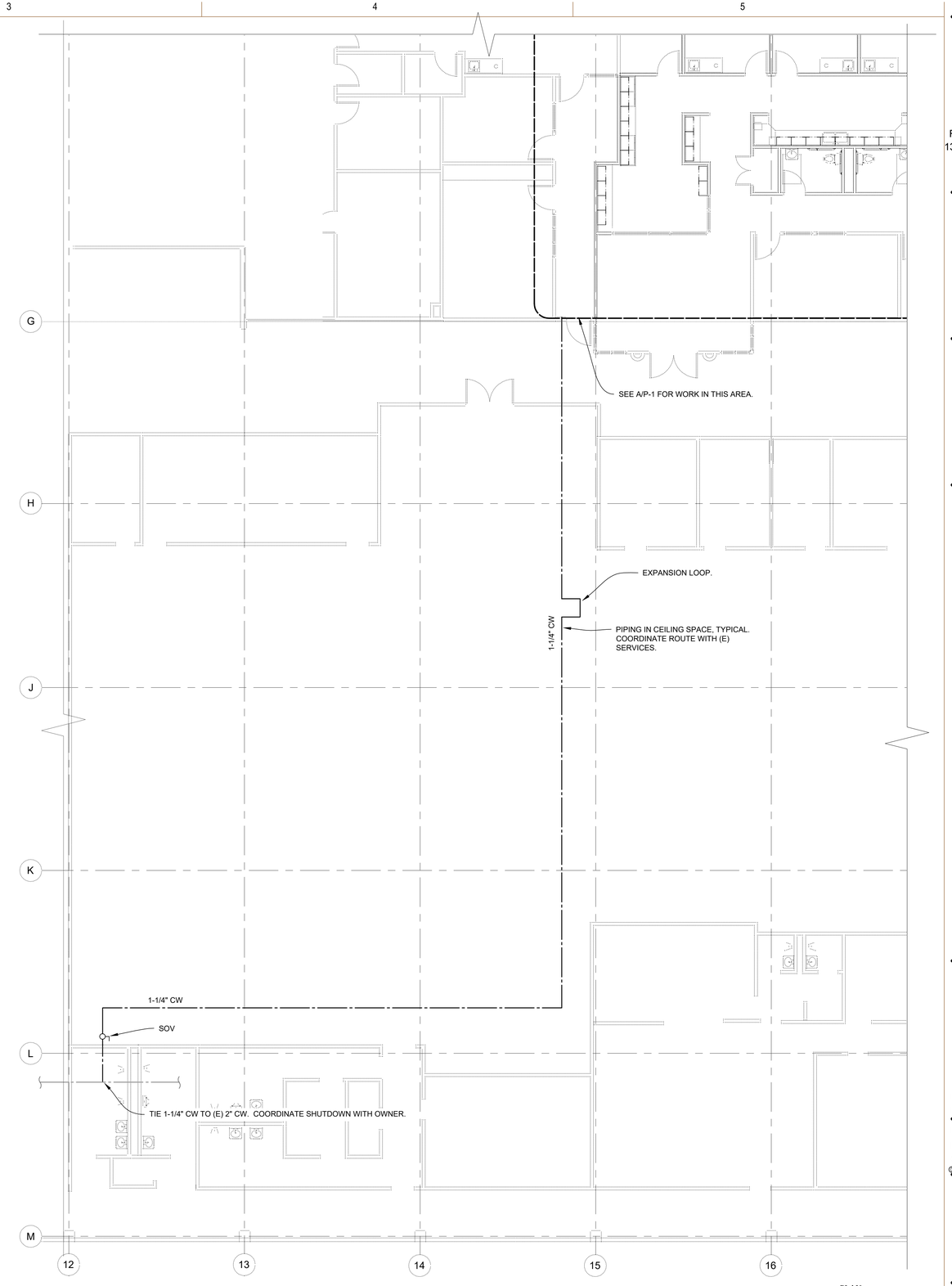
PLUMBING FLOOR PLAN

P-1



B P-2 GARAGE PLUMBING PLAN

1/8" = 1'-0"



A P-2 PARTIAL LEVEL 1 PLUMBING PLAN

1/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER 11,651 OREGON JULY 16, 1982 CHRIS B. MOULDS
EXP. 12-31-16

CITY OF SPRINGFIELD

Springfield Wellness Center
225 5th St, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

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PLUMBING PLANS GARAGE & LEVEL 1

P-2

OUTSIDE AIR SCHEDULE

OCCUPANCY OMSC 403.3	OCCUPANT DENSITY PERSONS/ 1000 SF OMSC 403.0	OUTDOOR AIR CFM/ PERSON Rp OMSC 403.0	OUTDOOR AIR CFM/SF Ra OMSC 403.0	AREA SQ FT Az	ZONE POPULATION # OF OCCUPANTS Pz	BREATHING ZONE OUTDOOR AIR Vbz OMSC 403.3.1.1	ZONE OUTDOOR AIR Voz OMSC 03.3.1.3	ZONE AIRFLOW CFM Vpz	PRIMARY OUTDOOR AIR FRACTION Zp OMSC 403.3.2.3.1	REQUIRED OUTDOOR AIR CFM Vot OMSC 403.3.2.3.4 (3)
COUNSEL 104	5	5	0.06	113	1	12	15	155	0.095	15
EXAM 105	10	25	--	156	1	25	31	215	0.14	31
EXAM 106	10	25	--	156	1	25	31	215	0.14	31
EXAM 107	10	25	--	156	1	25	31	215	0.14	31
EXAM 108	10	25	--	165	1	25	31	235	0.13	31
BREAK 110	50	5	0.06	135	4	28	35	245	0.14	35
HALL 121/122	--	--	0.06	231	--	14	17	235	0.07	17
UNCORRECTED OUTDOOR AIR, Vou OMSC 403.3.2.3.3									HP-2 REQUIRED OSA Ev= 1.0	191
									HP-2 PROVIDED OSA	200
WAITING 101	30	5	0.06	335	5	45	56	360	0.16	56
REG/STAFF 102/103	5	5	0.06	234	2	24	30	290	0.10	30
OFFICE 112	5	5	0.06	121	1	12	15	170	0.09	15
OFFICE 113	5	5	0.06	222	2	13	17	300	0.06	17
HALL/LAB 115/119/120	--	--	0.06	416	--	25	31	480	0.06	31
UNCORRECTED OUTDOOR AIR, Vou OMSC 403.3.2.3.3							149		HP-12 REQUIRED OSA Ev= 0.9	166
									HP-12 PROVIDED OSA	200
RR116	--	70 EA/FIXTURE	--	--	1 FIXTURE	--	--	--	--	70 EA
RR117		70 EA/FIXTURE	--	--	1 FIXTURE	--	--	--	--	70 EA

NOTES:

1. ZONE AIR EFFECTIVENESS Ez=0.8 PER OMSC 403.3.1.2.
2. OCCUPANT DIVERSITY D=1 PER OMSC 403.3.2.3.3.
3. OCCUPANT LOADS REDUCED TO ACTUAL OCCUPANCY, BUT NO LESS THAN 50% OF CODE MINIMUM.

MECHANICAL EQUIPMENT SCHEDULE

UNIT	MANUFACTURER/ MODEL	CFM	VOLT/ PHASE	KW	WEIGHT (LBS)
DH-1	TUTCO DHB	225	120 1Ø	1.5	25

SHEET NOTES

1. MOVE (E) SDC 12X12-2W FROM OFFICE 113 TO HALL 122, MOVE (E) SDC 12X12-3W FROM HALL 122 TO HALL 119 NORTH, AND MOVE (E) SDC 12X12-4W FROM HALL 119 TO OFFICE 113.
2. RELOCATE AND ROTATE (E) SDC 12X12-3W IN EXAM 108.
3. RELOCATE (E) SDC 12X12-4W FROM HALL 119 (SOUTH) TO EXAM 106 AND PROVIDE NEW SDC IN HALL 119.
4. RELOCATE (E) SDC.
5. ROTATE (E) 1W SDC IN HALL 123.
6. MOVE (E) 12x10 RGC FROM RR 117 AND INSTALL IN PLACE OF (E) 4W SDC IN EXAM 105. PROVIDE NEW EGC IN RR 117.
7. RELOCATE (E) THERMOSTAT FROM BREAK 110 TO EXAM 106.
8. RELOCATE (E) THERMOSTAT FROM COUNSEL 104 TO STAFF 103.
9. ADJUST HP-2 AND HP-12 OSA TO 200 CFM.

EXHAUST FAN SCHEDULE

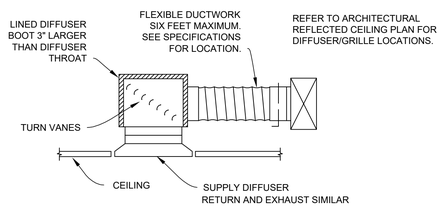
CODE	MANUFACTURER/MODEL	AREA SERVED	CFM	ESP	VOLT/PHASE	AMPS	SOUND SONES	WEIGHT (LBS)
EF-1	GREENHECK G-095-D	LAB/RESTROOMS	295	0.35	120/1	1/8 HP	5.2	53
EF-2	GREENHECK SP-A200	JANITOR ROOM	100	0.3	120/1	0.43	1.2	32

NOTES:

1. PROVIDE INTERNALLY MOUNTED AND WIRED SPEED CONTROLLER ON DIRECT DRIVE FANS.
2. EF-1 PROVIDED WITH AUTO DAMPER. INTERTIE FAN OPERATION WITH HP-2.
3. EF-2 CONTROLLED BY INTEGRAL OCCUPANCY SENSOR WITH TIME DELAY RELAY.

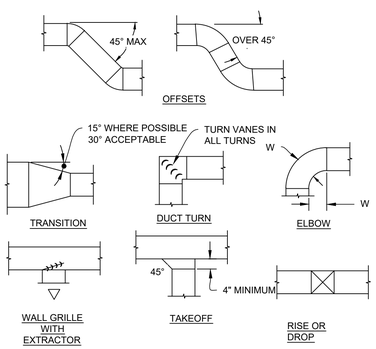
REGISTER & GRILLE SCHEDULE

CODE	MANUFACTURER MODEL	OBD	FINISH	REMARKS
SDC-1	PRICE AMD FRAME TYPE 6	NO	STANDARD WHITE	SUPPLY DIFFUSER CEILING
RGC-1	PRICE 530	NO	STANDARD WHITE	RETURN GRILLE CEILING
EGC-1	PRICE 530	NO	STANDARD WHITE	EXHAUST GRILLE CEILING



B / M-1 DIFFUSER DETAIL

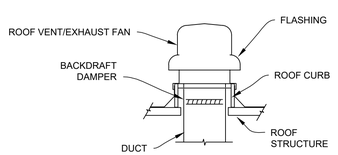
NO SCALE



REFER TO SMACNA STANDARDS.

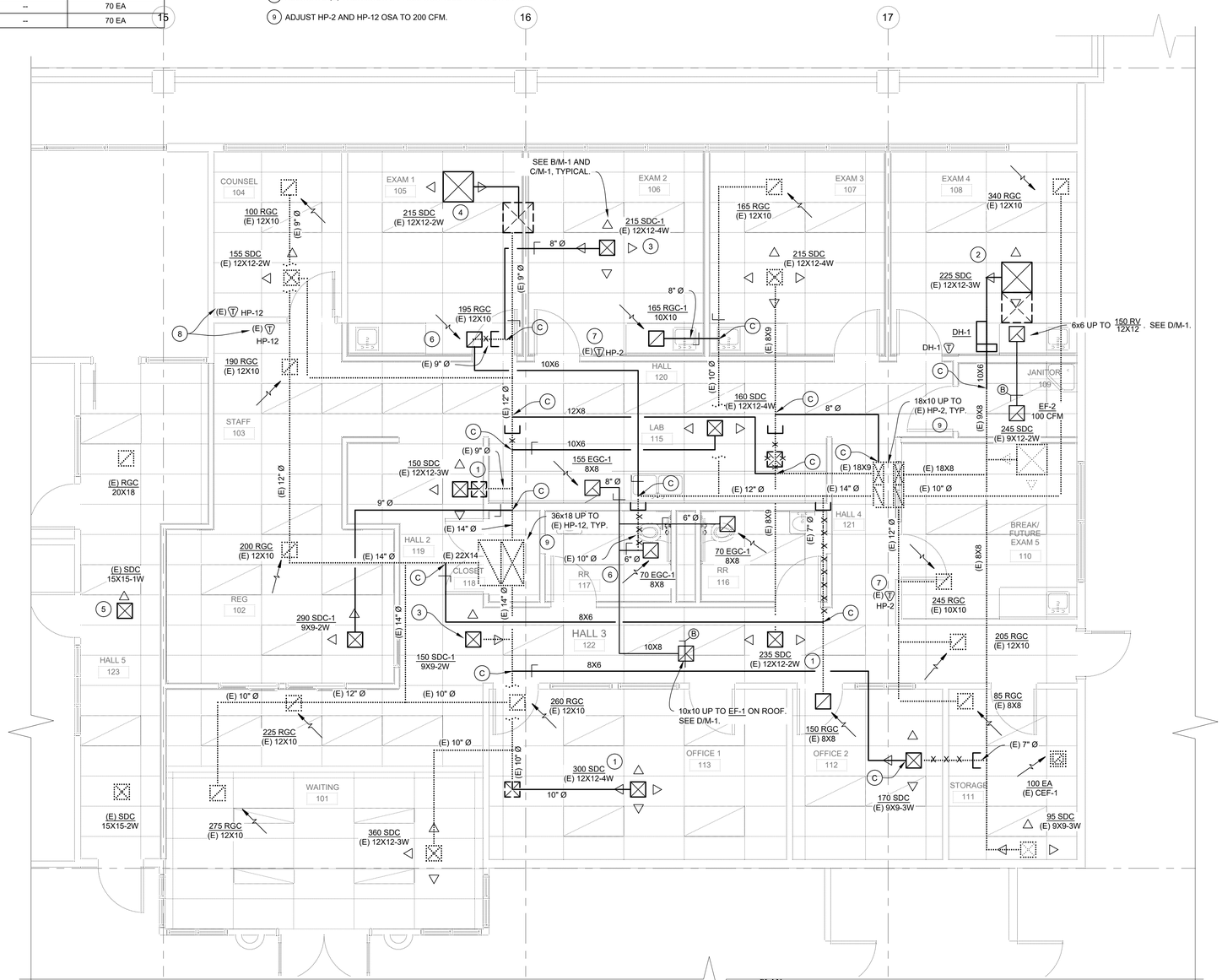
C / M-1 DUCT CONSTRUCTION

NO SCALE



D / M-1 ROOF VENT/EXHAUST FAN DETAIL

NO SCALE



A / M-1 PARTIAL LEVEL 1 HVAC PLAN

1/4" = 1'-0"

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HVAC FLOOR PLAN

M-1

ELECTRICAL LEGEND

LOW-VOLTAGE ELECTRICAL CONDUCTORS & CABLES

- NEW CONCEALED RACEWAY AND WIRE. NUMBER OF SLASHES INDICATES NUMBER OF CONDUCTORS IF MORE THAN TWO. SIZE OTHER THAN #12 AS NOTED. (APPLIES TO ALL WIRING SYMBOLS)
- UNDERGROUND OR UNDERFLOOR RACEWAY
- HOMERUN
- F — SIGNAL WIRING: F = FIRE ALARM, I = INTERCOM, C= LOW VOLTAGE CONTROL, T= TELEPHONE, D= DATA, TV = TELEVISION, P= CLOCK PROGRAM, PC = PHOTO CONTROL

GROUNDING & BONDING FOR ELECTRICAL SYSTEMS

- GROUND

RACEWAYS & BOXES FOR ELECTRICAL SYSTEMS

- CONDUIT UP
- CONDUIT DOWN
- FLEXIBLE CONNECTION
- JUNCTION BOX
- FLOOR BOX JUNCTION BOX
- STUB

LIGHTING CONTROL EQUIPMENT

- J S — POWER PACK
- P — LIGHT LEVEL SENSOR, PHOTO CELL
- M — CEILING MOUNTED MOTION SENSOR COMPLETE SYSTEM WITH POWER PACK.
- ER — EMERGENCY LIGHTING RELAY
- LIGHTING CONTROL PANEL

LOW-VOLTAGE DISTRIBUTION

- TRANSFORMER
- PANELBOARD
- CURRENT TRANSFORMER

PANELBOARDS

- ELECTRICAL EQUIPMENT AS INDICATED ON DRAWINGS

WIRING DEVICES

- a 3 — SWITCH. "a"= CIRCUITS CONTROLLED, "K"= KEY SWITCH, "P"= W/PILOT LIGHT, "2"= DOUBLE POLE, "3"= THREE-WAY, "M"= AUTOMATIC WALL SWITCH, "D"= DIMMING SWITCH "TS"= DIGITAL TIMER SWITCH
- GFI +44" WP a — DUPLEX RECEPTACLE - "WP"=WEATHERPROOF, "GFI"=GROUND FAULT INTERRUPTER TYPE, "+#"= MOUNTING HEIGHT, "a"=CIRCUIT a, "ISO"= WITH ISOLATED GROUND, "SRG"= WITH SURGE SUPPRESSION, "TP"= TAMPER PROOF COVER, "L"= LOCKING
- DUPLEX RECEPTACLE, EMERGENCY POWER
- DOUBLE DUPLEX (QUAD) RECEPTACLE
- FOURPLEX RECEPTACLE, EMERGENCY POWER
- SINGLE RECEPTACLE
- SPECIAL RECEPTACLE
- SURFACE RECEPTACLE RACEWAY
- DEDICATED DUPLEX RECEPTACLE WITH ISOLATED GROUND. FLOOR BOX RECEPTACLE
- QUAD FLOOR BOX RECEPTACLE

GENERAL

- EF 1 — EQUIPMENT IDENTIFIER, EXHAUST FAN 1 SHOWN
- 2 — SHEET REFERENCE NOTE
- 2 E-121 / 2 E-501 — PLAN OR DETAIL NUMBER / SHEET NUMBER
- 123 — ROOM NUMBER
- EXISTING WORK SHOWN LIGHT
- NEW WORK SHOWN BOLD
- EXISTING TO BE REMOVED

OVER-CURRENT PROTECTIVE DEVICES

- FUSE
- CIRCUIT BREAKER
- GROUND FAULT INTERRUPT CIRCUIT BREAKER
- SWITCH

MOTOR & CIRCUIT DISCONNECTS

- COMBINATION MOTOR STARTER/DISCONNECT SWITCH
- DISCONNECT SWITCH
- MOTOR STARTER
- MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION & LOCKABLE OFF COVER
- M — MOTOR

LIGHTING FIXTURES

- A1 — FIXTURE IDENTIFIER. FIXTURE TYPE "A1" SEE LIGHTING FIXTURE SCHEDULE.
- SURFACE MOUNT FLUORESCENT - DRAWN TO SCALE WHERE POSSIBLE
- RECESSED FLUORESCENT
- RECESSED FLUORESCENT - SHADING INDICATES EMERGENCY BATTERY BALLAST (APPLIES TO ALL LUMINAIRES)
- FLUORESCENT STRIP
- FLUORESCENT LUMINAIRE IN 4', 8', & 12' LENGTHS, MOUNTED END-TO-END WHERE SHOWN
- PENDANT-MOUNTED FIXTURE
- UNDERCABINET FLUORESCENT
- WALL-MOUNTED FLUORESCENT FIXTURES
- WALL MOUNT FIXTURE
- SURFACE/PENDANT DOWNLIGHT
- RECESSED DOWNLIGHT
- POLE MOUNTED LUMINAIRE
- POST TOP LIGHT
- UNIVERSAL MOUNT EXIT LIGHT, SHADED SIDE INDICATES FACE OR FACES.
- P — LIGHT LEVEL SENSOR, PHOTO CELL
- M — CEILING MOUNTED MOTION SENSOR COMPLETE SYSTEM WITH POWER PACK.
- J S — POWER PACK

DATA COMMUNICATIONS

- 2V/2D — COMBINATION PHONE/DATA PORT SHOWING QUANTITY OF EACH TYPE: V=VOICE (PHONE)/D=DATA
- 2V/2D — COMBINATION PHONE/DATA FLOOR BOX SHOWING QUANTITY OF EACH TYPE: V=VOICE (PHONE)/D=DATA

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	IDF	INTERMEDIATE DISTRIBUTION FRAME
BLDG	BLDG	L.V.	LOW VOLTAGE
C	CONDUIT	MDF	MAIN DISTRIBUTION FRAME
cd	CANDELA	MECH	MECHANICAL
CKT	CIRCUIT	(N)	NEW
DIM	0-10V DIMMING	PNL	PANEL
DSP	DIGITAL SIGNAL PROCESSOR	PRS	PROGRAM RAPID START
(E)	EXISTING	SWBD	SWITCHBOARD
ELEC	ELECTRICAL	TTB	TELEPHONE TERMINAL BOARD
EMERG	EMERGENCY	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
FAM	FIRE ALARM MASTER		
GFI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
GND	GROUND	WG	WIREGUARD
HVAC	HEATING, VENTILATING, & AIR CONDITIONING	WP	WEATHERPROOF

FIRE DETECTION & ALARM

- FIRE ALARM SYSTEM MANUAL PULL STATION
- FIRE ALARM SYSTEM BELL
- V — FIRE ALARM SYSTEM HORN V= VOICE, WP= WEATHERPROOF
- FIRE ALARM SYSTEM HORN W/ STROBE LIGHT. MOUNT @ 80" A.F.F.
- FIRE ALARM SYSTEM ANNUNCIATOR
- FIRE ALARM MAGNETIC DOOR HOLDER
- FIRE ALARM STROBE
- FIRE ALARM CHIME
- FIRE ALARM FLOW SWITCH
- FIRE ALARM TAMPER SWITCH
- D — FIRE ALARM SYSTEM SMOKE DETECTOR D = DUCT DETECTOR R = RELAY BASE
- COMBINATION FIXED TEMPERATURE AND RATE OF RISE DETECTOR
- FAP — FIRE ALARM PANEL
- M — MANUAL DISCHARGE STATION

GENERAL NOTES:

1. THE FACILITY WILL REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL SHUTDOWNS AND CONSTRUCTION ACTIVITY WITH FACILITIES STAFF.
2. SIZE AND LOCATION OF ALL EXISTING ELECTRICAL EQUIPMENT IS APPROXIMATE. CONTRACTOR SHALL SITE VERIFY THE EXACT LOCATION OF EXISTING AND CONSTRUCT ALL WORK FROM FIELD DIMENSIONS. CONTRACTOR SHALL MAKE ADJUSTMENTS NECESSARY TO ACCOMMODATE MINOR DEVIATIONS AT NO COST TO OWNER.
3. LIGHT LINE WORK INDICATES EXISTING ELECTRICAL CIRCUITRY AND OTHER ELECTRICAL EQUIPMENT. DASHED LINE WORK INDICATES ELECTRICAL DEVICES AND EQUIPMENT TO BE REMOVED.
4. WHERE EXISTING EQUIPMENT IS REMOVED AND NOT REPLACED IN THE SAME LOCATION, PATCH AND PAINT SURFACES TO MATCH ORIGINAL CONDITION.
5. REMOVE ALL ABANDONED RACEWAY AND WIRING.
6. RECONNECT ALL CIRCUITRY TO REMAINING DEVICES AND EQUIPMENT.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	EXAMPLE MANUFACTURER	LAMP	NOTES
'A'	EXISTING FLUORESCENT RELOCATED		2 LAMP F32T12 (__54_W)	MOUNTING :LAY-IN HOUSING :STEEL LENS/REFL:SEM-DIFFUSE LENS VOLTAGE :120V BALLAST : MISC :CLEAN & RELAMP
'B1'	2 X 4 RESESSED DIRECT/INDIRECT	METALUX ACCORD 2AC-232UNV- L840-EB8	F32T8 3100 LUMENS (__58_W)	MOUNTING :RECESSED HOUSING :STEEL LENS/REFL:SEM-DIFFUSE LENS VOLTAGE :120V BALLAST :ELECTRONIC PRS < 10% THD MISC :
'B2'	1 X 4 RESESSED DIRECT/INDIRECT	METALUX ACCORD AC-132 L840-EB8	F32T8 2850 LUMENS (__30_W)	MOUNTING :RECESSED HOUSING :STEEL LENS/REFL:SEM-DIFFUSE LENS VOLTAGE :120V BALLAST :ELECTRONIC PRS < 10% THD MISC :
'D'	SURFACE WALL LED DIRECT/INDIRECT	CORELITE JH-W-M-1-L35-1-D- 120-SU-WA-41-STD-W	LED 2254 LUMENS (__24_W)	MOUNTING :WALL HOUSING :STEEL LENS/REFL:SEM-DIFFUSE LENS VOLTAGE :120V BALLAST :ELECTRONIC PRS < 10% THD MISC :
'S'	STRIP LED	LITHONIA MVMSL-MVM6	LED 1480 LUMENS (__24_W)	MOUNTING :SURFACE HOUSING : LENS/REFL:SEM-DIFFUSE LENS VOLTAGE :120V BALLAST : MISC :
'X'	EXIT SIGN	LITHONIA LVS-IR120/2T1-ELN -UM-SD	RED LED 3.3W	MOUNTING :UNIVERSAL MOUNT HOUSING :CAST ALUMINUM LENS/REFL:POLYCARBONATE VOLTAGE :120/2T1 BALLAST : MISC :

(E) PANEL FAA SCHEDULE

SERVICE:	120/208	VOLTS	1 ø 3 WIRE
CAPACITY:	225	AMP BUS	10000 SCA AVAILABLE
	125/2	MAIN BREAKER	
FED FROM:	METER		FLUSH MOUNTED

DESCRIPTION	LOAD (AMP)	BREAKER (AMP/POLE)	CIRCUIT AND PHASE	BREAKER (AMP/POLE)	LOAD (AMP)	DESCRIPTION
(E) LIGHTS	1.0	20/1	1A I 2A	20/1	4.5	(E) RCPTS
(E) LIGHTS	1.0	20/1	3B I 4B	20/1	4.5	(E) RCPTS
(E) LIGHTS	1.0	20/1	5A I 6A	20/1	4.5	(E) RCPTS
(E) LIGHTS	1.0	20/1	7B I 8B	20/1	4.5	(E) RCPTS
(E) LIGHTS	1.0	20/1	9A I 10A	20/1	4.5	(E) RCPTS
(E) LIGHTS	1.0	20/1	11B I 12B	20/1	4.5	(E) RCPTS
EF-1 / 2	7.5	20/1	13A I 14A	20/1	4.5	(E) RCPTS
RCPTS	4.5	20/1	15B I 16B	20/1	4.5	(E) RCPTS
RCPTS	4.5	20/1	17A I 18A	20/1	4.5	(E) RCPTS
(E) CEF-4	1.6	20/1	19B I 20B	20/1	4.5	(E) RCPTS
DH-1	12.5	**20/1**	21A I 22A	**20/1**	7.5	**RCPTS**
WH-1	21.6	30/2	23B I 24B	**20/1**	4.5	**RCPTS**
	21.6		25A I 26A	20/1	4.5	(E) RCPTS
RCPTS	6.0	20/1	27B I 28B	20/1	4.5	(E) RCPTS
RCPTS	6.0	20/1	29A I 30A	**20/1**	0.0	SPARE
HEAT TAPE	12.0	20/2	31B I 32B	**20/1**	0.0	SPARE
	12.0		33A I 34A	20/1	0.0	SPARE
RCPTS	7.5	**20/1**	35B I 36B	20/1	0.0	SPARE
RCPTS	6.0	**20/1**	37A I 38A	20/1	0.0	SPARE
SPACE			39B I 40B			SPACE
SPACE			41A I 42A			SPACE

* EXISTING CIRCUITS TO REMAIN. NEW BREAKERS SHOWN IN BOLD

LOAD SUMMARY AND CALCULATION - AMPS

AMP LOAD	A	B	C
CONNECTED	107.7	87.8	
DEMAND	103.3	83.5	

LARGEST DEMAND PHASE LOAD	103.3
SPARE LOAD OF DEVICE	10.3
CONTINUOUS LOAD X 0.25	1.0
TOTAL AMP LOAD	114.7
GROWTH FACTOR	5.7
DESIGN AMP LOAD	120.4

PLAN NORTH

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REGISTERED PROFESSIONAL ENGINEER 11,350 OREGON JULY 25, 1981 JEFFREY L. GRAPER EXPIRES 06-30-17

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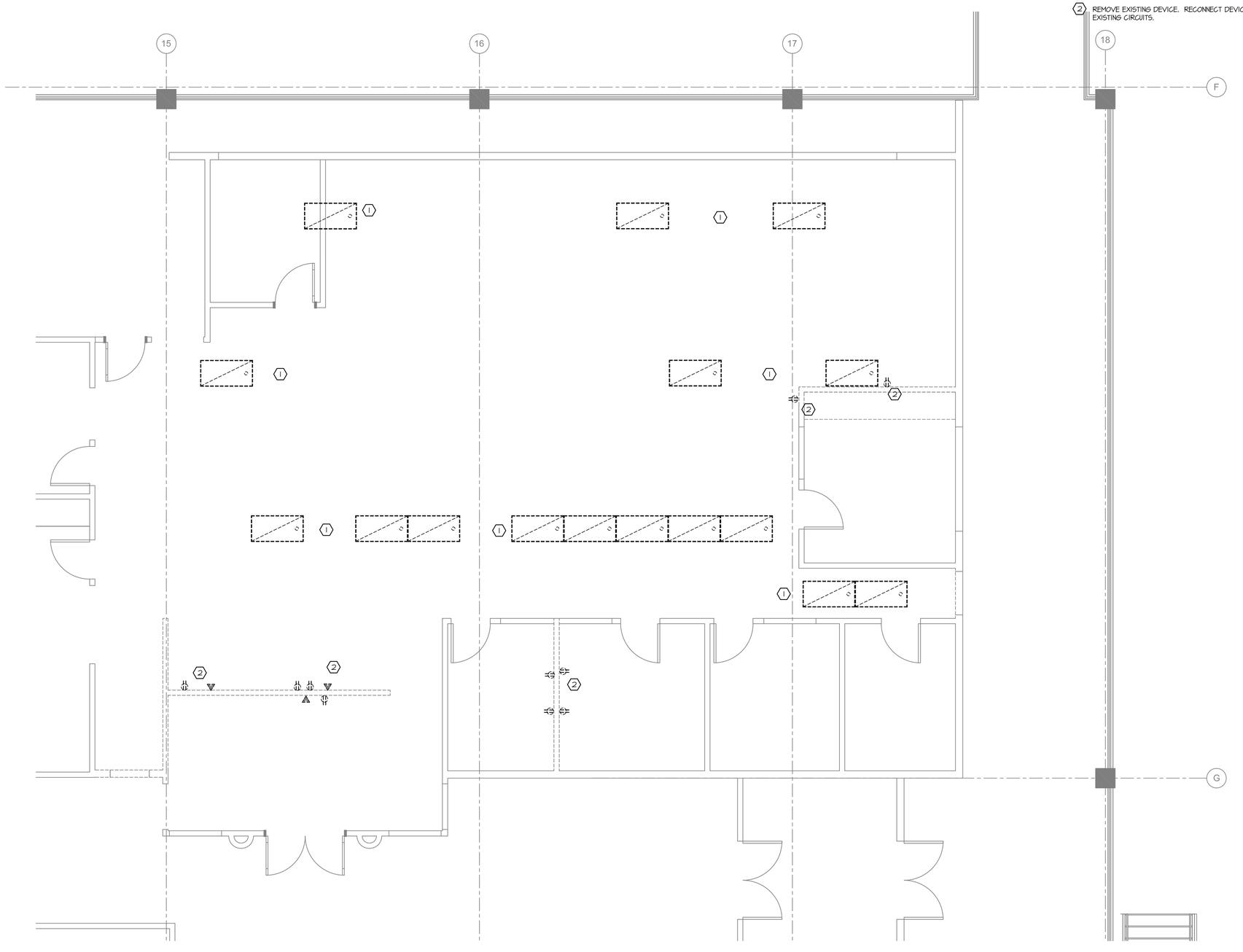
LEGEND / SCHEDULES

E-1

REFERENCE NOTES:

1. REMOVE EXISTING FIXTURES. CLEAN, RELAMP, AND RELOCATE TO AS SHOWN ON LIGHTING PLAN.
2. REMOVE EXISTING DEVICE. RECONNECT DEVICES TO REMAIN ON EXISTING CIRCUITS.



FLOOR PLAN - DEMOLITION 1 / E2

SCALE: 1/4" = 1'-0"

PLAN NORTH

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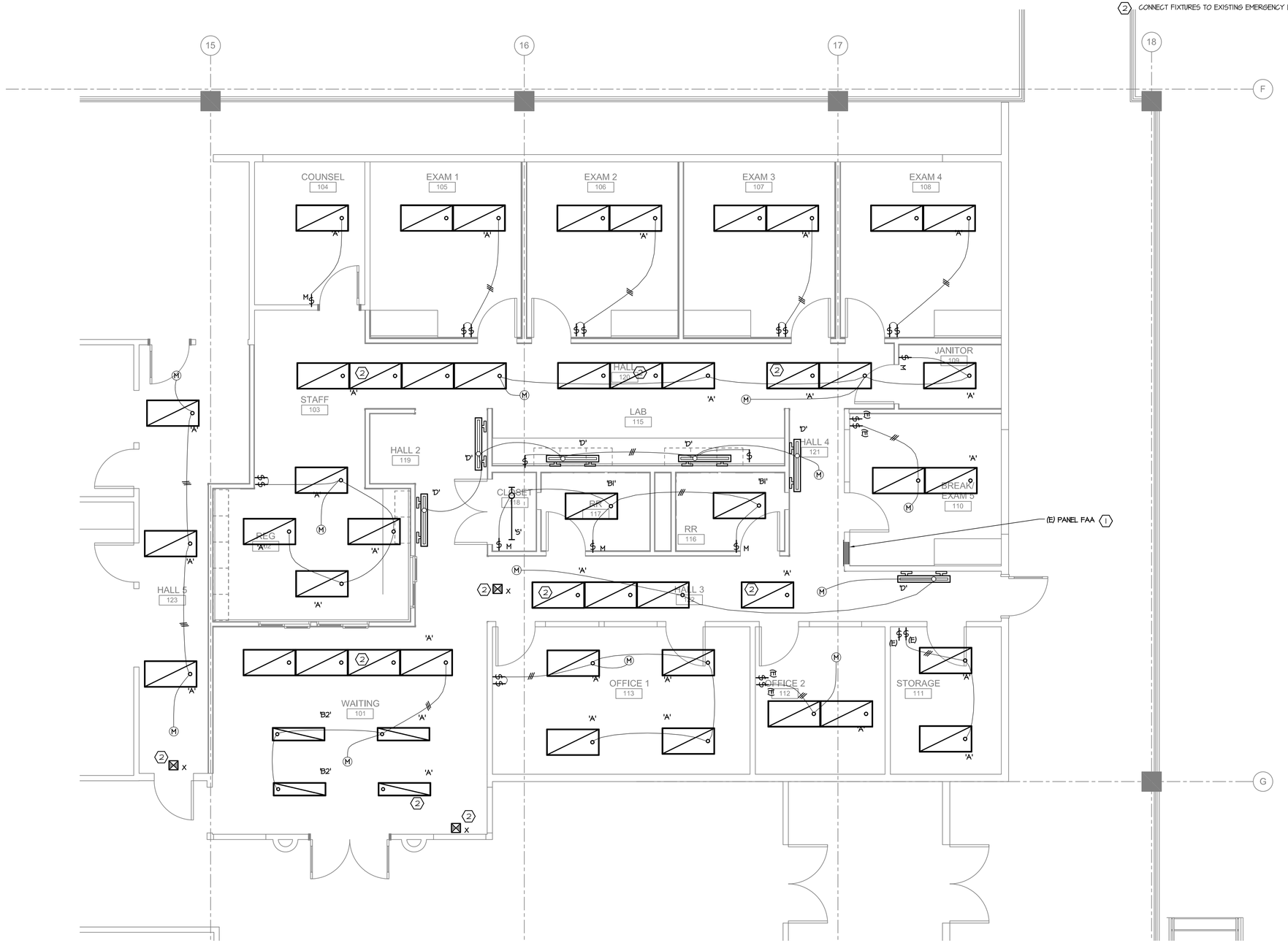
FLOOR PLAN DEMOLITION

E-2

REFERENCE NOTES:

1. RECONNECT FIXTURES TO ORIGINAL CIRCUITRY AND SWITCHING. SEE PANEL SCHEDULE, SHEET E1.
2. CONNECT FIXTURES TO EXISTING EMERGENCY LIGHTING CIRCUITS.



FLOOR PLAN - LIGHTING | 1 / E3

SCALE: 1/4" = 1'-0"

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FLOOR PLAN LIGHTING

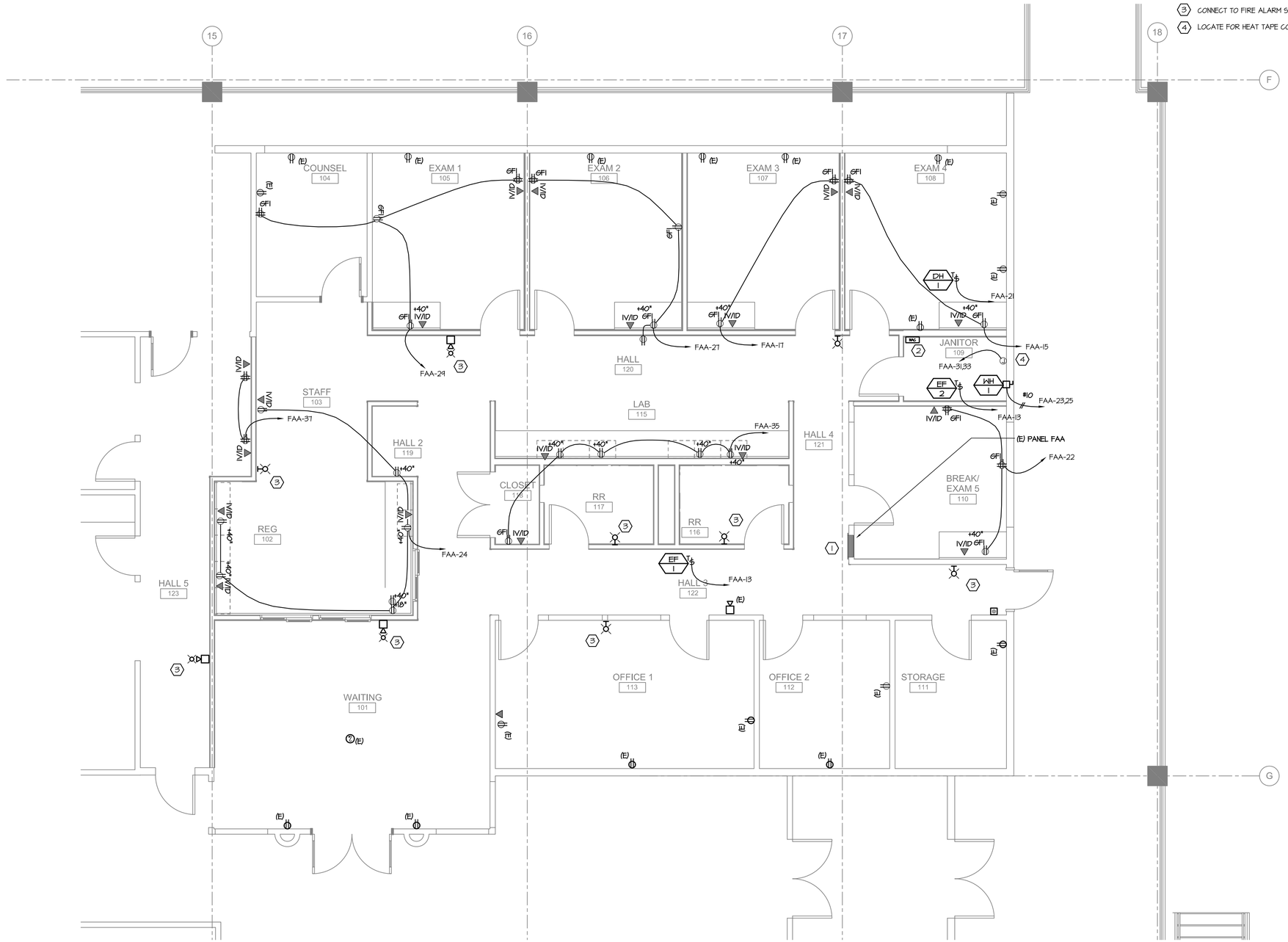
E-3

GENERAL NOTES:

1. FIRE ALARM LAYOUTS ARE TO ESTABLISH MINIMUM SYSTEM. PROVIDE A COMPLETE CODE COMPLIANT SYSTEM AS APPROVED BY FIRE MARSHALL. SUBMIT DRAWINGS FOR APPROVAL AS NOTED IN SPECIFICATIONS.

REFERENCE NOTES:

1. EXISTING PANELS TO REMAIN. REFER TO PANEL SCHEDULES FOR MODIFICATIONS.
2. PROVIDE NEW AUXILIARY POWER SUPPLY FOR FA STROBES AND HORNS. CONNECT TO EXISTING FIRE ALARM MASTER AND POWER SOURCE.
3. CONNECT TO FIRE ALARM SYSTEM VIA NEW POWER SUPPLY.
4. LOCATE FOR HEAT TAPE CONNECTION. 208V 1-PH SEE MECHANICAL.



FLOOR PLAN - POWER & SIGNAL | 1 / E4

SCALE: 1/4" = 1'-0"

PLAN NORTH

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www.robertsonsherwood.com

REGISTERED PROFESSIONAL ENGINEER 11,350 OREGON SEPT. 25, 1987 JEFFREY L. GRAPER EXPIRES 06-30-17

CITY OF SPRINGFIELD

Springfield Wellness Center
225 Fifth Street, Springfield, OR 97477
CONSTRUCTION DOCUMENTS

MARK	DATE	DESCRIPTION

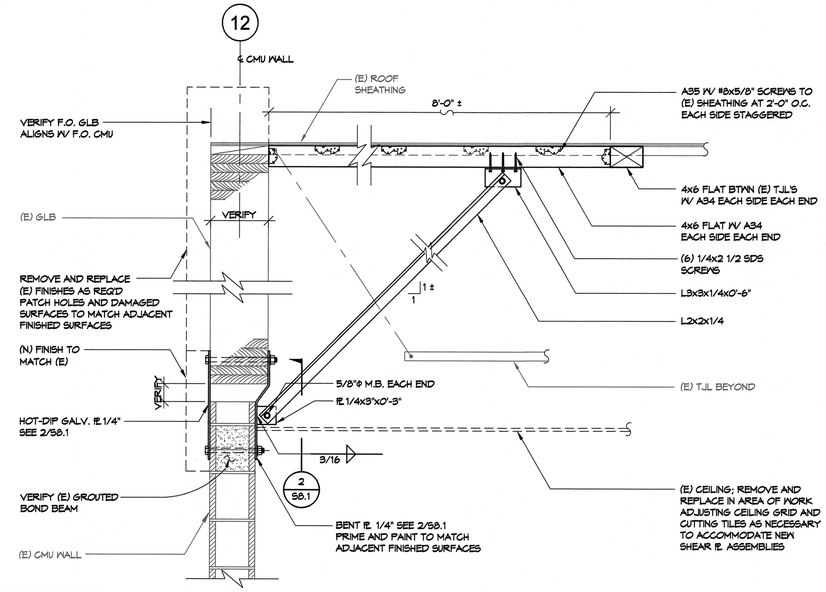
ISSUE DATE:	10 MAY 2016
ISSUE:	CONSTRUCTION DOCS
PROJECT NO:	P11004
DRAWN BY:	JLG
CHECKED BY:	JLG

© ROBERTSON | SHERWOOD | ARCHITECTS PC 2015 ORIGINAL SHEET SIZE: 24"x36"

FLOOR PLAN POWER & SIGNAL

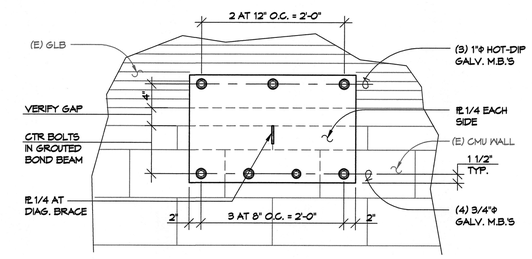
E-4

NOTES:
1. CONTRACTOR TO VERIFY GLB WIDTH, ALIGNMENT OF EXTERIOR FACES OF GLB AND CMU, AND DIMENSIONS OF BENT PL'S.
2. CONTRACTOR TO VERIFY SOLID GROUTING OF BOND BEAM CELLS RECEIVING (N) BOLTS NOTIFY ENGINEER OF LOCATIONS OF UNGROUTED CELLS.



1 GLB-CMU WALL SHEAR CONN. AND DIAG. BRACE - LINE 12

1"=1'-0"



2 SHEAR CONNECTION PLATE

1"=1'-0"

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 65387PE OREGON JAN 23, 2001 VIKKI H. BOURCIER

Expires: 12-31-17

STRUCTURAL DETAILS

CITY OF SPRINGFIELD

P11004 SPRINGFIELD WELLNESS CENTER
LIMITED SEISMIC RETROFIT - PACKAGE 1
225 FIFTH STREET SPRINGFIELD, OR 97477

Date	04-14-16
Scale	AS NOTED
Drawn	AMA
Job	10442.1
Sheet	S8.1
	Of Sheets

HOHBACH-LEWIN # 10442.1

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MATERIAL REQUIREMENTS SUMMARY

THE STRUCTURAL REQUIREMENTS ON THIS SHEET PERTAIN TO ALL STRUCTURAL WORK ON THIS PROJECT.

1. WOOD FRAMING

   SAWN LUMBER GRADES - ALL DOUGLAS FIR U.O.N., 19% MAX MC WHEN INSTALLED:

   PLATES, BLOCKS, LIGHT FRAMING AND MISC.: NO. 2, S-DRY OR KD

   ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY TO BE DECAY RESISTANT OR TREATED. MAY BE HEM FIR OR DF, S-GRN.

   SELF-DRILLING WOOD SCREWS: SIMPSON STRONG-TIE SDS SERIES OR APPROVED.

   WOOD CONNECTION BOLTS: ASTM A307 MACHINE BOLTS.

   FRAMING HARDWARE: AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY OR APPROVED. SIMPSON DESIGNATIONS ARE USED ON THE DRAWINGS.

   NAILS: COMMON WIRE GAGE U.O.N., SEE SCHED. THIS SHEET, PREDRILL HOLES IF REQUIRED TO PREVENT SPLITTING. USE HOT-DIPPED GALVANIZED NAILS (G185) FOR NAILING OF OR TO PRESERVATIVE TREATED LUMBER.

2. STEEL

   ANGLES, PLATES, MISC.: ASTM A36
   BOLTS: ASTM A307
   WELD ELECTRODES: E70XX LOW HYDROGEN

NAILING SCHEDULE

CONNECTION	NAILING (1) (2) (3)
1. Blocking between joists or rafters to top plate	3-8d toe nails
6. Rafter or roof truss to top plate.	3-10d toe nails
8. Double studs	16d at 24" o.c.
9. Double studs at braced wall panels	16d at 16" o.c.
12. Double top plates	16d at 16" o.c.
13. Double top plates, lap splice (EXCEPT SHEAR WALLS/LINES)	8-16d
15. Sole plate to joist, rim joist or blocking	16d at 16" o.c.
16. Sole plate to joist, rim joist or blocking at braced wall panels	2-16d per 16"
17. Top or sole plate to stud	2-16d end nails or 4-8d toe nails to 2x 2-20d toe nails to 3x
18. Top plates, lap at corners and intersections	4-16d
22. Joist to sill , top plate, or girder	3-8d toe nails
23. Rim joist to top plate	8d toe nails at 6" o.c.
27. Built-up girder and beams (4)	16d at 24" o.c. top and bottom staggered and 3-16d at ends
30. Bridging to joist	2-8d toe nails each end

NOTES:
1. FACE NAIL U.O.N.
2. NAILING PER SCHEDULE ABOVE IS TO BE USED WHERE NAILING IS NOT SPECIFIED ON PLANS OR DETAILS. NAILING PER PLANS AND DETAILS SUPERCEDE NAILING SCHEDULE UNLESS APPROVED BY ENGINEER.
3. NAILS SPECIFIED ARE COMMON: 8d = 2 1/2"X0.131"
   10d = 3"X0.148"
   16d = 3 1/2"X0.162"
   20d = 4"X0.192"
   FOR ALTERNATE NAILING AND INFORMATION NOT SHOWN, SEE COMPLETE OSSC TABLE 2304.9.1
4. FOR SAWN LUMBER. FOR DBL OR TRIPLE LSL OR LVL BEAMS, USE 16d COMMON NAILS AT 12" O.C TOP AND BOTTOM, ONE FACE FOR DOUBLE, BOTH FACES FOR TRIPLE.

STRUCTURAL SCOPE OF WORK

THE STRUCTURAL SCOPE OF WORK FOR PACKAGE 1 IS LIMITED TO THE FOLLOWING:

SHEAR CONNECTION AND OUT-OF-PLANE BRACING AT (E) CMU WALL ON GRIDLINE 12 BETWEEN GRIDLINES F AND G.

STRUCTURAL SHOP DRAWINGS/SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS OF WORK:

1. STRUCTURAL STEEL - SHOP DRAWINGS

TESTING, SPECIAL INSPECTION AND OBSERVATION

(1) THE FOLLOWING WORK IS REQUIRED IF MARKED TO BE TESTED, SPECIAL INSPECTED, OR STRUCTURALLY OBSERVED. PER OSSC CHAPTER 17 REQUIREMENTS. TESTING SHALL BE MADE IN ACCORDANCE WITH THE CURRENT CODE BY AN APPROVED SPECIAL TESTING LAB, SPECIAL INSPECTOR, AND OR BY AN ENGINEER RETAINED BY THE OWNER.

(2) OBSERVATION SHALL BE DONE BY THE ENGINEER OF RECORD. STRUCTURAL OBSERVATION BY THE ENGINEER OF RECORD WILL BE PERFORMED AT ALL KEY PHASES OF THE STRUCTURAL WORK.

(3) SPECIAL INSPECTION MAY BE PERIODIC U.O.N.

ITEM	TO BE PROVIDED IF MARKED (1)		
	TESTING	SPECIAL (3) INSPECTION	ENGINEERS OBSERVATION (2)
STRUCTURAL STEEL		X	X
STRUCTURAL STEEL WELDING		X	

BASIS OF DESIGN

APPLICABLE CODE: 2014 OREGON STRUCTURAL SPECIALTY CODE (2012 INTERNATIONAL BUILDING CODE WITH 2014 OSSC AMMENDMENTS)

RISK CATEGORY: III

VERTICAL LOADS:

ROOFS:

LIVE LOAD 20 psf

SNOW LOAD Pg = 15 psf
IMPORTANCE FACTOR: Is = 1.1
SNOW EXPOSURE FACTOR, Ce = 1.0
THERMAL FACTOR: Ct = 1.0
Pf = 12 PSF SNOW PLUS DRIFT, SLIDING AND UNBALANCED SNOW
Pfmin = 27 psf

LATERAL LOADS:

WIND: WIND SPEED: 130mph
EXPOSURE: C
INTERNAL PRESSURE COEFFICIENT = 0.18 (FULLY ENCLOSED)

SEISMIC: VOLUNTARY LIMITED SEISMIC RETROFIT OF THE EXISTING BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH ASCE 41-13 "SEISMIC EVALUATION AND RETROFIT OF EXISTING BUILDINGS" TO ACHIEVE A PERFORMANCE OBJECTIVE OF DAMAGE CONTROL AT THE PRIMARY ELEMENTS OF THE SEISMIC LOAD RESISTING SYSTEM FOR THE 75% BSE-1N SEISMIC HAZARD AND LIMITED SAFETY FOR THE BSE-2E SEISMIC HAZARD. NEW ELEMENTS OF THE SEISMIC FORCE RESISTING SYSTEM HAVE BEEN PROPORTIONED AND DETAILED TO MEET THE PRESCRIPTIVE REQUIREMENTS OF THE 2014 OSSC. THIS VOLUNTARY LIMITED RETROFIT DOES NOT BRING THE EXISTING BUILDING INTO FULL COMPLIANCE WITH THE 2014 OSSC.

SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS:
75% BSE-1N: Sa = 0.450g
BSE-2E: Sa = 0.731g

SYMBOLS

X / X.X	DETAIL NUMBER SHEET NUMBER
X / X.X	BUILDING SECTION LETTER SHEET NUMBER
DBL.	DOUBLE JOISTS.
	FRAMING MEMBER DIAGRAMMATIC EXTENT OF FRAMING
	CHANGE IN FLOOR/FRAMING ELEVATION
	EXISTING STUDWALL
	WALL BELOW SIZES, AND OTHER INFORMATION NOT NOTED.
	NEW STUDWALL U.O.N.
	STUDWALL BELOW U.O.N.
	(E) CONCRETE WALL IN PLAN OR SECTION
	CONTINUOUS WOOD MEMBER IN SECTION
	WOOD BLOCKING MEMBER IN SECTION
	INDICATES ROOF/FLOOR/WALL OPENING
	UNDISTURBED NATIVE GRADE IN SECTION
	(E) CONCRETE OR MASONRY CONSTRUCTION IN PLAN OR SECTION

GENERAL STRUCTURAL NOTES

1. ALL WORK SHALL BE FURNISHED IN CONFORMANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, STATUTES OR STANDARDS THAT APPLY TO THIS WORK INCLUDING BUT NOT LIMITED TO THE 2014 OREGON STRUCTURAL SPECIALTY CODE, AND THE CITY OF SPRINGFIELD STANDARD CONSTRUCTION SPECIFICATIONS (CURRENT EDITION AND MOST RECENT REVISION).
2. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO SHORING & TEMPORARY BRACING. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO INSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. OBSERVATION VISITS TO THE SITE BY THE ENGINEER OR OTHER PERSONEL SHALL NOT RELIEVE
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES.
4. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DWGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. DO NOT USE SCALED DIMENSIONS; USE WRITTEN DIMENSIONS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
6. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE CALLED FOR OR SHOWN.
7. DO NOT COMMENCE WORK UNTIL PERMITS/APPROVALS HAVE BEEN OBTAINED.
8. EXISTING CONSTRUCTION/ CONDITIONS
   A. SHORING: THE CONTRACTOR SHALL PROVIDE SHORING WHEREVER NECESSARY TO ALLOW INSTALLATION OF THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL SHORING AND TEMPORARY WORK REQUIRED THROUGHOUT THE PROGRESS OF THE WORK.
   B. EXISTING CONSTRUCTION: EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS WAS OBTAINED FROM LIMITED VISUAL OBSERVATIONS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD OF ALL EXCEPTIONS AND RECEIVE DIRECTION PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
   C. DEMOLITION: THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND WITH APPROPRIATE TOOLS IN ORDER TO NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING.

STRUCTURAL SHEET INDEX

S1.0 STRUCTURAL NOTES AND SYMBOLS
S2.0 ROOF FRAMING PLAN - SOUTH EAST
S8.1 STRUCTURAL DETAILS

ABBREVIATIONS

&	AND	LLH	LONG LEG HORIZ.
@	AT	LLV	LONG LEG VERTICAL
A.B.	ANCHOR BOLT	LVL	LAMINATED VENEER LUMBER
ARCH.	ARCHITECTURAL	LSL	LAMINATED STRAND LUMBER
BLDG.	BUILDING	MFR.	MANUFACTURER
BLKG.	BLOCKING	M.B.	UNFINISHED MACHINE BOLTS
BM.	BEAM	MAX.	MAXIMUM
BOT.	BOTTOM	MTL.	METAL
B.O.	BOTTOM OF	MIN.	MINIMUM
B.N.	BOUNDARY NAILING	MISC.	MISCELLANEOUS
℄	CENTER LINE	(N)	NEW
C.B.	CARRIAGE BOLT	N.S.	NEAR SIDE
C.I.P.	CAST-IN-PLACE	NTS.	NOT TO SCALE
C.J.	CONTROL JOINT	O.C.	ON CENTER
CMU	CONCRETE MASONRY UNIT	OPG.	OPENING
COL.	COLUMN	OH.	OPPOSITE HAND
CONT.	CONTINUOUS	PL	STEEL PLATE
DET.	DETAIL	PLY.	PLYWOOD
DO.	DITTO	P.T.	PRESSURE TREATED
D.F.	DOUGLAS FIR	R.C.J.	ROUGHENED CONSTRUCTION JOINT
DWG.	DRAWING	REINF.	REINFORCEMENT
(E)	EXISTING	REQ'D	REQUIRED
EA.	EACH	S.A.D.	SEE ARCHITECTURAL DRAWINGS
E.F.	EACH FACE	SCHED.	SCHEDULE
EL.	ELEVATION	SIM.	SIMILAR
E.N.	EDGE NAILING	SPEC.	SPECIFICATION
E.W.	EACH WAY	SQ.	SQUARE
EXT.	EXTERIOR	SYMM.	SYMMETRICAL
F.F.E.	FINISH FLOOR ELEVATION	T&B	TOP AND BOTTOM
F.S.	FAR SIDE	T.B.R.	TO BE REMOVED
FDN.	FOUNDATION	T.D.	TIE DOWN
FIN.	FINISH	T&G	TONGUE AND GROOVE
F.G.	FINISHED GRADE	T.O.	TOP OF
FLR.	FLOOR	T.O.C.	TOP OF CONCRETE
F.D.	FLOOR DRAIN	T.O.S.	TOP OF STEEL
F.O.	FACE OF	TYP.	TYPICAL
FTG.	FOOTING	U.O.N.	UNLESS OTHERWISE NOTED
GLB	GLULAM BEAM	VERT.	VERTICAL
GWB	GYPSUM WALL BOARD	W/	WITH
H.F.	HEM FIR	W/O	WITHOUT
H.D.	HOLD DOWN		
HORIZ.	HORIZONTAL		
K.P.	KING POST		

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Expires: 12-31-17

STRUCTURAL NOTES AND SYMBOLS

CITY OF SPRINGFIELD
P11004 SPRINGFIELD WELLNESS CENTER
LIMITED SEISMIC RETROFIT - PACKAGE 1
225 FIFTH STREET SPRINGFIELD, OR 97477

Date	04-14-16
Scale	AS NOTED
Drawn	AMA
Job	10442.1
Sheet	S1.0
	Of Sheets

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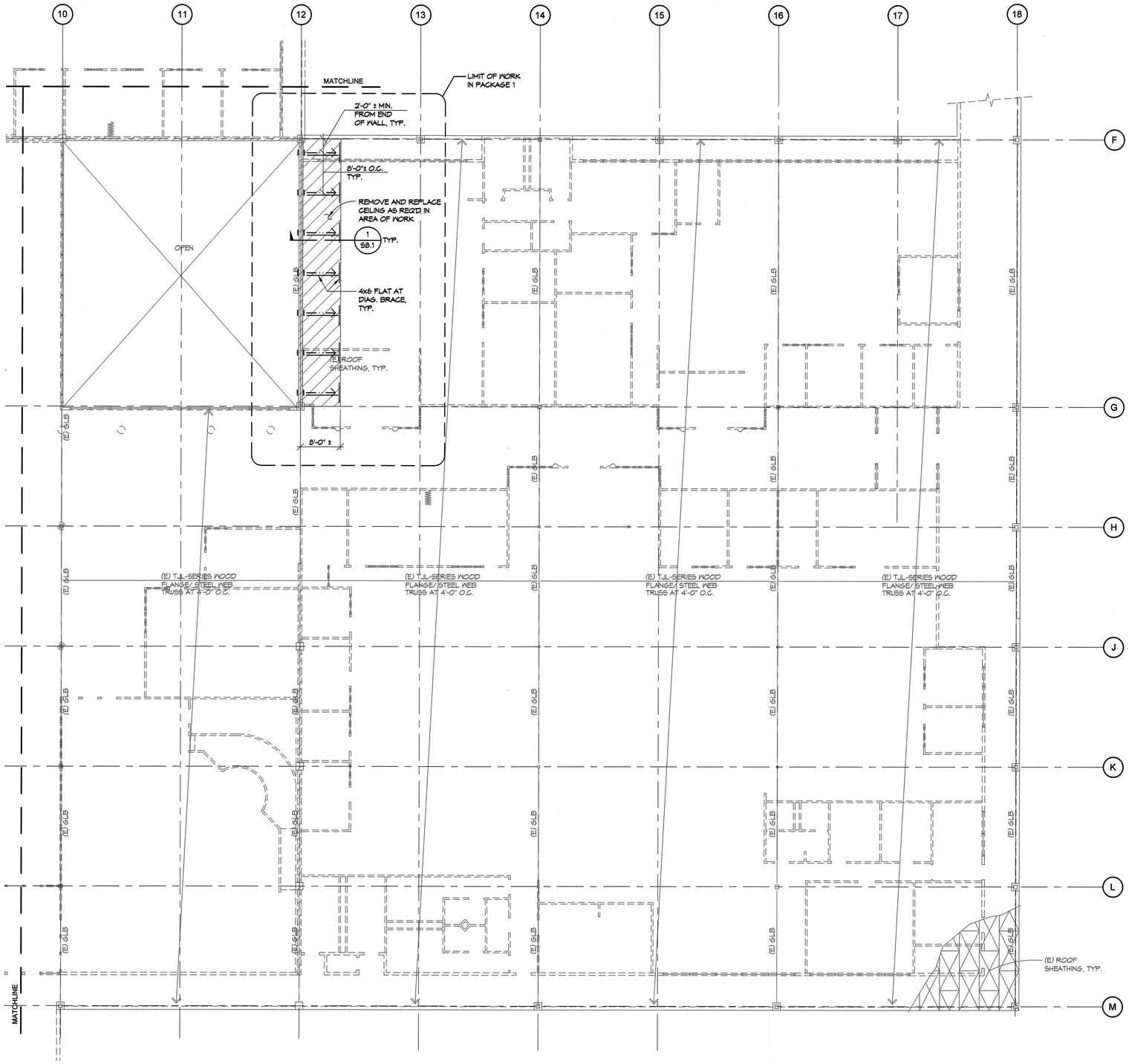

1 S2.2 ROOF FRAMING PLAN - SOUTH EAST

3/32"=1'-0"

N

FRAMING PLAN NOTES

1. SEE TYPICAL NOTES ON SHEET S1.0.
2. ROOF FRAMING INFORMATION IS BASED ON LIMITED FIELD OBSERVATIONS. CONTRACTOR TO VERIFY SIZE AND LOCATION OF MEMBERS IN THE AREA OF WORK AND NOTIFY ENGINEER IF FRAMING DIFFERS FROM WHAT IS SHOWN ON THE DETAILS.

FRAMING PLAN SYMBOLS

DENOTES (E) CMU WALL BELOW

DENOTES (E) NON-STRUCTURAL WALL BELOW

DENOTE (E) STEEL COLUMN BELOW

DENOTES SHEAR CONN. AND DIAG. BRACE PER DET. 1/S8.1

KEYPLAN

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 65387PE OREGON JAN 29, 2014 VIKKI H. BOURCIER
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ROOF FRAMING PLAN - SOUTH EAST

CITY OF SPRINGFIELD

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