



REQUEST FOR QUOTATION

FOX HOLLOW Health Restroom Renovations CIP Project # 410.187.002

EUGENE SCHOOL DISTRICT 4J

EUGENE, OREGON

Return by: **Wednesday, November 25, 2020**
2:00 PM
Electronic Quotes Only

Michael Heffernan AIA
4J District Architect
(541) 790-7405

DATE ISSUED:
November 9, 2020

FOX HOLLOW Health Restroom Renovations

The following is a list of all Divisions, Sections, and Drawings which are included in the Request for Quotation

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REQUEST FOR QUOTATIONS - DOCUMENT

Electronic Quotes will be received by Diana McElhinney, CIP Management Assistant, for the FOX HOLLOW Health Restroom Renovations Project. Quotes are due at **2:00 PM Wednesday, November 25, 2020**, via email to: cip@4j.lane.edu. Submitters are encouraged to send a test email to the email address above to ensure they have it correct and that we receive it accordingly. For purposes of receipt time, the sent timestamp from the Submitter's email account will be used.

Briefly, the work is described as FOX HOLLOW Health Restroom Renovations.

Beginning **November 9, 2020**, Prime Quoters, Sub-quoters and Suppliers may obtain quoting documents at the following hyperlink: <http://www.4j.lane.edu/bids/>.

Hard copies are not provided by the School District.

It shall be the responsibility of all Prime Quoters, Sub-quoters, and Suppliers to obtain Quoting Documents and any and all Addenda from the hyperlink.

All quotations must be submitted on the forms provided and emailed to cip@4j.lane.edu

No faxed or hand delivered quotes will be accepted.

A mandatory pre-quote conference has been scheduled for Thursday, November 12, 2020 at 2:00 p.m. The location of the conference will be at the Fox Hollow Site, 5055 Mahalo Drive, Eugene, Oregon in the Health room. All questions must be asked (by phone or email) by **November 19, 2020** to be included in an addendum.

No Quote for a construction contract will be received or considered unless the Contractor is registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board at the time the quote is made as required by ORS 671.530. A license to work with asbestos-containing materials under ORS 468A.720 is not required for this Project.

Each Quote shall contain a statement indicating whether the Quoter is a "resident quoter", as defined in ORS 279A.120.

Each Quote shall contain a statement that the "Contractor agrees to be bound by and comply with the provisions of ORS 279C.800 to 279C.870 regarding payment of Prevailing Wages".

Contractor shall certify nondiscrimination in obtaining required subcontractors, in accordance with ORS 279A.110.

If Quote amount exceeds \$10,000, each Quote shall be accompanied by a surety bond, cashier's check, or certified check executed in favor of Eugene School District 4J in an amount equal to ten percent (10%) of the amount of the Bid.

For contracts of \$10,000 or more, the successful Quoter will be required to furnish a Performance bond and Labor and Materials Payment bond each in the full amount of the contract price. Certificates of Insurance as described in the Terms and Conditions will be required.

School District 4J reserves the right to reject any and all proposals received as a result of this request for Quotations and select the Quote which appears to be in the best interest of the District.

Date: **November 9, 2020**

by: Diana McElhinney

Published: ORPIN
4J Website: <http://www.4j.lane.edu>

**QUOTATION REQUIREMENTS
SECTION 00 21 00**

PART 1 GENERAL

1.1. GENERAL INFORMATION

- A. The term "quoter" shall refer to the firm or individual submitting a quote or quotation.
 - 1. The Quoter shall be actively engaged in work of the nature of the project for which the Quote is submitted as described in the Quote Specifications and shall have adequate equipment and personnel to do the work. Each Quoter shall submit with their proposal an Experience Statement, including a list of no less than (3) projects completed in the last (5) years related to the type of work and type of product specified in the particular bid specification.
- B. Quoters are encouraged to visit the site(s) to become familiar with existing conditions. The Owner is not responsible and shall not bear financial burden for oversights made by the Quoter for failure to inspect sites prior to submitting a quote.
- C. In all cases, persons wishing to examine the area of work must sign in at the school office prior to visiting the work area. Prior to leaving the school, sign-out at the office is required.
- D. If access is required at times when the school office is not staffed, contact the Facilities Office, 541-790-7417, for assistance.
- E. The Owner is excise tax exempt. "Goods used hereon are for the exclusive use of this School District." Excise exemption No. 93 740074 F.

1.2. QUOTE PROCEDURES

- A. Quotes are to be submitted in one copy on the forms provided.
- B. Quoters shall certify to non-collusion practices on the form included as part of the Quote Form, to be submitted with the Quote Form.
 - 1. A Non-Collusion Affidavit is required for any contract awarded pursuant to the quote. According to the Oregon Public Contracts and Purchasing Laws, a public contracting agency may reject any or all quotes upon a finding of the agency that it is in the public interest to do so (ORS 279C.395). This agency finds that it is in the public interest to require the completion of this affidavit by potential contractors.
 - 2. The Non-Collusion Affidavit must be executed by the member, officer or employee of the quoter who makes the final decision on prices and the amount quoted in the quote.
 - 3. Quote rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of quotes are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the quoter with responsibilities for the preparation, approval or submission of the quote.
 - 4. In the case of a quote submitted by a joint venture, each party to the venture must be identified in the quote documents, and an Affidavit must be submitted separately on behalf of each party.
 - 5. The term "complementary quote" as used in the Affidavit has the meaning commonly associated with the term in the quoting process, and includes the knowing submission of quotes higher than the quote of another firm, any intentionally high or noncompetitive quote, and any other form of quote submitted for the purpose of giving a false appearance of competition.
 - 6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the quote.

- C. Quoters shall certify to non-discrimination in employment practices on the form, included as part of the Quote Form, to be submitted with the Quote Form. By submitting its quote, the Quoter certifies conformance to the applicable federal acts, executive orders, and Oregon statutes and regulations concerning affirmative action toward equal employment opportunities. All information and reports required by the federal or Oregon state governments having responsibility for the enforcement of such laws shall be supplied to the Owner in compliance with such acts, regulation, and orders.
- D. Quoter shall indicate, on the Quote Form where provided, the quoter status as a "resident" or "non-resident" in accordance with ORS 279A.120 and ORS 279C.365.
- E. A Quote may not be withdrawn or canceled by the Quoter following the time and date designated for the receipt of quotes to the expiration of a 60 day period. The Quote for that sixty days is irrevocable and each Quoter so agrees in submitting a Quote.

1.3. Quote Security

- A. Each Quote shall be accompanied by a surety bond, cashier's check, or certified check, executed in favor of Eugene School District 4J, in the amount not less than ten percent (10%) of the total Quote, based upon the total Quote amount for those items Quote upon. Should the Quoter refuse to enter into such Contract or fail to furnish Performance and Labor and Materials Payment Bonds and Certificates of Insurance as required by the Supplementary Conditions within ten (10) working days after contract forms are provided to the Quoter, the amount of the Quote Security may be forfeited to the Owner as liquidated damages, not as a penalty.
 - 1 The Surety Bond shall be written by a Bonding Company authorized and licensed by the Oregon Insurance Commissioner. The bonding company must be listed on the most current US Government Treasury List, Department Circular 570, or approved PRIOR TO QUOTE SUBMISSION by the Eugene School District 4J's Risk Manager. The Bond shall be on an AIA Document A310, most current edition. The Attorney-in-Fact who executes the Bond on behalf of the Surety shall affix to the Bond, a certified copy of a power of attorney.
 - 2. The Owner will have the right to retain the Quote Security of Quoters until either; a) the Contract has been executed and Bonds have been furnished, or b) the specified time has elapsed so that Quotes may be withdrawn, or c) all Quotes have been rejected.

1.4. PERFORMANCE BOND AND PAYMENT BOND

- A. Unless otherwise stated in the solicitation document, the successful Quoter shall be required to provide the Owner with a Performance Bond and Labor and Material Payment Bond each in an amount equal to one hundred (100%) of the contract sum. The Surety Company shall meet requirements as specified in the Supplementary Conditions.
- B. The Labor and Material Payment Bond shall contain a clause specifically guaranteeing payment of all sums of money withheld from employees and payable to the Internal Revenue Service; and all contributions or amounts due to the State of Oregon from the General Contractor or subcontractor incurred in the performance of this contract.
- C. The Bond shall be fully executed, payable to the Owner.
- D. The cost of these bonds shall be included in the Quote.
- E. The successful Quoter will be provided with contract forms through the Architect. These forms shall be executed and delivered to the Owner, along with Performance Bond and Labor and Material Payment Bond, within ten (10) days after receiving forms.

1.5. SUBSTITUTION REQUESTS

- A. Submit request for substitution for review and approval by Owner, for entire system as specified. Requests must arrive at School District 4J facilities Office no later than the date specified in Section 01 60 00. Requests submitted after that time will be rejected. A Memorandum or Addenda will be issued minimum of 3 days before Quote opening if any Substitution Requests are accepted. Submittal of substitution requests shall include manufacturers' product data and brochures as back up information for review. All systems

QUOTATION REQUIREMENTS - SECTION 00 21 13

components must be included in Submittal for approval. Submit requests on form included in this Request for Quotes.

1.6. ADMINISTRATIVE RULES

- A. All quoters are required to comply with the provisions of Oregon Revised Statutes and 4J Board Policy. Attention is directed to ORS 244, Government Ethics; ORS 279A and 279C, Public Contracting Code; Oregon Administrative Rules, Chapter 137, Divisions 46, 48 and 49; and 4J Board Policy DJC.

1.7. PROTEST OF QUOTE

- A. Protests of quote specifications or contract terms shall be presented to the Owner in writing five (5) calendar days prior to quote opening. Such protest or request for change shall include the reason for protest or request, and any proposed changes to specifications or terms. No protest against award because of the content of quote specifications or contract terms shall be considered after the deadline established for submitting such protest.

1.8. PROTEST OF AWARD

- A. Any actual quoter or proposer who is adversely affected by the Owner's notice of award of the contract to another quoter or proposer on the same solicitation shall have seventy-two (72) hours from the notice of award to submit to the Owner, a written protest of the notice of award. In order to be an adversely affected or aggrieved quoter or proposer with a right to submit a written protest, a quoter or proposer must itself claim to be eligible for award of the contract as the lowest responsible quoter or best proposer and must be next in line for award.

1.9. FINAL AWARD

- A. The written notice of award of the contract shall constitute a final decision of the Owner to award the contract if no written protest of the notice of award is filed with the Owner within the designated time.

END OF SECTION 00 21 13

**QUOTATION FORM
SECTION 00 30 00**

Proposal for: FOX HOLLOW Health Restroom
Renovations CIP # 410.187.002

Submitted to: Facilities Management Office (CIP)
Eugene School District No. 4J
715 West Fourth Avenue Eugene,
Oregon 97402

Due Date: **Nov. 25, 2020**
Time: **2 PM**

From: _____
(Company Name)

The undersigned proposes to furnish all material, equipment, and labor required for the complete project, and to perform all work in strict accordance with the Contract Documents for the lump sum price indicated below.

BASE QUOTE: FOX HOLLOW Health Restroom Renovations.

BASE QUOTE:

Quote Amount: _____ \$ _____
(Words) (Figures)

In addition to the base quote for all of just the refinishing, provide a breakdown of each school's refinishing cost for accounting purposes.

The undersigned agrees, if awarded the Contract, to substantially complete all Base Quote work on or before the dates specified in Section 01 11 00.

The undersigned agrees, if awarded the Contract, to substantially complete all Alternate No. 1 work on or before the dates specified in Section 01 11 00.

ALTERNATE QUOTES:

Add Alternate No. 1 – (None at this time.)

Alternate No.1 Amount: _____ \$ _____
(Words) (Figures)

Add Alternate No. 2 – (None at this time.)

Alternate No.2 Amount: _____ \$ _____
(Words) (Figures)

The undersigned agrees, if awarded the contract, to comply with the provisions of Oregon Revised Statutes 279C.800 through 279C.870 pertaining to the payment of prevailing rates of wage.

The undersigned agrees, if awarded the Contract, to execute and deliver to the Owner within ten (10) working days after receiving contract forms, an Agreement and a satisfactory Performance Bond and a Labor and Material Payment Bond, if required elsewhere in the solicitation, each in an amount equal to 100 percent (100%) of the Contract Sum.

QUOTATION FORM - SECTION 00 30 00

The undersigned has received addenda numbers _____ to _____ inclusive and has included their provisions in the above Quote amount.

By submitting this Quote, the Quoter certifies that the Quoter:

a) has available the appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain the resources and expertise, necessary to meet all contractual responsibilities; b) has a satisfactory record of past performance; c) has a satisfactory record of integrity, and is not disqualified under ORS 279C.440; d) is qualified legally to contract with the Owner; and e) will promptly supply all necessary information in connection with any inquiry the Owner may make concerning the responsibility of the Quoter. Prior to award of a Contract, the Quoter shall submit appropriate documentation to allow the Owner to determine whether or not the Quoter is "responsible" according to the above criteria.

Contractor warrants that Contractor has a Qualifying Employee Drug-Testing program and will require each subcontractor providing labor for the project to do the same.

The undersigned has visited the site to become familiar with conditions under which the Work is to be performed and has correlated the Quoter's personal observations with the requirements of the proposed Contract Documents.

The undersigned certifies that the Quoter is a _____ Quoter under ORS. ("Resident" or "Non-resident", to be filled in by Quoter).

Names of Firm: _____

Street Address: _____
(City) (State) (Zip)

Telephone Number: _____ Fax Number: _____ E-Mail: _____

Signed By: _____ Printed Name: _____
(Signature of Authorized Official. If Firm is a partnership, one of the partners must sign quote).

Official Capacity: _____

If corporation, attest: _____ Date: _____
(Secretary of Corporation)

SEAL (If Corporation)

_____ Corporation
_____ Partnership
_____ Individual

NON-DISCRIMINATION REQUIREMENT

Contractor certifies that the Contractor has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontracts.

The Contractor agrees not to discriminate against any client, employee or applicant for employment or for services, because of race, color, religion, sex, national origin, physical or mental handicap, sexual orientation or age unless based upon bona fide occupational qualifications, and that they are otherwise in compliance with all federal, state and local laws prohibiting discrimination, with regard to, but not limited to, the following: Employment upgrading, demotion or transfer; Recruitment or recruitment advertising; Layoffs or termination; Rates of pay or other forms of compensation; Selection for training; Rendition of services. It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase order from the School District, unless a satisfactory showing is made that discriminatory practices have terminated and that a recurrence of such acts is unlikely.

BY _____

(Company or Firm Officer)

(Type or Print Name)

NON-COLLUSION AFFIDAVIT

STATE OF _____

County of _____

I state that I am _____ of _____ and that: (Title) (Name of Firm)

I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this Quote.

I state that:

(1) The price(s) and amount of this Quote have been arrived at independently and without consultation, communication or agreement with any other contractor, Quoter or potential Quoter, except as disclosed on the attached appendix.

(2) That neither the price(s) nor the amount of this Quote, and neither the approximate price(s) nor approximate amount of this Quote, have been disclosed to any other firm or person who is a Quoter or potential Quoter, and they will not be disclosed before Quote opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from Quoting on this contract, or to submit a Quote higher than this Quote, or to submit any intentionally high or noncompetitive Quote or other form of complementary Quote.

(4) The Quote of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or noncompetitive Quote.

(5) _____, its affiliates, subsidiaries, officers, (Name of my Firm) directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to Quoting on any public contract, except as described on the attached appendix.

I state that _____ understands and acknowledges that the (Name of my Firm) above representations are material and important, and will be relied on by School District No. 4J in awarding the contract(s) for which this Quote is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from School District No. 4J of the true facts relating to the submission of Quotes for this contract.

(Authorized Signature)

Sworn to and subscribed before me this

_____ day of _____, 2020

(Notary Public for Oregon)

My Commission Expires: _____

EXPERIENCE SUMMARY

Pursuant to this Quote Proposal and Qualification of Quoters, the following is a record the Quoter's experience in construction of a similar type and magnitude and character to that contemplated under this contract.

Included in this section should be a list of references for three (3) similar projects in terms of scope of work, value of work and time constraints completed in the last (5) years. The Quote must demonstrate that he/she has experience with this type of project and can manage the project effectively.

If necessary, additional pages can be attached to this page.

Project Title: _____ Client: _____

Date: _____ Project Value: _____ Contact: _____ Phone: _____

Project Description: _____

Project Title: _____ Client: _____

Date: _____ Project Value: _____ Contact: _____ Phone: _____

Project Description: _____

Project Title: _____ Client: _____

Date: _____ Project Value: _____ Contact: _____ Phone: _____

Project Description: _____

END OF QUOTE FORM

**CONSTRUCTION CONTRACTOR AGREEMENT
(Sample Form)**

**LANE COUNTY SCHOOL DISTRICT 4J
715 West Fourth Avenue
Eugene, Oregon 97402**

This Agreement is hereby made between the Lane County School District 4J, hereinafter DISTRICT, and CONTRACTOR, according to the following terms, conditions and provisions:

1. CONTRACTOR is identified as follows:

Firm Name: _____

Contractor's Representative: _____

Address: _____

City/State/ZIP: _____ Email: _____

Business Telephone: _____ FAX: _____

Social Security Number: _____ or Federal Employer ID: _____

Type of Entity: Sole Proprietorship Partnership Corporation

2. SERVICES TO BE PROVIDED (Include scope of work, schedule and other provisions including supplies, materials, equipment or services, as applicable):

3. DISTRICT'S REPRESENTATIVE: _____

4. FINGERPRINTING REQUIREMENTS: Do services to be provided include potential for direct, unsupervised contact with students? Yes No

If yes, has CONTRACTOR been fingerprinted? Yes No

5. DATE AND DURATION: This agreement shall be effective commencing on _____ and extending through _____, unless otherwise terminated or extended.

6. PAYMENT: The DISTRICT shall pay the CONTRACTOR the agreed sum of \$ _____
_____ For work described herein.

Purchase Order or Account Number to be charged: _____

7. CONTRACTOR REQUIREMENTS: The CONTRACTOR agrees to perform the work or services as described in this Agreement in accordance with the Terms and Conditions of this Agreement (ATTACHMENT A) and Drawings and Specifications listed below:

8. CONTRACTOR is an Independent Contractor within the meaning of ORS 670.600 and is not an employee of the DISTRICT.

9. SIGNATURES: It is so agreed this _____ day of _____, _____

CONTRACTOR

Date

DISTRICT

Date

**CONSTRUCTION CONTRACTOR AGREEMENT TERMS & CONDITIONS
With PERFORMANCE BOND AND PAYMENT BOND AND PREVAILING WAGES**

This Construction Contractor Agreement between the DISTRICT and the CONTRACTOR includes the following terms, conditions, and provisions:

- 1. DECLARATION OF INDEPENDENT CONTRACTOR:** CONTRACTOR declares that CONTRACTOR has complied with all federal, state, and local laws regarding business permits, registrations, certificates, and licenses that may be required to carry out the work to be performed under this agreement. The CONTRACTOR represents that the CONTRACTOR qualifies as an independent CONTRACTOR as evidenced by agreement to the conditions of this contract. The CONTRACTOR represents that all the information in the agreement is true and the DISTRICT may contact individuals and corporations to verify this information. The DISTRICT relies upon the representation of the CONTRACTOR. In the event the CONTRACTOR is determined not to be an independent CONTRACTOR for the purpose of providing these services to the DISTRICT, then the CONTRACTOR will reimburse the DISTRICT's full costs and damages associated with or in any way related to this determination.
- 2. CONTRACTORS' REGISTRATION:** The CONTRACTOR and each Subcontractor shall be registered, prior to the commencement of the Work, and maintain, for the duration of the Project, a registration with the Oregon State Construction CONTRACTORS' Board.
- 3. RESPONSIBILITY TEST:** CONTRACTOR certifies that the contractor: a) has available the appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain the resources and expertise, necessary to meet all contractual responsibilities; b) has a satisfactory record of past performance; c) has a satisfactory record of integrity, is not disqualified under ORS 279C.440; and d) is qualified legally to contract with the DISTRICT.
- 4. PERMITS, FEES AND NOTICES:** The DISTRICT will pay the plan check fee, building permit fee, and systems development charges directly to the authority having jurisdiction. The CONTRACTOR shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the work of this contract. The CONTRACTOR shall secure and pay for all other permits, fees and inspections necessary for the proper execution and completion of the Contract, which are legally required when bids are received or negotiations concluded. The CONTRACTOR shall pick up permits and call for inspections through final inspection, as required by the City Building Department.
- 5. USE OF SITE:** Check in daily with the school or facility office personnel and the building custodian to coordinate construction activities with the ongoing activities at the building.
- 6. BACKGROUND CHECK –** Individuals with whom the District contracts with, or any employee, agent, subcontractor or provider who will have direct, unsupervised contact with students, shall be required to submit a 4J Volunteer Background check and undergo a state nationwide fingerprinting and criminal history records check, in accordance with the provisions of ORS 326.603 and ORS 326.607. Individuals or Proposer, and not the District, shall be responsible for the fees associated with fingerprinting and the criminal history records check, not to exceed the actual costs (ODE \$59.00 and outside fingerprinting vendor \$12.50). Individuals contracting with the District will be required to fill out and submit a background check by logging on the following site: <https://www.4j.lane.edu/hr/icbackgroundprocess/> and follow the process.
- 7. SMOKING, DRUG AND ALCOHOL POLICIES:** Smoking and the other use of tobacco products is prohibited on all school district property pursuant to OAR 581-021-0110. District Policy prohibits the possession, use or distribution of illicit drugs and alcohol on school premises. Anyone under the treatment of a physician who must bring prescription medications to the workplace shall carry the medicines in the original container bearing the name of the drug, the name of the physician and the prescribed dosage. The CONTRACTOR is required to demonstrate that an employee drug testing program is in place.
- 8. POTENTIALLY HAZARDOUS PRODUCTS:** The District attempts to maintain a safe and healthy environment for students and staff. The Contractor is therefore required to follow District guidelines controlling the use of potentially hazardous products and to use these products in a safe manner. SDS information is required for all potentially hazardous products. The Project Manager and a District Safety Specialist will review these and determine what, if any, mitigation procedures will be required. Contractor is to maintain and post copies of all SDS information at the project site and adhere to the required controls.

Contractor is to ensure that work area access by students and teachers is restricted. The District will provide signage appropriate for this purpose. The contractor is to construct and maintain appropriate barriers.

9. ASBESTOS CONTAINING MATERIALS: Prior to commencing work on-site, the CONTRACTOR shall contact the District Asbestos Specialist, to review the Asbestos Management Plan for the site where the work will be performed. The CONTRACTOR shall not, in any way, disturb materials which are known to contain asbestos, assumed to contain asbestos, or otherwise have not been tested and confirmed to be asbestos free. The DISTRICT will investigate and test for asbestos containing materials and, if required, remove such materials as required for the Work. CONTRACTOR is required to sign an Asbestos Containing Materials Notification Statement as supplied by DISTRICT prior to commencing Work. The CONTRACTOR shall use no asbestos-containing materials in the Work and shall so certify.

10. SAFETY REQUIREMENTS: Safety must not be sacrificed for the sake of productivity or expedience. Safety of students, staff, and the public is critical. All CONTRACTORS who perform work on District property, and their employees, are expected to know the DISTRICT's expectations for safe work and to adhere to those expectations. CONTRACTOR shall adhere to the regulations of Oregon OSHA for all projects within the School District.

11. ELECTRICAL REQUIREMENTS:

LOCKOUT/TAGOUT: Contractor shall implement a Lockout/Tagout program for employees who take equipment out of service or place equipment back into service after repair. Contractor shall review the District's Energy Control Program prior to commencing work. Rules applying to this procedure are Oregon Occupational Safety and Health Code OAR 437-002-0140, General Environmental Controls Lockout/Tagout (1919.147), or latest version.

ARC FLASH – ELECTRICAL SAFETY: Contractor shall comply with NFPA 70E (Electrical Safety in the Workplace), current edition. Contractor shall comply with Oregon OSHA 1910.137 (Personal Protective Equipment). The Contractor shall review with the School District Project Manager the 'Eugene School District Electrical Safety Program' before any work commences. The Contractor shall comply with all 'Arc Flash' and 'Electrical Safety' protocols referenced in any and all NFPA, OSHA, OROSHA, NEC, NESC, UL, IBC, IFC and ANSI documents (current editions).

12. CONFINED SPACE REQUIREMENTS: If work requires entering underground fuel storage tanks, utility tunnels, sewer vaults (where septic systems are located) or fireboxes on boilers, a permit and special training is required, when necessary under OAR 437-002-0140.

13. HOLD HARMLESS AND INDEMNIFICATION: To the fullest extent of the law, the Contractor will defend, indemnify, hold harmless and reimburse the Eugene School District 4J (including its officers, board members, agents, and employees) from all claims, demands, suits, actions, penalties, and damage expenses, for liability of any kind including attorney's fees. To the extent that death or bodily injury to persons or damage to property arises out of the fault of the Contractor, the Contractor's indemnity obligation exists only 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, contributed to or caused such damage, whether or not such incidents are contributed to or caused in any part by Eugene School District 4J.

14. INSURANCE: The Contractor shall maintain in force for the duration of this agreement, the following:
General Insurance: The Contractor shall maintain in force for the duration of this agreement a Umbrella Insurance Policy with the limits not less than \$5,000,000, a Commercial General Liability, Automobile Liability (owned, non-owned and hired) Insurance policy(s) written on an occurrence basis with limits not less than \$1,000,000 per occurrence and \$2,000,000 in the aggregated naming the District, its employees, officials and agents as an additional insured as respects to work or services performed under this agreement. This insurance will be primary to any insurance the District may carry on its own. If the District requires Professional Liability coverage, the terms, conditions, and limits must be approved by the District's Risk Manager.

Workers' Compensation: The CONTRACTOR shall provide and maintain workers' compensation coverage for its employees, officers, agents, or partners as required by applicable workers' compensation laws.

Equipment and Material: The CONTRACTOR shall be responsible for any loss, damage, or destruction of its own property, equipment, and materials used in connection with the work.

Course of Construction: The CONTRACTOR shall maintain an all-risk policy covering the replacement cost of the Work during the course of construction. The policy shall include the interests of the DISTRICT and the Architect. The amount of insurance shall equal the completed value of the contract.

Property Insurance: The CONTRACTOR shall purchase from and maintain in a company or companies authorized to do business in the jurisdiction in which the Project is located, property insurance on an "all risk"

policy form, including builder's risk/installation floater, whichever is appropriate, in the amount of the initial Contract Sum, plus the value of subsequent modifications and the cost of materials supplied by others, comprising the total value of the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in The Contract Documents or until no person or entity other than the DISTRICT has an insurable interest in the property required by this paragraph to be covered, whichever is later. The insurance shall include interests of the DISTRICT, Architect and CONTRACTOR, Subcontractors, and sub-subcontractors in the Project.

Evidence of Coverage: Evidence of the above coverages issued by a company satisfactory to the District shall be provided to the District 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. It is the Contractor's obligation to provide the 30 days' notice if not done so by the Contractor's insurance company(s). Failure to maintain the proper insurance shall be grounds for immediate termination of this Agreement.

Subcontractors: The CONTRACTOR shall require all Subcontractors to provide and maintain general liability, auto liability, professional liability (as applicable), and workers' compensation insurance with coverage 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.

Exception or Waivers: Any exception or waiver of these requirements shall be subject to review and approval from the DISTRICT's Risk Manager.

15. PERFORMANCE BOND AND PAYMENT BOND: The Contractor shall furnish a Performance bond and a Labor and Materials Payment bond covering faithful performance of the Contract and payment of obligations arising there under. Bonds are to be obtained through a company that is on the US Government Treasury list for approved sureties and/or approved by School District 4J's Risk Manager. The cost of the Bond shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum. Submit on AIA Document A312, latest edition.

The Contractor shall deliver the required bonds to the DISTRICT with the executed Agreement. The Contractor shall require the Attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of their power of attorney.

16. OWNERSHIP OF WORK PRODUCT: All work products of the CONTRACTOR, which result from this contract, shall be the exclusive property of the DISTRICT and shall be delivered to the DISTRICT upon completion of the work or termination of this contract, except as otherwise agreed in writing.

17. EQUIPMENT, TOOLS, MATERIALS, OR SUPPLIES: CONTRACTOR shall supply, at CONTRACTOR's sole expense, all equipment, tools, materials and/or supplies to accomplish the services agreed upon. The CONTRACTOR shall be responsible for any loss, damage, or destruction of its own property, equipment, and materials used in conjunction with the work.

18. REIMBURSEMENT OF EXPENSES: The DISTRICT shall not be liable to CONTRACTOR for any expenses paid or incurred by the CONTRACTOR unless previously agreed to in writing.

19. FRINGE BENEFITS: Because CONTRACTOR is engaged in CONTRACTOR's own independently established business, CONTRACTOR is not eligible for, and shall not participate in, any employee pension, health, or other fringe benefit plan, of the DISTRICT.

20. HOURS OF LABOR: No person shall be employed for more than ten hours in any one day, or 40 hours in any one week, except in the 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 a half of the regular pay for all time worked.

a. For all overtime 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

b. For all overtime 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

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

The Contractor shall give notice to employees who work on a public contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees of the number of hours per day and days per week the employees may be required to work.

21. PAYMENT OF LABORERS AND MATERIALMEN, CONTRIBUTIONS TO INDUSTRIAL ACCIDENT FUND, LIENS AND WITHHOLDING TAXES: The Contractor shall: (1) Make payment promptly, as due, to all persons supplying to such contractor labor or material for the prosecution of the Work provided for in such contract. (2) Pay all contributions or amounts due the Industrial Accident Fund from such

contractor or subcontractor incurred in the performance of the contract. (3) Not permit any lien or claim to be filed or prosecuted against the state, county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished. (4) Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

22. PAYMENT FOR MEDICAL CARE AND PROVIDING WORKERS' COMPENSATION: The CONTRACTOR shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such CONTRACTOR, of all sums which the CONTRACTOR agrees to pay for such services and all moneys and sums which the CONTRACTOR collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. All employers working under this contract are subject employers and must comply with ORS 656.017.

23. PAYMENT OF CLAIMS BY PUBLIC OFFICERS: If the CONTRACTOR fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the CONTRACTOR or a Subcontractor by any person in connection with the public contract as such claim becomes due, the proper officer or officers representing the DISTRICT may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the CONTRACTOR by reason of such contract. The payment of a claim in this manner shall not relieve the CONTRACTOR or the CONTRACTOR's surety from obligation with respect to any unpaid claims.

24. FEDERAL, STATE, AND LOCAL PAYROLL TAXES: Neither federal, nor state, nor local income tax nor payroll tax of any kind shall be collected, withheld or paid by the DISTRICT on behalf of the CONTRACTOR or of employees of the CONTRACTOR. CONTRACTOR shall not be treated as an employee with respect to the services performed hereunder for federal or state tax purposes.

25. PREVAILING WAGE RATES: When the total price of the Project is \$50,000 or more, each worker in each trade or occupation employed in the performance of this Contract either by the contractor, subcontractor or other person doing or contracting to do contracting for the whole or any part of the Work on the Contract shall be paid not less than the applicable prevailing rate of wage.

- a. The existing Oregon prevailing rate of wage in effect at the time the specifications are first advertised for bid solicitations is the applicable rate.
- b. The DISTRICT will pay the public works fee to Oregon Bureau of Labor and Industries.
- c. Certification of rate or wage by Contractor or Subcontractor (ORS 279C.845):
 - .1 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 applicable state prevailing rate of wage or less than the minimum hourly rate of wage specified in the contract. The certificate and 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 statement and certificate and knows the contents thereof and that the same is true to the contractor or subcontractor's knowledge. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid.
 - .2 If the Contractor does not file certified payroll as required (at least once per month) the DISTRICT will withhold 25% of the amounts due the Contractor, in addition to any other required retainage.
 - .3 If a first-tier Subcontractor does not file certified payroll reports as required, the prime Contractor shall withhold 25% of amounts due the first-tier Subcontractor.
 - .4 Each certified statement required by subsection (1) of this section shall be delivered or mailed by the contractor or subcontractor to the public contracting agency. Certified statements shall be submitted to the public contracting agency once a month by the fifth business day of the following month, for each week workers are employed. Information submitted on certified statements may be used only to ensure compliance with the provisions of ORS 279C.800 to 279C.870.
 - .5 Each contractor or subcontractor shall preserve the certified statements for a period of three years from the date of completion of the contract.
 - .6 Certified statements received by a public agency are public records subject to the provisions of ORS 192.410 to 192.505. As such, they must be made available upon request.
- d. For every bid \$100,000 or greater, all Contractors and Subcontractors shall have a public works bond, in

the amount of \$30,000, filed with the Construction Contractors' Board (CCB), before starting work on the project, unless exempt.

e. Contractor shall include in every subcontract a provision requiring their Subcontractors to have a public works bond filed with the CCB before starting work on the project, unless exempt. Contractors shall verify that all of their subcontractors have filed a public works bond with the CCB.

26. SUBCONTRACTORS: The CONTRACTOR shall include in any subcontract for property or services entered into by the CONTRACTOR and Subcontractor, including a material supplier, for the purpose of performing a construction contract:

a. A payment clause that obligates the CONTRACTOR to pay the Subcontractor for satisfactory performance under its subcontract within 10 days out of such amounts as are paid to the CONTRACTOR by the DISTRICT under such contract; and

b. An interest penalty clause that obligates the CONTRACTOR to pay to the Subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause included in the subcontract pursuant to the above paragraph for the period beginning on the day after the required Payment date and ending on the date on which payment of the amount due is made; computed at the rate specified in ORS 279C.580.

27. PROJECT CLOSEOUT: When the Work is determined to be complete:

a. Return all keys to DISTRICT Representative.

b. Where warranties are required, submit original warranty certificates and indicate dates of coverage.

c. Submit any operation and maintenance information required by technical specifications.

d. Submit any as-built drawings or other as-built documentation required by technical specifications.

e. Submit AIA Document G707 Consent of Surety Company for final payment.

f. Submit Affidavit of Prevailing Wages Paid (Sample will be furnished at completion of work).

g. Submit Asbestos-containing Materials Statement (Sample will be furnished at completion of work.)

h. Certificate of Insurance evidencing continuation of liability coverage including coverage for completed operations until the expiration of the specified warranty periods

i. Where a building permit is required, submit documentation of Building Department inspection and acceptance.

j. Final payment will be authorized after all project closeout tasks have been completed and the work is determined to be acceptable by the DISTRICT Project Manager.

28. NON-DISCRIMINATION: The CONTRACTOR, by signing this agreement certifies that the CONTRACTOR has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontracts.

The CONTRACTOR agrees not to discriminate against any client, employee or applicant for employment or for services, because of race, color, religion, sex, national origin, physical or mental handicap, sexual orientation or age unless based upon bona fide occupational qualifications, and that they are otherwise in compliance with all federal, state and local laws prohibiting discrimination, with regard to, but not limited to, the following: Employment upgrading, demotion or transfer; Recruitment or recruitment advertising; Layoffs or termination; Rates of pay or other forms of compensation; Selection for training; Rendition of services. It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase order from the School District, unless a satisfactory showing is made that discriminatory practices have terminated and that a recurrence of such acts is unlikely.

29. FOREIGN CONTRACTORS: In the event this Contract is awarded to a contractor not domiciled in or registered to do business in the State of Oregon and the contract price exceeds \$10,000.00, the CONTRACTOR shall promptly report to the Department of Revenue the total price, terms of payment, length of contract, and such other information as the Department of Revenue may require before final payment can be received on the public contract. The DISTRICT will satisfy itself that the requirement of this subsection has been complied with before it issues a Final Payment.

30. TERMINATION WITH CAUSE: With reasonable cause, either party may terminate this agreement effective immediately upon the giving of written notice of termination for cause. Reasonable cause shall include:

a. Material violation of this agreement.

b. Any act exposing the other party to liability to others for personal injury or property damage.

31. REMEDIES: In the event of a termination of this contract by the DISTRICT, because of a breach by CONTRACTOR, the DISTRICT may complete the work either by itself or by contract with other persons, or any combination thereof. CONTRACTOR shall be liable to the DISTRICT for any costs or losses incurred by the

DISTRICT arising out of or related to the breach, including costs incurred in selecting other CONTRACTORS, time delay losses, attorney fees, and the like, less the remaining unpaid balance of the consideration until DISTRICT's costs and losses have been determined, at which time the DISTRICT may offset any such amount due CONTRACTOR against costs and losses incurred by DISTRICT.

32. TERMINATION OR SUSPENSION OF CONTRACT FOR CONVENIENCE: Any contract may be terminated, or temporarily suspended, by the DISTRICT in the event that the project is permanently abandoned, or deferred, as determined in the sole discretion of the DISTRICT. The DISTRICT may terminate, or suspend, any contract in whole or in part whenever the DISTRICT determines, in its sole discretion, that such action is in the DISTRICT's best interest. Whenever any contract is terminated, or suspended in accordance with this paragraph, the CONTRACTOR shall be entitled to payment for actual work performed at contract prices for completed items of work. An equitable adjustment in any contract price for partially completed items of work will be made, but such adjustment shall not include provisions for loss of anticipated profit on deleted or uncompleted work. For suspended work, the CONTRACTOR will be entitled to five percent (5%) per year of the value of the work suspended, only if ultimately completed, and reasonable re-mobilization costs, if applicable. Termination or suspension of any contract by the DISTRICT at any time during the term for convenience, shall not constitute a breach of any contract by the DISTRICT.

33. ASSIGNMENT: CONTRACTOR shall not assign this contract, in whole or in part, or any right or obligation hereunder, without the DISTRICT's prior written approval.

34. NO AUTHORITY TO BIND CLIENT: CONTRACTOR has no authority to bind or obligate the DISTRICT or to enter into contracts or agreements on behalf of the DISTRICT. This agreement does not create a partnership, joint venture or agency between the parties.

35. NON-WAIVER: The failure of either party to exercise any of its rights under this agreement for a breach thereof, shall not be deemed to be a waiver of such rights or a waiver of any subsequent breach.

36. NOTICES: Any notice given in connection with this agreement shall be given in writing and shall be delivered either by hand to the signing party or by regular and certified mail to the party at the party's address stated herein.

37. CHOICE OF LAW: Any dispute under this agreement or related to this agreement shall be decided in accordance with the laws of the State of Oregon.

38. ATTORNEY'S FEES: In the event of any action to enforce or interpret this contract, the prevailing party shall be entitled to recover from the losing party reasonable attorney fees incurred in the proceeding, as set by the court, at trial, upon appeal, or upon review.

39. ENTIRE AGREEMENT: This is the entire agreement of the parties, and supersedes any prior agreement.

40. SEVERABILITY: If any part of this agreement shall be held unenforceable, the rest of this agreement will nevertheless remain in full force and effect.

41. AMENDMENTS: This agreement may be supplemented, amended, or revised only in writing by agreement of the parties.

42. CONTRACTOR'S MARK UP FOR CHANGE ORDER WORK: The allowance for the combined overhead and profit included in the total net cost to the DISTRICT shall be based as follows:

a. The maximum allowable hourly wage rate for Changes to the Work shall be the appropriate Base Wage Rate plus Fringe Rate as listed for each occupation in the Prevailing Wage Rate for Public Works Contracts in Oregon manual issued by the Oregon Bureau of Labor and Industries (the current issue in effect on the date the quote is first advertised and/or a quote is first requested); multiplied by 1.20. An amount for Overhead and Profit may be added in accordance with section b through h below.

b. For the Contractor, for work performed by the Contractor, 15 percent of the amount due the Contractor.

c. For the Contractor, for Work performed by the Contractor's Subcontractor, 10 percent of the amount due the Subcontractor.

d. For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, 10 percent of the cost.

e. Total overhead and profit shall not exceed 25% of the base cost of the work (base cost being defined as the cost of the work without markups.)

f. Itemize costs to include breakdown for materials and labor, overhead and profit.

g. A change to the work providing a net CREDIT to the Owner shall include a credit for overhead and profit based on the following schedule:

1. For the Contractor, 5 percent of the Cost to be credited.

2. For each Subcontractor, 5 percent of the Cost to be credited.

3. For each Sub-subcontractor, 5 percent of the Cost to be credited.
- h. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including Subcontractor and Contractor overhead and profit as applicable.

43. APPLICATION FOR PAYMENT: Submit payment request on invoice customarily used by Contractor. Identify

5% retainage to be carried until the project is determined to be complete.

44. DEBARMENT CERTIFICATION: The contractor/Vendor certifies that the Contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this Contract by any Federal department or agency. If requested by the Eugene 4J School District, the Contractor shall complete a Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion form. Any such form completed by the Contractor for this Contract shall be incorporated into this Contract by reference.

END OF TERMS AND CONDITIONS

Revised 1/4/18

Agree1.doc

PREVAILING WAGE RATES
SECTION 00 73 43

PART 1 GENERAL

The Prevailing Wage Rates dated July 1, 2020, including any subsequent corrections or amendments issued by the Oregon Bureau of Labor and Industries, are included as a portion of the Contract Documents by reference. Copies are available for review at the office of Facilities Management, School District 4J, and can be viewed on line at www.boli.state.or.us. Click on Prevailing Wages, then PWR Rate Publications, and then Prevailing Wage Rates for Public Works Contracts in Oregon (subject only to state law).

END OF SECTION 00 73 43

SUMMARY OF WORK
SECTION 01 11 00

GENERAL

1.1 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.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Project consists of enlarging and renovating a restroom to include an accessible roll-in shower. All new finishes will be included. (4J will perform abatement and remove all existing finishes/insulation prior to construction timeline.)
 - 1. Project Location: Fox Hollow Elementary, 5055 Mahalo Drive, Eugene, OR.
 - 2. Owner: Eugene School District 4J, 715 West Fourth Avenue, Eugene, OR 97402.
- B. Architect Identification: The Contract Documents, dated Nov. 9, 2020, were prepared for the Project by Rodd Hansen, Architect. (Specifications developed by Michael Heffernan.)
- C. Project Manager: Michael Heffernan, 4J District Architect has been appointed by Owner to serve as Project Coordinator.

1.3 CONTRACT

- A. Project will be constructed under a general construction contract.
 - 1. FOX HOLLOW Health Restroom Renovations, Eugene School District 4J. CIP# **410.187.002**

1.4 WORK SEQUENCE

- A. Do not commence Work until after execution of Agreement and receipt of Notice-to-Proceed from Owner.
- B. Perform work in order to achieve Substantial Completion by **Dec. 18, 2020**.
- C. Achieve Final Completion within seven (7) days following the date of Substantial Completion.

1.5 USE OF PREMISES

- A. Work Area Access: Buildings may be occupied during work. Access to the work area will be available on a week-day basis from approximately 7:00 am to 4:00 pm. Coordinate all other work hour schedules with Owner so as not to interfere with Owner's use of the building.
- B. Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public, subject to approval by a District Safety Specialist.
- C. Site Access: Maintain drives and building entrances and exits clear and protected at all times to Owner's, employees, and public access and for use by emergency personnel. Do not use these areas for parking or storage. Schedule deliveries to minimize space and time requirements for storage of materials at site.

- D. Parking: Contractor may use existing parking areas. (Coordinate with other Contractors.)
 - E. Contractor Staging Areas: Limit staging to gym areas shown on Drawings.
 - F. Construction Operations: Limited to areas shown on Drawings.
- 1.6 WORK UNDER SEPERATE CONTRACTS
- A. Separate Contract: Owner may award a separate contract for performance of certain construction operations at Project site. Those operations may be conducted simultaneously with work under this Contract.
 - B. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.
- 1.7 FUTURE WORK
- 1. None Listed.
- 1.8 PRODUCTS ORDERED IN ADVANCE
- 1. None Listed.
- 1.9 OWNER-FURNISHED PRODUCTS
- 1. None Listed.
- 1.10 MISCELLANEOUS PROVISIONS
- A. BACKGROUND CHECK
 - 1. Individuals with whom the District contracts with, or any employee, agent, subcontractor or provider who will have direct, unsupervised contact with students, shall be required to submit a 4J Volunteer Background check and undergo a state nationwide fingerprinting and criminal history records check, in accordance with the provisions of ORS 326.603 and ORS 326.607. Individuals or Proposer, and not the District, shall be responsible for the fees associated with fingerprinting and the criminal history records check, not to exceed the actual costs (ODE \$59.00 and outside fingerprinting vendor \$12.50). Individuals contracting with the District will be required to fill out and submit a background check by logging on the following site: <https://www.4j.lane.edu/hr/icbackgroundprocess/> and follow the process.
 - B. DRUG AND ALCOHOL POLICY
 - 1. The possession, use, or distribution of illicit drugs and alcohol on school premises is prohibited. Prescription medications brought to the project site shall be in the original container bearing the name of the drug, the name of the physician and the prescribed dosage.
 - C. USE OF TOBACCO PRODUCTS
 - 1. Smoking and the other use of tobacco products is prohibited on all school district property pursuant to OAR 581-021-0110.
 - D. SAFETY REQUIREMENTS
 - 1. Safety must not be sacrificed for the sake of productivity or expedience. Safety of students, staff, and the public is critical. Take all reasonable precautions to prevent endangerment or injury. Advise and coordinate operations with the school office.
 - 2. All contractors who perform work on District property, and their employees, are expected to know the District's expectations for safe work and to adhere to those expectations.

3. Contractors are to adhere to the regulations of Oregon OSHA for all projects within the School District.

E. GENERAL SAFE WORK PRACTICES

1. Students, public and school staff shall not be put at risk by the activities of contractors or their employees.
2. Safe vehicle operation rules are to be followed at all times. These include positioning vehicles to minimize the necessity of backing and providing a "spotter", someone who will make sure that people do not run into the path of a vehicle when driving on a playground or field that is occupied by students.
3. Tools shall never be left out when an unsecured work area is vacated.
4. Ladders and scaffolding will be taken down when an unsecured work area is vacated.
5. Open holes and other tripping hazards shall be fenced or barricaded when an unsecured work area is vacated.
6. Operations resulting in vapors, emissions or flying objects shall be conducted in such a way as to prevent exposure to any unprotected parties or property.
7. "Secured Work Area" is defined as an area having a perimeter cyclone fence at least 6 feet in height, with gates which close and lock so that no casual entrance is possible by unauthorized adults or children.
8. Contractor to follow all OR-OSHA rules for Confined Spaces, where applicable.

F. COMMUNICATIONS REGARDING UNSAFE PRACTICES

1. Upon perceiving a problem, the District will immediately communicate the concern to the Contractor or Contractor's representative on the work site.
2. If agreement on correction of unsafe conditions cannot be reached, the concerns of the District shall prevail and safety concerns shall be addressed in accordance with the District requirements.

G. ELECTRICAL PANELS - LOCKOUT/TAGOUT

1. Contractor shall implement a Lockout/Tag-out program for his employees who take equipment out of service or place equipment back into service. Contractor shall review the District's Energy Control Program prior to commencing work. Rules applying to this procedure are Oregon Occupational Safety and Health Code OAR 437, Division 2, Subdivision J, General Environmental Controls Lockout/Tag-out (1919.147), or latest edition.

H. ARC FLASH – ELECTRICAL SAFETY

1. Contractor shall comply with NFPA 70E (Electrical Safety in the Workplace), current edition. Contractor shall comply with Oregon OSHA 1910.137 (Personal Protective Equipment). The Contractor shall review with the School District Project Manager the 'Eugene School District Electrical Safety Program' before any work commences. The Contractor shall comply with all 'Arc Flash' and 'Electrical Safety' protocols referenced in any and all NFPA, OSHA, OROSHA, NEC, NESC, UL, IBC, IFC and ANSI documents (current editions).

I. POTENTIALLY HAZARDOUS PRODUCTS

1. The District attempts to maintain a safe and healthy environment for students and staff. The Contractor is therefore required to follow District guidelines controlling the use of potentially hazardous products and to use these products in a safe manner. Guidelines include the use of materials (adhesives, coatings, carpeting, etc.) which are known to emit little or no airborne pollutants.

2. MSDS information is required for all potentially hazardous products. The Project Manager and a District Safety Specialist will review these and determine what, if any, mitigation procedures will be required.
3. Contractor is to maintain and post copies of all MSDS information at the project site and adhere to the required controls.
4. Contractor is to ensure that work area by students and teachers is restricted. The District will provide signage appropriate for this purpose. The Contractor is to construct and maintain appropriate barriers. This shall include provision of physical separation barriers between “construction” and “occupied” spaces.
5. Contractor to adopt means of maintaining the construction space in negative air pressure in relation to occupied spaces.
6. Where there is a new or existing ventilation system in an affected space, the system shall be adjusted to provide the maximum amount of outside air possible with the system.
7. Efforts shall be made to install and operate new ventilation systems as soon in the construction process as practical.

J. ASBESTOS CONTAINING MATERIALS WARNING

1. Asbestos containing materials are known to exist in areas of the Work. The Contractor shall not, in any way, disturb materials which are known to contain asbestos, assumed to contain asbestos, or otherwise have not been tested and confirmed to be asbestos free.
2. Where access to concealed spaces is required, or it is necessary to disturb building materials such as for drilling of holes, cutting, etc., notify the Owner so that proper investigation and/or removal procedures are followed.
3. Prior to commencing Work, the Contractor shall meet with the District Safety Specialist and review the Owner’s Asbestos Management Plan for the locations of asbestos-containing materials and/or materials assumed to contain asbestos. After reviewing the Owner’s Asbestos Management Plan, the Contractor is required to sign Form 01 11 00A, Asbestos-containing Materials Notification Statement, provided at the end of this Section.
4. Contractor must not install any asbestos-containing materials when performing the Work of this project. At the completion of the Work, Contractor will be required to furnish a statement stating that no asbestos-containing materials were installed during the course of the Work. Refer to Sample Form 01 11 00B at the end of this Section.

PART 1 - PRODUCTS (Not Used)

PART 2 - EXECUTION (Not Used)

PART 3 - SCHEDULE OF PRODUCTS ORDERED IN ADVANCE (Not Used)

ASBESTOS FORMS (Included)

Updated 1/4/18

Form 01 11 00A

**ASBESTOS-CONTAINING MATERIALS NOTIFICATION STATEMENT
FOR CONTRACTORS**

This form must be completed and signed by the Contractor prior to beginning work in any Eugene School District 4J building.

The presence of known and assumed asbestos containing materials is documented in the AHERA Management Plan for each building. Copies of the AHERA Management Plan are available in the main office of each building and in the Facilities Management Office at 715 West Fourth Avenue, Eugene, Oregon. The District Asbestos Specialist must be informed of the Contractor’s activities in each building prior to the start of work so that the Contractor can be informed on how to use the AHERA Management Plan and to determine if any asbestos-containing materials are likely to be impacted by the work of the Contractor.

The Contractor is responsible for notifying all employees and subcontractors of the presence of asbestos in the building. The Contractor shall not disturb known or assumed asbestos-containing materials. If the Contractor discovers suspected asbestos-containing materials that have not been identified, the Contractor must stop any work impacting the suspected materials and notify the District Asbestos Specialist so that the material can be sampled. Any asbestos-containing materials that must be removed to allow the Contractor to complete the Contractor’s work will be removed by the District under separate contract. If the Contractor disturbs asbestos-containing materials, the Contractor will be responsible for the cost of the cleanup and decontamination..

I _____, Representing _____,
(Print Name of Representative) (Business Name)

have been notified of the location of the AHERA Management Plan and agree to avoid impacting all known or assumed asbestos-containing materials in the performance of the Work.

Signature of Representative

Date

Work Site

CIP #

Form 01 11 00B

The Environmental Protection Agency (AHERA) rules require the School District obtain a signed statement from the Site Superintendent that, to the best of his/her knowledge, no asbestos-containing building materials were installed during the Work. Therefore, the following statement must be submitted on the Contractors letterhead prior to Project Closeout.

SAMPLE FORM

(To be submitted on the Contractor's letterhead)

ASBESTOS-CONTAINING MATERIALS STATEMENT

EUGENE SCHOOL DISTRICT 4J

(Name of Project and CIP Number)

We the undersigned, (Name of Company), hereby warrant that to the best of our knowledge all materials furnished for the above referenced project contain 0% asbestos.

(Name of Construction Company)

(Signature and Date)

Printed Name

Job Title

END OF SECTION 01 11 00

**ALTERNATES
SECTION 02 60 00**

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by Quoters and stated on the Quotation Form for certain work defined in the Quotation Requirements that may be added to or deducted from the Base Quote amount if Owner decides to accept a corresponding change either in the amount of construction to be completed, the time to complete, or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. None at this time.

END OF SECTION 01 23 00

PRODUCT REQUIREMENTS
SECTION 01 60 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Construction Contractor Agreement Terms and Conditions, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

- A. Substitution Requests: Instructions to Quoters specify time restrictions for submitting requests for Substitutions during the bidding period, in compliance with this Section.
- B. After execution of Agreement, the Owner may, at the Owner's option, consider formal requests from the Contractor for substitution of products for those specified. One or more of the following conditions must be documented:
 - 1. Compliance with final interpretation of code requirements or insurance regulations which require that the use of a substituted Product.
 - 2. Unavailability of a specified Product through no fault of the Contractor.
 - 3. Inability of specified Product to perform properly of fit in designated place.
 - 4. Manufacturer's or Fabricator's refusal or inability to certify or guarantee performance of a specified Product in the application intended.

- C. A Substitution Request constitutes a representation that the Bidder/Contractor:
1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 2. Will provide the same warranty for the Substituted Product as for the specified Product.
 3. Will coordinate installation and make changes to the Work which may be required for the Work to be completed with no additional cost to the Owner.
 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse the Owner for review or redesign services associated with re-approval by authorities.
- D. Substitutions will not be considered when they are indicated or implied on Shop Drawings or Product Data Submittals, without separate request on the form provided, or when acceptance will require revision to the Contract Documents.
- E. Submit 1 digital copy of each request for consideration. Limit each request to one proposed Substitution. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Substitution Request Form: Use form provided at end of Section.
 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Provide MSDS information to confirm that the product is no more harmful than the products specified.
 - f. Samples, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - j. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within 3 days of receipt of a request for substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within 3 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Store cementitious products and materials on elevated platforms.
 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 7. Protect stored products from damage and liquids from freezing.
 8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.
 9. Provide bonded and insured off-site storage and protection when site does not permit on-site storage and protection.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

SUBSTITUTION REQUEST FORM

TO: _____ **DEADLINE: Nov. 19, 2020**
Submitter

Street Address

City, State Zip Code

PROJECT: FOX HOLLOW Health Restroom
Renovations CIP # **410.187.002**
Eugene School District 4J

ITEM: _____
Section No. Page No. Paragraph Description

The Undersigned requests consideration of the following substitution:

The Undersigned states that the following paragraphs are true, except where noted otherwise:

1. The function, appearance and quality of the proposed substitution are equivalent or superior to the specified item;
2. The proposed substitution does not affect dimensions shown on the Drawings;
3. The Undersigned will pay for changes to the building design, including engineering and design services, detailing and construction costs caused by the requested substitution;
4. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements;
5. Maintenance and service parts will be locally available for the proposed substitution;
6. The Undersigned has attached data concerning the proposed substitution, including: Manufacturers product description, specifications, drawings, photographs, performance and test data, adequate for evaluation of the request, with applicable portions of the data clearly indicated. Attachments also includes description of changes to Contract Documents which the proposed substitution will require for its proper installation.

Submitted by: _____ Signature: _____

Firm: _____

Address: _____

Telephone: _____ Fax: _____

Date: _____

END OF SECTION 01 60 00

SELECT DEMOLITION
SECTION 02 60 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 WORK INCLUDED

- A. Demolish designated portions of structures.
- B. Provide shoring.
- C. Disconnect, cap, and remove and identify utilities.
- D. Remove materials from site.
- E. Selected salvaged materials

1.3 RELATED WORK

- A. Section 01010 - Summary of Work: - Precautions Concerning Asbestos.
- B. Section 01500 – Construction Facilities and Temporary Controls: Barricades and landscape protection.
- C. Section 01500 – Construction Facilities and Temporary Controls: Dust control.
- D. Section 01500 – Construction Facilities and Temporary Controls: Cleaning during construction.
- E. Section 01700 - Contract Closeout: Project record documents.

1.4 SUBMITTALS

- A. Submit demolition and removal procedures and schedule under provisions of Section 01300.
- B. Permits and notices authorizing demolition.
- C. Permit for transport and disposal of debris.
- D. Submit record documents under provisions of Section 01700.

1.5 EXISTING CONDITIONS

- A. Conduct demolition to minimize interference with adjacent structures and school activities.
- B. Provide, protect, and maintain temporary barriers and security devices.
- C. Arrange and pay for disconnecting, removing, and capping utility services within areas of demolition. Disconnect and stub off.
- D. Conduct operations with minimum interference to public or private thoroughfares. Maintain protected egress and access at all times.

- E. Do not close or obstruct roadways or sidewalks without permits.
- F. Maintain mechanical and electrical services to Owner occupied areas.
- G. Provide, erect and maintain protected pedestrian egress at all times.

1.6 **PRE-DEMOLITION MEETING**

- A. Contractor to schedule meeting minimum of seven (7) days prior to start of demolition.
- B. Attendance: Contractor, demolition superintendent, Architect and District representative.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 **PREPARATION**

- A. Prevent movement or settlement of adjacent structures. Provide appropriate bracing and shoring in order to adequately support structure while installing new supporting structural elements.
- B. Erect and maintain waterproof closures for exterior openings.
- C. Protect existing structures which are not to be demolished.
- D. Disconnect, remove, and cap designated utility lines within demolition areas.
- E. Mark location of disconnected utilities. Identify utilities and indicate capping locations on Project Record Documents.
- F. Collaborate with Owner and provide an inventory of items in the existing structure that are to be salvaged and retained by the Owner. Determine who is to salvage the items, the Owner or Contractor and a time table for when the salvaged items are to be removed.

3.2 **EXECUTION**

- A. Noise Control:
 - 1. Maintain a reasonable degree of quietness throughout progress of the Work so as to not disturb classes in session in adjoining rooms or buildings or annoy residents of the neighborhood. Rotary machines and tools must operate below OSHA noise and fume standards.
- B. Demolish indicated structures and appurtenances in an orderly and careful manner.
- C. Stage demolition as necessary to meet Owners access/egress and mechanical/electrical requirements.
- D. Cease operations and notify Architect immediately if adjacent structures appear to be endangered. Do not resume operations until corrective measures have been taken.

SELECT DEMOLITION - SECTION 02 60 00

- E. The Contractor shall employ a demolition foreman knowledgeable in identification of asbestos containing materials and shall instruct workmen at the Site to be on the look-out for materials that may contain asbestos fibers and to not disturb or attempt to remove such materials.
- F. The Contractor shall carefully demolish walls, etc., which contain concealed space to allow visual inspection for any material which may be suspect of containing asbestos fibers prior to scheduled demolition.
- G. Asbestos Containing Materials:
 - 1. The District, under separate contract, will remove all identified asbestos containing materials.
 - 2. Prior to beginning work the demolition foreman will be required to review the asbestos management plan with Doug Lemonds, District asbestos Specialist. Foreman will then be required to sign a statement that the review has taken place.
 - 3. If during the demolition the contractor locates materials that may be asbestos containing, stop all work that may impact the material. Contact Facilities. Doug Lemonds will test the material to determine if asbestos is present. If test results are positive for asbestos, the district will have the materials removed by an asbestos contractor.
- H. The Contractor shall take every precaution to prevent the spread of asbestos fibers throughout the Work under this Contract. The Contractor shall not break up and/or attempt to remove or actually remove from the Work area any material suspected of containing asbestos fibers (i.e., pipe insulation, sprayed on fireproofing).
- I. Asbestos fibers carried around the Work area or into the existing structure due to the Contractor's carelessness or failure to follow the procedures herein shall, at the Contractor's expense, be cleaned up in accordance with E.P.A. requirements.
- J. Except where noted otherwise, immediately remove demolished material from site.
- K. Remove materials to be re-installed or retained in a manner to prevent damage. Store and protect under provisions of Section 01500.
- L. Remove and promptly dispose of contaminated, vermin infested, or dangerous materials encountered.
- M. Do not burn or bury materials on site.
- N. Keep work sprinkled to minimize dust. Provide hoses and water main or hydrant connections for this purpose as approved by governing authority.
- O. Backfill areas excavated as a result of demolition as required to subgrade. Use backfill material specified in Section 02223.
- P. Rough grade and compact areas affected by demolition to subgrade maintain site grades and contours.
- Q. Remove demolished materials from site as work progresses. Leave site in clean condition.

END OF SECTION

CAST-IN-PLACE CONCRETE
SECTION 03 30 00

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete for composite floor construction.
- B. Elevated concrete slabs.
- C. Floors and slabs on grade.
- D. Concrete elevator shaft walls and foundation walls.
- E. Joint devices associated with concrete work.
- F. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, thrust blocks, and manholes.
- G. Concrete curing.
- H. Underslab vapor barrier.
- I. Protection of slabs to receive special finishes.

1.2 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Testing and Inspection Agency.
- B. Section 03 10 00 - Concrete Forming and Accessories: Forms and accessories for formwork.
- C. Section 03 20 00 - Concrete Reinforcing.
- D. Section 03 35 20 - Polished Concrete Finishing.
- E. Section 07 90 05 - Joint Sealers: Sealants for saw cut joints and isolation joints in slabs.
- F. Section 32 13 13 - Concrete Paving: Sidewalks, curbs and gutters.

1.3 REFERENCE STANDARDS

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- B. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010.
- C. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- E. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
- F. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.
- G. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- H. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2011.
- I. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- J. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2014.
- K. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2014.

- L. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.
- M. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2012.
- N. ASTM C150/C150M - Standard Specification for Portland cement; 2012.
- O. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- P. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.
- Q. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- R. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2012.
- S. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2013.
- T. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.
- U. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2012.
- V. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete; 2011.
- W. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non extruding and Resilient Bituminous Types); 2004 (Reapproved 2013).
- X. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 1996 (Reapproved 2008).
- Y. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
- C. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
 - 2. Include substantiating substantial test data to show compliance with ACI 318 Chapter 5.
 - 3. Include aggregate grading curve for concrete mixes at exposed floor finishing per Section 03 35 20 - Polished Concrete Finishing.
- D. Concrete Mix Design Data: For each strength with history.
- E. Floor Joint Layout Drawings: Submit layout drawings for all joints, coordinate with joints in finishes.
- F. Samples: Submit samples of underslab vapor retarder to be used.
- G. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.
- H. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.5 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
 - 1. Maintain one copy of each document on site.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.
- D. Independent Testing, performed by Contractor’s testing service to determine if field conditions meet or exceed all flooring manufacturer’s requirements for installation and warranty:
 - 1. MVER - ASTM F 1869-04, “Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride”
 - 2. RH - ASTM F-2170-09, “Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes”
 - 3. PH - ASTM F 710, “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring”
- E. Weather conditions - no pours when temperature is above 90 or below 40 degrees. Wind conditions not to exceed 10mph.

1.6 MOCK-UP (None Required.)

- A. Construct and erect mock-up panel for architectural concrete surfaces indicated to receive special treatment or finish as result of formwork.
 - 1. Panel Size: Sufficient to illustrate full range of treatment.
 - 2. Locate where directed.
- B. Accepted mock-up panel is considered basis of quality for the finished work. Keep mock-up exposed to view for duration of concrete work.
- C. Mock-up may remain as part of the Work.

PART 2 PRODUCTS

2.1 FORMWORK

- A. Comply with requirements of Section 03 10 00.

2.2 REINFORCEMENT

- A. Comply with requirements of Section 03 20 00.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C 150, Type I - Normal and Type II - Moderate Portland type.
 - 1. Acquire all cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C 33.
 - 1. Acquire all aggregates for entire project from same source.
 - 2. Maximum Coarse-Aggregate Size: 1 inch, 3/4” at topping on metal deck.
 - a. Aggregate at high tolerance concrete floors shall be well rounded, continuously graded aggregate.
- C. Fly Ash: ASTM C618, Class C or F.
- D. Silica Fume: ASTM C1240, proportioned in accordance with ACI211.1.
- E. Waterproofing Additive: Crystalline waterproofing intended for mixing into concrete to close concrete pores by growth of crystals, with no decrease in concrete strength or chemical resistance.
- F. Water: Clean and not detrimental to concrete.

2.4 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C260/C260M.
- C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
- F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
- G. Accelerating Admixture: ASTM C494/C494M Type C.
- H. Retarding Admixture: ASTM C494/C494M Type B.
- I. Water Reducing Admixture: ASTM C494/C494M Type A.
- J. Shrinkage Reducing Admixture:
 - 1. Acceptable Products:
 - 2. a. Eclipse Floor 200 by Grace Construction Products: www.na.graceconstruction.com.
 - 3. b. Substitutions: See Section 01 60 00 - Product Requirements.

2.5 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.
 - 1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.
 - 2. Permeance: 0.005 perms, maximum.
 - 3. Puncture Resistance: 7 pound-force, minimum, when tested in accordance with ASTM D1709/D1709M.
 - 4. Products:
 - a. Insulation Solutions, Inc.; Viper Vapor Check II 15-mil (Class A): www.insulationsolutions.com.
 - b. Stego Industries, LLC; Stego Wrap Vapor Barrier 15-mil (Class A): www.stegoindustries.com.
 - c. W.R. Meadows, Inc.; PERMINATOR Class A - 15 mils: www.wrmeadows.com.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Minimum Compressive Strength at 4 Hours: 2,400 psi.
 - 2. Minimum Compressive Strength at 28 Days: 7,000 psi.
- C. Snap Tie Plugs: Preformed, non-shrink grout plugs to fill holes left by form ties; size to flush with wall surface; compatible permanent adhesive.

2.6 BONDING AND JOINTING PRODUCTS

- A. Bonding Agent: Neat Portland cement paste, mixed to a thick, brushable consistency.
- B. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
- C. Epoxy Bonding System:
 - 1. Complying with ASTM C881/C881M and of Type required for specific application.

- D. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.
 - 1. Material: ASTM D1751, cellulose fiber.
- E. Slab Construction Joint Devices: Steel plate dowels, 1/4 inch x 4-1/2 inch, with plastic inserts.
 - 1. Plate Dowel by PNA Construction Technologies.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.7 CURING MATERIALS

- A. Liquid Curing Compound: ASTM C1315 Type 1, Class A, ASTM C 309, Type 1 Class A penetration product with minimum 34% solids content.
 - 1. Products:
 - a. Creteseal CS2000
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Polished Concrete Finishing: Curing Agent.
 - 1. Penetrating product. No product that would produce a bond breaking surface shall be applied.
 - 2. Protect slabs from soil contamination.
 - 3. Protect slabs from indentation and footprints during pour and curing.
- C. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
- D. Curing and Sealing Compound, Moisture Emission Reducing: Liquid, membrane-forming, clear sealer, for application to newly placed concrete; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission.
 - 1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
 - 2. Comply with ASTM C309 and ASTM C1315 Type I Class A.
 - 3. VOC Content: Less than 100 g/L.
 - 4. Solids Content: 25 percent, minimum.
- E. Moisture-Retaining Sheet: ASTM C171.
 - 1. Curing paper, regular.
 - 2. Polyethylene film, white opaque, minimum nominal thickness of 0.0040 in..
 - 3. White-burlap-polyethylene sheet, weighing not less than 10 oz./per linear yd., 40 inches wide.
- F. Water: Potable, not detrimental to concrete.

2.8 DENSIFIERS AND HARDENERS

- A. Liquid Densifier/Hardener: Penetrating chemical compound that reacts with concrete, filling the pores and dustproofing; for application to concrete after set.
 - 1. Composition: Sodium silicate.
 - 2. Products:
 - a. Dayton Superior Corporation; Densifier J13: www.daytonsuperior.com.
 - b. L&M Construction Chemicals, Inc., a subsidiary of Laticrete International, Inc.; SEAL HARD: www.lmcc.com.
 - c. Nox-Crete Products Group; Duro-Nox: www.nox-crete.com.
 - d. SpecChem, LLC; SpecHard: www.specchemllc.com.
 - e. Substitutions: See Section 01 60 00 - Product Requirements.

2.9 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
 - 1. Concrete mix at Section 03 35 20 Polished Concrete Finishing to have Eclipse shrinkage reducing admixture at 1.0 gal/cubic yard.
- D. Use set retarding admixtures during hot weather only when approved by Architect.
- E. Use accelerating admixtures in cold weather only when approved by Architect. Use of admixtures will not relax cold weather placement requirements.
- F. Reference General Structural Notes on Drawings for additional requirements.

2.10 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.

2.11 POLISHED CONCRETE

- A. Refer to Section 03 35 20 - Polished Concrete Finishing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

- A. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 - 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 - 2. Use latex bonding agent only for non-load-bearing applications.
- B. Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches and seal watertight by taping edges and ends. Coordinate vapor retarder installation with installation of reinforcing specified in Section 03 2000. Repair damaged vapor retarder before concrete placement.

3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.4 SLAB JOINTING

- A. Locate joints as indicated on the drawings and approved joint layout submittals.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
- D. Place floor slabs in checkerboard or saw cut pattern on approved Floor Joint layout Plan.

3.5 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
 - 1. Exposed to View and Foot Traffic: F(F) of 40; F(L) of 15.
 - 2. Under Thick-Bed Tile: F(F) of 20; F(L) of 15.
 - 3. Under Carpeting: F(F) of 25; F(L) of 20.
 - 4. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25.

- B. Measure F(F) and F(L) in accordance with ASTM E1155, within 48 hours after slab installation; report both composite overall values and local values for each measured section.
- C. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
- D. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.6 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
 - 2. SCONC-2/Chemical Hardener: Apply hardener per manufacturer's instructions.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI 302.1R; thick floor coverings include quarry tile, ceramic tile, and terrazzo with full bed setting system.
 - 2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, thin set quarry tile, thin set ceramic tile, and wood flooring system.
 - 3. Other Surfaces to Be Left Exposed: "Steel trowel" as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
 - a. SCONC-1/Chemical Hardener: After slab has cured, apply hardener per manufacturer's instructions.
- E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.7 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 - 2. Final Curing: Begin after initial curing but before surface is dry.
- D. Surfaces to Receive Polished Concrete Finish.
 - 1. Refer to Section 03 35 00 - Polished Concrete Finishing.
 - 2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than seven days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
- E. Moisture Retaining Cover: Seal in place with waterproof tape or adhesive.

3.8 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.

CAST IN PLACE CONCRETE – SECTION 03 30 00

- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- E. Compressive Strength Tests: ASTM C39/C39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.
- F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.9 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.10 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.
- B. Concrete to Receive Special Finishes: Protect concrete area where special finishes are specified at all times during construction to prevent oils, dirt, metal, excessive water and other potentially damaging materials from affecting the finished concrete surface. Protection measures listed below shall begin immediately after the concrete slab is poured.
 - 1. All hydraulic powered equipment shall be diapered to avoid staining of the concrete.
 - 2. All vehicle parking shall be prohibited on the finish slab area. If necessary to complete their scope of work, drop cloths shall be placed under vehicles at all times.
 - 3. No pipe cutting machine shall be used on the finish floor slab.
 - 4. Steel shall not be placed on finish slab to avoid rust staining.
 - 5. All equipment used on the finish slab shall be equipped with non-marking tires.

END OF SECTION

ROUGH CARPENTRY
SECTION 06 10 00

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Floor sheathing / underlayment.
- B. Wall sheathing.
- C. Roof sheathing.
- D. Roof-mounted curbs.
- E. Roofing nailers.
- F. Preservative treated wood materials.
- G. Fire retardant treated wood materials.
- H. Miscellaneous framing and sheathing.
- I. Wood nailers associated with roofing and flashing.
- J. Miscellaneous wood nailers, furring, and grounds.

1.2 RELATED REQUIREMENTS

- A. Section 07 21 00 - Thermal Insulation: Composite polyisocyanurate board insulation faced with plywood.
- B. Section 07 54 00 - Thermoplastic Membrane Roofing.

1.3 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2014.
- D. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.
- E. PS 1 - Structural Plywood; 2009.
- F. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; National Institute of Standards and Technology, U.S. Department of Commerce; 2010.
- G. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.

1.4 QUALITY ASSURANCE

- A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.
 - 1. Acceptable Lumber Inspection Agencies: Any agency with rules approved by American Lumber Standards Committee.
- B. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.

2.2 DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.
- D. Lumber to Receive Preservative Pressure Treatment:
 1. Species: Hem-fir.
 2. Grade: No. 2.

2.3 CONSTRUCTION PANELS

- A. Subfloor/Underlayment Combination: PS 1 or PS 2, rated Single Floor.
 1. Bond Classification: Exterior.
 2. Span Rating: As indicated on Drawings.
 3. Performance Category: As indicated on Drawings.
 4. Edges: Tongue and groove.
- B. Subflooring: APA Floor Sheathing; plywood.
 1. Bond Classification: Exterior.
 2. Span Rating: As indicated on Drawings.
 3. Thickness: As indicated on Drawings.
- C. Underlayment: APA Underlayment; plywood, Exposure 2, 1/2 inch thick; fully sanded face; fire-retardant treated.
- D. Roof Sheathing: PS1 or PS 2.
 1. Grade: Structural I Sheathing.
 2. Bond Classification: Exposure 1.
 3. Performance Category: As indicated on Drawings.
 4. Span Rating: As indicated on Drawings.
 5. Edges: Tongue and groove.
- E. Wall Sheathing: PS 1 or PS 2 type.
 1. Bond Classification: Exterior.
 2. Grade: Structural I Sheathing.
 3. Span Rating: As indicated on Drawings.
 4. Performance Category: As indicated on Drawings.
 5. Edge Profile: Square edge.

2.4 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
 3. Powder Actuated Anchors: At structural core brick masonry as indicated on Drawings.
- B. Prefabricated Connectors and Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 1. Specific Products: As indicated on Drawings.
 2. Manufacturers:
 - a. Basis of Design: Simpson Strong-Tie: www.strongtie.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Glue/Adhesive: Waterproof, water base, air cure type, cartridge dispensed.

2.5 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.
- B. Fire Retardant Treatment at Exterior Wall Assemblies and as indicated on Drawings:
 1. Exterior Type: AWWA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat all exterior rough carpentry items.
- C. Preservative Pressure Treatment of Lumber above Grade: AWWA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb. /cu ft. retention.
 1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 2. Treat lumber in contact with roofing, flashing, or waterproofing.
 3. Treat lumber in contact with masonry or concrete.

PART 3 EXECUTION**3.1 INSTALLATION - GENERAL**

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.2 FRAMING INSTALLATION

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.3 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

3.4 ROOF EDGE AND WALL COPING NAILERS

- A. Roof Edge: Install treated wood nailers at perimeter of roof areas and perimeter of penetrations:
 - 1. Use multiple layers to achieve height to match thickness of rigid insulation.
 - 2. Secure to metal decking with screws spaced 12 inches on center, staggered 1/3 of nailer width, and installed within 6 inches of each nailer end. Install two screws at each nailer end; install in accordance with Factory Mutual Prevention Data Sheet 1-49.

3.5 INSTALLATION OF CONSTRUCTION PANELS

- A. Subflooring/Underlayment Combination: Glue and nail to framing; staples are not permitted.
- B. Subflooring: Nail to framing; staples are not permitted.
- C. Underlayment: Secure to subflooring with nails.
- D. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. At long edges use sheathing clips where joints occur between roof framing members.
 - 2. Nail panels to framing; staples are not permitted.
- E. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

3.6 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

END OF SECTION

FINISH CARPENTRY
SECTION 06 20 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1-General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Hardware and attachment accessories.

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A. Section 08700 - Door Hardware: Supply of hardware and attachment accessories to this Section.

1.4 RELATED SECTIONS

- A. Section 03600 – Grout: Grout for under door thresholds.
- B. Section 06112 - Framing and Sheathing: Installation of blocking for finish carpentry items.
- C. Section 07900 - Joint Sealers: Sealant used at the junction of different materials and joints between exterior soffit boards.
- D. Section 09900 - Painting: Painting and finishing of finish carpentry items.

1.5 REFERENCES

- A. AWI - Quality Standards.
- B. FS MMM-A-130 - Adhesive, Contact.
- C. NEMA LD-3 - High Pressure Decorative Laminates.
- D. PS 20 - American Softwood Lumber Standard.
- E. UL - Underwriters Laboratories.
- F. Painting and Decorating Contractors of America (PDCA) Manual.

1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame/fuel/smoke requirements.
- B. Conform to UL requirements to achieve fire resistance assembly rating indicated.

1.7 SUBMITTALS

- A. Submit samples under provisions of Section 01300.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Section 01600.

- B. Store and protect products under provisions of Section 01600.
- C. Store materials in ventilated, interior locations under constant minimum temperatures of 60 degrees F and maximum relative humidity of 55 percent.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

- A. Match existing plywood wall sheathing.

2.2 ACCESSORIES

- A. Nails: Size and type to suit application, galvanized finish.
- B. Grout: Non-shrink as specified under Section 03600 – Grout.
- C. Joint Sealants: As specified under Section 07900 – Joint Sealants.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Insure proper backing is in place to accept the work.
- B. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

- A. Before installation, prime paint surfaces with paint on items or assemblies to be in contact with cementitious materials.

3.3 INSTALLATION

- A. Install work in accordance with AWI Custom quality standard.
- B. Set and secure materials and components in place, plumb and level.
- C. Place sealant at the intersection of dissimilar materials.
- D. Installation of thresholds supplied under Section 08700 – Door Hardware: All door thresholds shall be grouted solid with non-shrink grout.

3.4 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

**SECTION 07 21 00
BATT AND BLANKET INSULATION**

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1-General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Provide Sound batt insulation for all new interior walls & ceiling.

1.3 REFERENCES

- A. FS HH-I-521 - Insulation Blankets, Thermal (Mineral Fiber, for Ambient Temperatures).
- B. FS HH-I-1252 - Insulation Thermal, Reflective (Aluminum Foil).
- C. FS HH-I-1030A - Insulation Loose (glass or mineral).
- D. ASTM C553 – Mineral Fiber Blanket and Felt Insulation (Industrial Type).
- E. ASTM C612 – Mineral Fiber Block and Board Insulation.

1.4 SYSTEM DESCRIPTION

- A. Materials of this Section shall provide sound attenuation at interior elements.

1.5 SUBMITTALS

- A. Submit manufacturer's installation instructions under provisions of Section 01300.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Owens-Corning Fiberglass.
- B. Manville.
- C. Schuller
- D. Substitutions: Under provisions of Section 01600.

2.2 MATERIALS

- A. Glass or Mineral Fiber Thermal Insulation:
 - 1. Concealed Applications:
 - a. Preformed faced glass or mineral fiber batt, with vapor membrane.
 - 2. Thickness required for resistance (R) values per code.

2.3 INSULATION VALUES

- A. Batts: 3 ½ thick batts to fill wall cavity, and as required by code for ceiling cavity. (R-30 or greater.)

2.4 ACCESSORIES

- A. Tape: Bright aluminum, self-adhering type mesh reinforced 2 inches wide.
- B. Screws, Washers, Nails, Staples and Steel Wire: Electroplated; type and size to suit application.

PART 3 EXECUTION

3.1 PREPARATION

- A. Verify adjacent materials are dry and ready to receive installation.
- B. Verify mechanical and electrical services within walls and ceilings have been installed and tested.

3.2 INSTALLATION

- A. Trim insulation neatly to fit spaces. Use batts free of damage.
- B. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation. Leave no gaps or voids.
- C. Install sound batt insulation with tight fit between studs in all new interior walls as noted on Drawings. Sound batts must fill wall cavity.

END OF SECTION

**JOINT SEALANTS
SECTION 07 90 00**

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and other Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Preparing sealant substrate surfaces.
- B. Sealant and backing.

1.3 RELATED SECTIONS

- A. Section 06200 - Finish Carpentry: Sealant used at junction of different materials.
- B. Section 08110 – Metal Doors and Frames: Sealants used in conjunction with door frames

1.4 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades;
 - 4. Manufacturer's current recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
 - 5. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.
 - 6. Certification from sealant manufacturers that their products are suitable for the use indicated and comply with specification requirements.
 - 7. Report from sealant applicator summarizing results of preconstruction field adhesion testing.

1.5 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

- B. Applicator qualifications:
 - 1. Applicator shall have at least three years' experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
 - 2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.
- C. Perform work in accord with ASTM C-1193 guidelines except where more stringent requirements are indicated or specified.
- D. Preconstruction compatibility and adhesion testing:
 - 1. Submit to joint sealant manufacturer samples of actual materials that will contact or affect their joint sealants in the Work for compatibility and adhesion testing.
 - 2. This testing will not be required where sealant manufacturer is able to furnish data acceptable to Architect based on previous testing for adhesion and compatibility to materials matching those of the Work.
- E. Preconstruction field adhesion testing:
 - 1. In jobsite field samples prior to general installation, conduct field-tests for adhesion of joint sealants to actual joint substrates using proposed joint preparation methods recommended by manufacturer.
 - 2. Conduct tests for each type of sealant and substrate.
 - 3. Locate field-test joints where inconspicuous or as approved by Architect.
 - 4. Include areas typical of those requiring removal of existing sealants and utilize methods proposed for sealant removal that have been pre-approved by Architect.
 - 5. Test method: Use manufacturer's standard field adhesion test methods and methods proposed for joint preparation to verify proper priming and joint preparation techniques required to obtain optimum adhesion of joint sealants to joint substrate.
 - 6. Evaluate and report results of field adhesion testing.
 - 7. Do not use joint preparation methods or sealants that produce less than satisfactory adhesion to joint substrates during testing.
 - 8. Standard of acceptance: Joints installed during preconstruction field adhesion testing that are accepted by Architect shall be retained as standard of acceptability and incorporated into Work of that area during general installation.
 - 9. At least one such standard of minimum 5 feet in length shall be established for each type of sealant and substrate.
- F. Schedule applications of waterproofing, water repellents and preservative finishes after sealant installation unless sealant manufacturer approves otherwise in writing. Ensure that installed sealant is allowed to cure sufficiently prior to subsequent applications.

1.6 **DELIVERY, STORAGE AND HANDLING**

- A. Deliver the materials to the job site in the manufacturer's unopened containers with all labels intact and legible at time of use.
- B. Store materials in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.
- C. Comply with pertinent provisions of Section 01600.

1.7 SUBSTRATE CONDITIONS

- A. General:
1. Provide joints properly dimensioned to receive the approved sealant system.
 2. Provide joint surfaces that are clean, dry, sound and free of voids, deformations, protrusions and contaminants which may inhibit application or performance of the joint sealant.
 3. Where expansion joints having preformed joint fillers are scheduled to be sealed, provide a reservoir to accept the sealant such as by a molded breakaway joint cap or a removable block out.

1.8 WARRANTY

- A. Deliver to the Architect signed copies of the following written warranties against adhesive and cohesive failure of the sealant and against infiltration of water and air through the sealed joint for a period of 3 years from date of completion.
1. Manufacturer's standard warranty covering sealant materials;
 2. Applicator's standard warranty covering workmanship.

PART 2 PRODUCTS

2.1 GENERAL

- A. Acceptable manufacturer:
1. Tremco/Vulkem by Mameco International, Inc., Cleveland, OH 1-800-321-6412.
 2. Sika
 3. Precora
- B. Provide all sealants from one manufacturer to insure compatibility.
- C. Compatibility:
1. Provide joint sealants, joint fillers and accessory joint materials that are compatible with one another and with joint substrates under project conditions.
 2. Install joint sealants, joint fillers and related joint materials that are non-staining to visible joint surfaces and surrounding substrate surfaces.
- D. Provide colors selected by Architect from manufacturer's standard color range.

2.2 ELASTOMERIC SEALANTS

- A. Sealant Type A:
1. For exterior joints in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
 - a. Control and expansion joints in cast-in-place concrete.
 - b. Joints between architectural precast concrete units.
 - c. Control and expansion joints in unit masonry.
 - d. Metal panel joints.
 - e. Joints between marble or granite.
 - f. Cross joints in all copings and cross joints in all projecting stone work.
 - g. Joints in exterior insulation and finish system.
 - h. Joints between different materials listed above.
 - i. Perimeter joints between materials listed above and frames of doors, windows, storefronts, louvers and similar openings.
 - j. Control and expansion joints in ceiling and overhead surfaces.
 - k. Under metal thresholds and saddles.

- l. Bedding bead for sheet metal flashings and frames of metal or wood.
 - m. Between laps in fabrications of sheet metal.
 - n. Other joints as indicated.
 - 2. Provide single-component or multi-component, low-modulus, non-sag polyurethane sealant that is suitable for continuous immersion in water; comply with ASTM C920, Type S or M, Grade NS, Class 25.
- B. Sealant Type B:
 - 1. For interior joints in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints on exposed interior surfaces of exterior openings.
 - c. Joints on underside of precast beams and planks.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors, windows, storefronts, louvers, elevator entrances and similar openings.
 - e. Trim or finish joints subject to movement.
 - f. Between laps in fabrications of sheet metal.
 - g. Other joints as indicated.
 - 2. Provide single-component or multi-component, non-sag polyurethane sealant having plus- or-minus 25 percent joint movement capability that is suitable for continuous immersion in water; comply with ASTM C920, Type S or M, Grade NS, Class 25.
- C. Sealant Type C:
 - 1. For exterior and interior joints in horizontal and sloped traffic surfaces such as, but not limited to:
 - a. Control, expansion and isolation joints in cast-in-place concrete.
 - b. Control, expansion and isolation joints in structural precast concrete units.
 - c. Joints between architectural precast concrete paving units.
 - d. Tile control and expansion joints.
 - e. Joints between different materials listed above.
 - f. Other joints as indicated.
 - 2. Provide single-component or multi-component polyurethane sealant having a Shore A hardness of not less than 25 or more than 50 and plus-or-minus 25 percent joint movement capability that is suitable for continuous immersion in water; comply with ASTM C920, Type S or M, Grade P or NS, Class 25.
- D. Sealant Type D:
 - 1. For exterior and interior joints in vertical surfaces and non-traffic horizontal surfaces requiring a virtually odor free sealant.
 - 2. Provide single-component, no vapor, low-modulus, 100 percent solids polyurethane sealant that is suitable for continuous immersion in water; comply with ASTM C920, Type S, Grade NS, and Class 25.
 - 3. Provide sealant comparable to Vulkem 921; Mameco International, Inc.
- E. Sealant Type E:
 - 1. For exterior and interior joints in horizontal and sloped surfaces up to 6 percent requiring a virtually odor free sealant.
 - 2. Provide single-component, no vapor, low-modulus, 100 percent solids polyurethane sealant that is suitable for continuous immersion in water. ASTM C920, Type S, Grade P, Class 25.
 - 3. Provide sealant comparable Vulkem 300SSL; Mameco International, Inc.

- F. Sealant Type F:
 - 1. For interior joints in vertical and horizontal surfaces requiring pick-resistant security sealant such as, but not limited to:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints on exposed interior surfaces of exterior openings.
 - c. Perimeter joints between concrete surfaces and frames of interior doors, windows and elevator entrances.
 - d. Trim or finish joints subject to minimal movement.
 - e. Other joints as indicated.
 - 2. Provide single-component or multi-component, non-sag polyurethane sealant having a Shore A hardness of 55 minimum.
 - 3. Provide sealant comparable to Vulkem 617; Mameco International, Inc.

- G. Sealant Type G:
 - 1. For applications at acoustical walls in exposed locations around doors, windows and concealed spaces at the intersection of a continuous metal track and concrete floor
 - 2. Acoustical Butyl Rubber Calking, ASTM C919, Non-sag, one component
 - 3. Provide sealant comparable to USG Acoustical Sealant as manufactured by U.S. Gypsum.

- H. Sealant Type H:
 - 1. For applications in concealed spaces, such as under continuous metal track and concrete floor.
 - 2. Acoustical Tape Sealant: Medium density Polyvinyl chloride Foam Tape Sealants: SST 15, Sealant Specialist Tape by Tremco.

- I. Sealant Type I:
 - 1. For applications such as under thresholds.
 - 2. Calking: US. TT-S-001657, Type I, with +/- 5 percent joint movement range, single component.

2.3 ACCESSORIES

- A. Joint cleaner: Cleaner as recommended by sealant manufacturer for substrates indicated.
- B. Joint primer: As recommended by sealant manufacturer for substrates, conditions and exposures indicated.
- C. Bond breaker: Polyethylene tape or other adhesive faced tape as recommended by sealant manufacturer to prevent sealant contact where it would be detrimental to sealant performance.
- D. Joint backer: Polyethylene foam rod or other compatible non-waxing, non-extruding, non-staining resilient material in dimension 25 percent to 50 percent wider than joint width as recommended by sealant manufacturer for conditions and exposures indicated.
- E. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces that is suitable for masking.
- F. Sand: Mason's sand matching that used in Section 04320.

2.4 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the sealant manufacturer as compatible, subject to the approval of the Architect.

PART 3 EXECUTION**3.1 SURFACE CONDITIONS**

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Applicator shall examine the areas and conditions under which work of this Section will be performed.
 - 1. Verify conformance with manufacturer's requirements;
 - 2. Report unsatisfactory conditions in writing to the Architect;
 - 3. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Prepare surfaces to receive sealants in accord with sealant manufacturer's instructions and recommendations except where more stringent requirements are indicated.
- B. Thoroughly clean joint surfaces using cleaners approved by sealant manufacturer whether primers are required or not.
 - 1. Remove all traces of previous sealant and joint backer by mechanical methods, such as by cutting, grinding and wire brushing, in manner not damaging to surrounding surfaces.
 - 2. Remove paints from joint surfaces except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
 - 3. Remove wax, oil, grease, dirt film residues, temporary protective coatings and other residues by wiping with cleaner recommended for that purpose. Use clean, white, lint-free cloths and change cloths frequently.
 - 4. Remove dust by blowing clean with oil-free, compressed air.
- C. Provide joint backer material uniformly to depth required by sealant manufacturer for proper joint design using a blunt instrument.
 - 1. Fit securely by compressing backer material 25 percent to 50 percent so no displacement occurs during tooling.
 - 2. Avoid stretching or twisting joint backer.
- D. Provide bond-breaker where indicated or recommended by sealant manufacturer, adhering strictly to the manufacturers installation requirements.
- E. Prime joint substrates where required.
 - 1. Use and apply primer according to sealant manufacturers recommendations.
 - 2. Confine primers to sealant bond surfaces; do not allow spillage or migration onto adjoining surfaces.
- F. Taping:
 - 1. Use masking tape where required to prevent sealant or primer contact with adjoining surfaces that would be permanently stained or otherwise damaged by such contact or the cleaning methods required for removal.
 - 2. Apply tape so as not to shift readily and remove tape immediately after tooling without disturbing joint seal.

3.3 **INSTALLATION**

- A. Provide the approved sealant system where shown on the Drawings, and in strict accord with the manufacturer's recommendations as approved by the Architect.
- B. Install sealants immediately after joint preparation.
- C. Mix and apply multi-component sealants in accord with manufacturer's printed instructions.
- D. Install sealants to fill joints completely from the back, without voids or entrapped air, using proven techniques, proper nozzles and sufficient force that result in sealants directly contacting and fully wetting joint surfaces.
- E. Install sealants to uniform cross-sectional shapes with depths relative to joint widths that allow optimum sealant movement capability as recommended by sealant manufacturer.
- F. Tool sealants in manner that forces sealant against back of joint, ensures firm, full contact at joint interfaces and leaves a finish that is smooth, uniform and free of ridges, wrinkles, sags, air pockets and embedded impurities.
 - 1. Dry tooling is preferred; tooling liquids that are non-staining, non-damaging to adjacent surfaces and approved by sealant manufacturer may be used if necessary when care is taken to ensure that the liquid does not contact joint surfaces before the sealant.
 - 2. Provide concave tooled joints unless otherwise indicated to provide flush tooling or recessed tooling.
 - 3. Provide recessed tooled joints where the outer face of substrate is irregular.
- G. Remove sealant from adjacent surfaces in accord with sealant and substrate manufacturer recommendations as work progresses.
- H. "Sand" joints in masonry to match appearance of mortar joints.
- I. Protect joint sealants from contact with contaminating substances and from damages. Cut out, remove and replace contaminated or damaged sealants, immediately, so that they are without contamination or damage at time of substantial completion.

END OF SECTION

HOLLOW METAL DOORS AND FRAMES
SECTION 08 11 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and other Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Non-rated rolled steel doors, frames and relites.

1.3 RELATED SECTIONS

- A. Section 03600 - Grout: Grout for frames.
- B. Section 04300 - Unit Masonry: Installation of frame anchors.
- C. Section 07900 - Joint Sealers: Sealant materials and methods of installation.
- D. Section 08000 - Door Schedule.
- E. Section 08700 - Door Hardware: Door hardware for swinging doors and manufacturer's template's for door fabrication.
- F. Section 09900 - Painting: Field painting of doors, frames and vision panels.

1.4 SUBMITTALS

- A. Product Data:
 - 1. Submit product information on doors and frames under provisions of Section 01300.
 - 2. Indicate door core, frame profile, frame corner detail, hardware preparations, and details of glazing, and door edges.
 - 3. Indicate factory prime finish.
- B. Shop Drawings:
 - 1. Submit shop drawings of door and frame work under provisions of Section 01300.
 - 2. Include door schedule which indicates door, frame, and glazed opening size, and door core materials.
 - 3. Indicate profile and anchorage of glazing stops.
 - 4. Indicate door and frame assembly fire rating and sound rating.
 - 5. Indicate any conflicts between specifications, templates, door and frame fabrication.
- C. Templates: Submit letter to Architect certifying that Hardware Templates, from supplier of Door Hardware – Section 08700, have been received and reviewed prior to fabrication of doors and frames.

1.5 **REFERENCES**

- A. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
- B. ADAAG - Americans with Disabilities Act Accessibility Guidelines.
- C. NFPA 80 - Fire Doors and Windows.
- D. SDI-100 - Standard Steel Doors and Frames.
- E. SDI-105 - Recommended Erection Instructions for Steel Frames.
- F. ASTM A525 – General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process.
- G. ASTM A526 - General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Commercial Quality.
- H. ASTM A642 – Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Drawing Quality, and Special Killed.
- I. ASTM E283 Air Infiltration.
- J. ANSI 224.1 - Modified Epoxy

1.6 **QUALITY ASSURANCE**

- A. Conform to requirements of SDI-100.

1.7 **REGULATORY REQUIREMENTS**

- A. Conform to applicable code for fire rated frames.

PART 2 PRODUCTS

2.1 **MANUFACTURERS**

- A. Acceptable Manufacturers:
 - 1. Amweld
 - 2. Ceko
 - 3. Curries
 - 4. Deansteel
 - 5. Flemming
 - 6. Republic
 - 7. Steelcraft
 - 8. Stiles Hollow Metal
- B. Substitute Manufacturers:
 - 1. Comply with requirements in Section 01600, Material and Equipment.

2.2 HOLLOW METAL DOOR FABRICATION

- A. Fabrication of Standard HM Doors:
1. Industry Standard: ANSI/SDI 100, Grade II, Model 2, seamless.
 2. Door Face Sheets: Minimum 16 gage galvanized steel.
 3. Door Edges: Seamless, continuous welded and ground smooth seam.
 4. Door Top End Closure: Flush with steel channel, Tack weld in place, seams filled flush to prevent water penetration..
 5. Core: Steel stiffeners at 6 inches on center with fiberglass⁷ insulation.
 6. Door Thickness: 1-3/4 inches.
 7. Finish:
 - a. Base metal: A60 galvanized finish
 - b. Primer: Manufacturer's standard polyamide epoxy primer, containing minimum 57 percent solids by volume. Comparable to Tnemec's N27 Typoxy.
 - c. Application Rate: 3 to 4 mils, dry film thickness.
 - d. Primer must be compatible with Industrial coating as specified in Section 09900.

2.3 FRAME FABRICATION

- A. Fabrication of HM Door Frames:
1. Industry Standard: ANSI/SDI 100.
 2. Frame Metal: 14 gage galvanized steel.
 3. Frame Corners: Fully welded, all joints and corners shall have contact edges closed tight and mitered. Provide watertight unit.
 4. Frame Dimensions: 2 inch face or 4 inch face at masonry openings, 5/8 inch integral stop, double rabbet with frame depth as shown on drawings.
 5. Finish:
 - a. Base metal: A60 galvanized finish
 - b. Primer: Manufacturer's standard polyamide epoxy primer, containing minimum 57 percent solids by volume. Comparable to Tnemec's N27 Typoxy.
 - c. Application Rate: 3 to 4 mils, dry film thickness.
 - d. Primer must be compatible with Industrial coating as specified in Section 09900.
 6. Fire Label: Furnish frames with fire label as indicated in door schedule and on Drawings.
 7. Glass stops: Prepare window frame to receive glass stops on interior side of frame at exterior window.

2.4 HARDWARE PREPARATION

- A. Hardware Preparation:
1. Prepare doors and frames to receive door hardware, including cutouts, reinforcing, drilling, and tapping.
 2. Reinforce door frames with 3/16 inch by full width by 11 inch long steel plate reinforcing welded to frame at hinge pockets, removable mullion heads, and closers.
 3. Reinforce doors with 3/16 inch solid stock steel plate reinforcing welded to door at closer, lock, exit device, pull handle, holder, and stop mounting locations, extending 2 inches beyond hardware in each direction. Refer to manufacturer's template for recommended reinforcing locations.
 4. Prepare non-sound rated single interior door frames to receive three silencers on strike jambs. Silencers provided by hardware supplier under Section 08700.
 5. Prepare non-sound rated interior door frames for pairs of doors to receive four equally spaced silencers on head. Silencers provided by hardware supplier under Section 08700.
 6. Furnish frames with 8 jamb anchors and 2 floor anchors, weld floor anchors to frame.

7. Prepare doors to receive hardware in compliance with ANSI A 115 and ADAAG guidelines.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Installation of Door Frames:
 1. Install steel frames and anchor frames to wall and floor in accordance with manufacturer's instructions.
 2. Apply 1/16 inch thick bituminous coating on inside of frame at all exterior door and window frames.
 3. Attach jamb anchors to adjacent walls as indicated in manufacturer's standard details.
 4. Fill all exterior frames and selected interior frames with cement grout as indicated on drawings.
 5. Cover hardware openings in frames to prevent cement grout from entering the hardware recess.
 6. Install frames to plus or minus 1/16 inch for squareness, alignment, twist, and plumbness.
 7. Install glazing as scheduled.
 8. Seal joints of dissimilar materials with sealant as specified under Section 07900.
- B. Installation of Doors:
 1. Fit doors to frame providing clearances required by SDI 100.
 2. Install door and frame hardware after site finishing doors and frames.
 3. Install glazing as scheduled.

3.2 COMPLETION

- A. Adjusting Defective Work:
 1. Adjust clearances and hardware placement for smooth door operation.
 2. Touch up scratched exterior doors and frames with Tnemec-Zinc at 2.5 to 3.0 mils dry film thickness.
- B. Final Cleaning:
 1. Clean door, hardware, and frame surfaces prior to Substantial Completion.

END OF SECTION

DOOR HARDWARE
SECTION 08 70 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Hardware for wood doors.
- B. Thresholds.
- C. Gasketing.
- D. Hardware as scheduled on Drawings and end of this Section.
- E. Furnish templates to Section 08110, 08210, 08380 and 08410 for door and frame preparation.

1.3 RELATED SECTIONS

- A. Section 06200 - Finish Carpentry: Installation of hardware.
- B. Section 08110 - Steel Doors and Frames: Hardware for doors.
- C. Section 08210 - Wood Doors: Hardware for doors.

1.4 REFERENCES

- A. Americans with Disability Act Accessibility Guidelines (ADAAG) Federal Register - Rules and Regulations.
- B. ANSI/NFPA 80 - Fire Doors and Windows.
- C. DHI - Door and Hardware Institute.

1.5 **COORDINATION**

- A. Coordinate work of this Section with other directly affected Sections involving manufacturer of any internal reinforcement for door hardware.
- B. Wiring, junction boxes, conduit, etc., for electrically controlled and/or monitored hardware are to be provided by other sections of this specification. Coordinate voltages, conductor requirements, etc. with the affected sections.

1.6 **QUALITY ASSURANCE**

- A. Manufacturer Qualifications:
 - 1. Obtain each type of hardware from only one manufacturer, except where indicated otherwise in hardware schedule.
- B. Supplier Qualifications:
 - 1. Hardware supplier shall have furnished hardware in the same market area as the project for a period of not less than 2 years.
 - 2. Hardware supplier shall have in his employment an experienced Architectural Hardware Consultant (AHC) who is available for project hardware consultation to the Owner, Architect, and Contractor.
 - 3. Hardware supplier shall review and approve Hardware Installer qualifications.
- C. Installer Qualifications: Company shall have a minimum of 2 years' experience in the installation of commercial grade hardware.
- D. Fire Door Labels:
 - 1. Provide hardware for fire-rated openings in compliance with American Insurance Association, NBFU Pamphlet No. 80 and NFPA Standard No. 80.
 - 2. Provide hardware which has been tested and listed by an independent testing laboratory for the types and sizes of doors required, and complies with requirements for door assembly labels.
 - 3. Where panic exit devices are required for fire-rated doors, provide fire label on exit device indicating "Fire Exit Hardware."
- E. Keying Meeting:
 - 1. Upon receipt of final hardware schedules, hardware supplier shall request Contractor to arrange a keying meeting between hardware supplier and Owner's Representative.
 - 2. From information obtained at this keying meeting, submit 3 copies of detailed keying schedule.

1.7 **REGULATORY REQUIREMENTS**

- A. Conform to NFPA Standard No. 80 and applicable codes for requirements applicable to fire rated doors and frames. Hardware applied to doors with U.L. labels shall comply with requirements of that label.
- B. Conform to the requirements of ADAAG for making buildings accessible to and usable by physically handicapped occupants.

1.8 **RESPONSIBILITY**

- A. The types listed are to be used as a guide for quality and operation and are not to be construed as a complete list. The detailing of the hardware requirements shall be the responsibility of this Contractor.

1.9 **SUBMITTALS**

- A. Submit schedule, shop drawings, and product data under provisions of Section 01300.
- B. Indicate locations and mounting heights of each type of hardware.
- C. List each opening, door size, door hand, door and frame material, door label, manufacturer's number and finish.
- D. Provide edited product data cut sheets on specified hardware. Clearly identify hardware items represented within submittal. Submittals containing complete product line catalogues will be rejected.

1.10 **OPERATION AND MAINTENANCE DATA**

- A. Submit operation and maintenance data under provisions of Section 01700.
- B. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

1.11 **DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site under provisions of Section 01600.
- B. Store and protect products under provisions of Section 01600.
- C. Package hardware items individually; label and identify package with door opening code to match hardware schedule.
- D. Protect hardware by storing in secure area.

1.12 **WARRANTY**

- A. Provide one year warranty under provisions of Section 01700.

1.13 **MAINTENANCE MATERIALS**

- A. Provide special wrenches and tools applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Butts:
 - 1. Ives.
 - 2. McKinney. *(MCK)
 - 3. Stanley.

- B. Latchset, Locksets:
 - 1. Schlage. *(SCH)

- C. Cylinders:
 - 1. Exterior and Interior: Match Owner's Existing Key System.

- D. Occupancy Indicators:
 - 1. Schlage *(SCH)

- E. Surface Closers:
 - 1. LCN – 4111DA Series. *(LCN)

- F. Exit Devices and Mullions:
 - 1. Von Duprin

- G. Stops and Holders:
 - 1. Builders Brass Works.
 - 2. Glynn-Johnson.
 - 3. Ives. *(IVE)
 - 4. Quality.
 - 5. Hagar

- H. Push and Pull Plates:
 - 1. Builders Brass Works.
 - 2. Trimco.
 - 3. Tice. *(TIC)
 - 4. Quality.
 - 5. Hagar.

- I. Thresholds, Gaskets, and Weatherstripping:
 - 1. National Guard.
 - 2. Pemko. *(PEM)
 - 3. Reese.

- J. Astragals:
 - 1. Pemko.*(PEM)
 - 2. Reese.
 - 3. National Guard

- K. Overhead Stops and Holders:
 - 1. Glynn-Johnson.
 - 2. Rixson.*(RIX)

- L. Flush Bolts, Dust Proof Strikes, and Coordinators:
 - 1. Glynn Johnson.
 - 2. Door Controls International.*(DCI)

- M. Silencers:
 - 1. Builders Brass Works.
 - 2. Glynn Johnson.
 - 3. Ives.*(IVE)

- N. Other Manufacturers:
 - 1. Submit substitution requests prior to Bid Date.
 - 2. Comply with requirements in Section 01600, Material and Equipment.

* Manufacturers specified in hardware schedule at end of this Section.

2.2 LOCKSET/LATCHSET DESIGN

- A. Design: Rhodes, except where listed otherwise.
- B. Strikes to have extended lip strike where required to protect trim, ANSI prep.
- C. All locks to have 2 3/4 inch backset.

2.3 **KEYING**

- A. Provide temporary construction cores for locks, as required by contractor, keyed alike. Supply twenty (20) keys for use by Contractor & Owner.
- B. Permanent Door Locks: Designed to allow keying by owner. Master keyed and Grand master keyed to Owner's existing keying system.
- C. Owner will supply all final keys.
- D. Mark all Construction keys "DO NOT DUPLICATE". Do not stamp keys with door number or biting. Serially number all keys in accordance with Owner's instructions.

2.4 **FASTENINGS**

- A. Furnish hardware with all necessary screws, bolts and other fastenings of suitable size and type to securely anchor in position and harmonize with hardware material and finish.

2.5 **FINISHES**

- A. Finishes are identified in the schedule at the end of this section.

PART 3 EXECUTION

3.1 **INSTALLATION**

- A. Installation of Recessed Door Hardware:
 - 1. Install recessed hardware, then remove and store recessed hardware in a secure place during application of door and frame finish.
 - 2. After finishing doors and frames, reinstall recessed hardware.
- B. Installation of Surface Mounted Door Hardware:
 - 1. Anchor kick plates with oval-head full-thread screws, spaced uniformly at a maximum of 5 inches on center at kick plate perimeter.
 - 2. Anchor thresholds with a positive anchoring device or expansion shield and anchor bolts.
 - 3. Set thresholds in full bed of grout, refer to Section 03600 - Grout.
- C. Install cylinders in cabinet locks provided under Section 06410 – Custom Casework.

3.2 **COMPLETION**

- A. Operating Hardware Adjustments:
 - 1. Check and adjust operating hardware and each door operation to ensure smooth operation.
 - 2. Lubricate moving parts with type of lubrication recommended by manufacturer.
 - 3. Use graphite or WD 40 if no other lubrication is recommended.
 - 4. Replace hardware which cannot be adjusted and lubricated to operate correctly.
 - 5. Adjust door closers to required opening force and closing speeds, per ADAAG. Door closing speed shall be consistent through-out the building. Properly adjust back check on closers per manufacturer's recommendations.
- B. Contract Closeout Adjustments:

1. Where hardware installation is made more than one month prior to occupancy of a space or area, return to the work not more than 7 days prior to occupancy, and make a final check and adjustment of door hardware.
- C. Re-adjust and inspect hardware for opening force and closing speeds, per requirements of ADAAG, after final system balancing of Mechanical Systems.

3.3 HARDWARE SCHEDULE

- A. Required Door Hardware:
 1. Furnish the following hardware groups for each door as indicated on the Door Schedule, and as required for a complete installation.
 2. Include items listed and required for a complete installation regardless of omissions or conflicts in Contract Documents.

3.4 SCHEDULE

- A. Provide hardware as shown on Contract Documents.

END OF SECTION

GYPSUM WALLBOARD
SECTION 09 26 13

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide everything required to complete the Work as shown on the Drawings and specified herein. Provide patching of surfaces where impacted by this project.

1.3 QUALITY ASSURANCES

- A. Source Limitations: Obtain gypsum wallboard products, including gypsum wallboard, joint reinforcing tape, and embedding material, from a single manufacturer.
- B. Mockups: Provide a full-thickness mockup for each type and finish of gypsum wallboard and substrate to demonstrate aesthetic effects and set quality standards for materials and execution.

PART 2 - PRODUCTS

2.1 GYPSUM WALLBOARD

- A. Gypsum wallboard shall be manufactured by U.S. Gypsum, or approved.
 - 1. Provide boards in 8 foot or other lengths to minimize construction joints.
- B. Gypsum wallboard shall be as per Federal Specification SS-L-30D, in 48" widths.
- C. Use types and thicknesses specified below except where shown otherwise in the Drawings.
 - 1. Water-resistant wallboard: Type VII, Grade W or X as required, Class 2, 5/8" thick.
 - 2. Provide seals for sound and thermal insulation at: floor plates, top plates, connection to adjacent walls/pilasters/columns, and all cutouts.

2.2 TRIM ACCESSORIES

- A. Standard Trim: ASTM C 1047, provided or approved by manufacturer for use in gypsum wallboard applications indicated.
- B. Metal Trim: Zinc-coated steel 26 gauge min., as per Federal Specification QQ-S-775, Class d or e.
- C. Casing beads: Channel-shapes with exposed wing, and concealed wing not less than 7/8" wide.

- D. Corner beads: Angle shapes with wings not less than 7/8" wide: Perforated for nailing and joint treatment. Or use paper/metal combination bead suitable for joint treatment.
- E. Edge beads at ceiling perimeter: Angle shapes with wings 3/4" wide minimum. Concealed wing perforated for nailing, exposed wing edge folded flat.

2.3 JOINT REINFORCING MATERIALS

- A. General: Comply with joint strength requirements in ASTM C 1597M and with gypsum wallboard manufacturer's written recommendations for each application indicated.
- B. Jointing system with reinforcing tape and compound as supplied or recommended by the gypsum wallboard manufacturer.

2.4 FASTENINGS

- A. For gypsum wallboard attached to metal framing and channels: Flat-head screws, 1" long minimum. Self-tapping threads and self-drilling points. Specifically designed for use with power-driven tools.
- B. For gypsum wallboard attached to wood: 1-1/4" type W bugle-head screws.
 - 1. Alternate: Annular ring nails complying with ASTM C514.
 - 2. Nail sizes as required by governing building code.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Preparation and coordination: Install blocking and backups to support all edges of wallboard. Verify that wood framing to receive wallboard is dry and not subject to shrinkage.
- B. Keep wallboard materials dry and protected from moisture. Store wallboard materials so they are protected from damage to surfaces and edges. Maintain interior work environment closed in, not exposed to weather, clean, dry, well-ventilated, well-lighted, and comfortable in temperature.
- C. Keep work of trades such as conduit, pipe, and ducts clear of the inside faces of wall panels.

3.2 INSTALLING PANELS

- A. Install as per manufacturer's instructions, trade association standards, and governing building code.
- B. If there is a conflict between instructions, standards, code, etc., install as instructed by the Architect.
- C. For walls and ceilings: Hold wallboard 3/8 inch to 1/2 inch up from floor. Install wall

panels horizontally unless otherwise required. Stagger panel joints vertically.

- D. Nailing and screw attachment as per manufacturer's instructions. Do not position conduit and piping where it can be damaged by nailing. Do not proceed with nailing into wood framing that has over 19% of moisture content.
- E. Taping and spackling must follow applicable trade standards and manufacturer's instructions throughout. Keep temperature above specified minimum (usually 55 degrees). Do not track gypsum and spackle dust to clean areas.
- F. Joint treatment must follow applicable trade standards and manufacturer's instructions throughout. Gypsum wallboard must fit completely snugly against supporting framework. Joint work shall be at a minimum of 55 degrees F. for 24 hours prior to work.
- G. Finish: Light spray texture. Where textured finish on gypsum board walls are perpendicular to walls finished with other finishes, mask adjacent wall prior to spraying new wall. Match texture with that of approved sample.

3.3 TRIM ACCESSORIES

- A. Provide all metal trim as required to complete the work. Securely nail corner beads with required type and size nails starting 2 inches from each end. Space and stagger as required by wallboard system manufacturer.

3.4 CLEANING AND REPAIR

- A. Don't allow tracking of gypsum and finishing compounds onto floor surfaces. At completion of each segment of work in a room, clean thoroughly and remove all debris. Frequently remove all debris from site. Make a final check to determine that there are no penetrations through fire-rated walls.
- B. Recheck work for necessary repairs that may be required before painting or other added work. Complete repairs as directed by the Architect.

END OF SECTION 09 26 13

TILING
SECTION 09 30 00

PART I-GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Ceramic mosaic tile.
 - 2. Glazed wall tile.
 - 3. Trims and shapes.
 - 4. Building Paper.
 - 5. Metal edge strips installed as part of tile installations.
 - 6. Thickset and thinset installations.

1.3 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Samples:
 - 1. Each type, composition, color, and finish of tile.

1.4 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.
 - 1. Build mockup of wall floor tile installation.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 ALTERNATES

- A. Refer to Section 01 23 00 for possible effect upon work of this Section.

PART 2- PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where tiles below introduce lists, the following requirements apply for product selection:
 - 1. Basis-of-Design Product: The design for each tile type is based on the product named.
 - 2. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 - TILE PRODUCTS

- A. Manufacturers: -
 - 1. Daltile; Di v. of Dal-Tile International Inc. -Basis of Design.
 - 2. American Olean; Div. of Dal-Tile International Corp.
 - 3. United States Ceramic Tile Company.
- B. Title Products: Tiles and trims as scheduled and on drawings.

2.3 SETTING AND GROUTING MATERIALS

- A. Manufacturers:
 - 1. LATICRETE International Inc. #SP-1 00, Basis of Design.
 - 2. Atlas Minerals & Chemicals, Inc.
 - 3. Boiardi Products Corporation.
 - 4. Bonsai, W. R., Company.
 - 5. Bostik.
 - 6. Custom Building Products.
 - 7. MAPEI Corporation.
 - 8. Summitville Tiles, Inc.
 - 9. TEC Specialty Products Inc.
- B. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.1A.
- C. Cement Backer Board for thinset wall installations:
Wonder Board, 1/2" inch thickness, or approved.
- D. Epoxy Grout: ANSI A118.3, color as selected.

2.4 MISCELLANEOUS MATERIALS

- A. Elastomeric Sealants: For Tile installations:
 - 1. One-Part, Mildew-Resistant Silicone: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, 0; formulated with fungicide, intended for in-service exposures of high humidity and extreme temperatures. Color as selected to match grout color.
 - a. Products:
 - 1) Dow Coming Corporation; Dow Coming 786.
 - 2) GE Silicones; Sanitary 1700.
 - 3) Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.
 - 4) Tremco, Inc.; Tremsil600 White.
- B. Trowelable Underlayment and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials.
- C. Metal Edge Strips: Angle or L-shape, stainless steel; ASTM A 666, 300 Series exposed-edge material. Locate at all floor edge transitions to other flooring.

- D. Grout Sealer: Manufacturer's standard product for sealing grout joints that does not change color or appearance of grout.
- E. Building Paper: ASTM 0226, Type 1 (No. 15 Asphalt Felt).

PART 3 – EXECUTION

3.1 PREPARATION

- A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.
- B. Fill cracks, holes, and depressions with trowelable leveling and patching compound according to tile-setting material manufacturer's written instructions.
- C. Remove protrusions, bumps, and ridges by sanding or grinding.
- D. Blending: For tile exhibiting color variations, use factory blended tile or blend tiles at Project site before installing.
- E. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.2 INSTALLATION, GENERAL

- A. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and comers without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Grind cut edges of tile abutting trim, finish, or built-in items. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
- E. Lay out tile wainscots to next full tile beyond dimensions indicated.
- F. Expansion Joints: Locate expansion joints and other sealant-filled joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
- G. Grout tile to comply with requirements of ANSI A108.10, unless otherwise indicated.

- H. For installations indicated below, follow procedures in ANSI A I 08 Series tile installation standards for providing 95 percent mortar coverage.
 - 1. Tile floors in wet areas.
- I. Install tile on floors with the following joint widths, or as indicated:
 - 1. Ceramic Mosaic : Tile: 1/8 inch.
- J. Metal Edge Strips: Install at locations indicated or where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with top of tile.
- K. Install metal lath and scratch coat for walls to comply with ANSI A108.1A, Section 1.4
- L. Install tile on walls with the following joint widths or as indicated:
 - 1. Ceramic Mosaic Tile: 1/16 inch (1.6 mm).
 - 2. Wall Field Tile: 1/16 inch grout for 2 inch tile and 1/8 inch grout for 3 inch tile.
- M. Apply grout sealer to grout joints according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer that has gotten on tile faces by wiping with soft cloth.

3.3 FLOOR AND WALL TILE INSTALLATION SCHEDULE

- A. Interior floor installation on concrete; water-cleanable epoxy adhesive as approved by tile manufacturer; TCA F113-01.
 - 1. Grout: Standard unsanded epoxy grout, as approved by tile manufacturer, color as selected.
- B. Interior Wall Installation on concrete; TCA W23I -0I .
 - 1. Grout: Standard unsanded epoxy grout, as approved by tile manufacturer, color as selected.
- C. Interior Wall Installation on cement backer board; water cleanable epoxy adhesive, as approved by tile manufacturer. TCA W244-01.
 - 1. Grout: Standard unsanded **epoxy grout**, as approved by tile manufacturer, color as selected.

3.4 CERAMIC TILE TYPES

Facilities Management

#1	Urban Putty Speckle	D201	2x2	Keystones
#2	Matte Almond	6565	4x4	Coved Base
#3	Artic White	6470	4x4	Glazed
#4	Chianti	6494	2x2	Glazed
#5	Matte Almond	6565	2x2	Glazed
#6	Chianti	6565	4x4	Glazed

END OF SECTION

RESILIENT FLOOR BASE
SECTION 09 65 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Resilient Base.
- B. Accessories.

1.3 RELATED SECTIONS

- A. Section 01400 – Quality Control: Testing of slabs for content of moisture and alkalinity.

1.4 REFERENCES

- A. ASTM E84 - Surface Burning Characteristics of Building Materials.
- B. FS SS-W-40 - Wall Base: Rubber.
- C. Meet Requirements of Resilient Floor Covering Institute.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Samples:
 - 1. Submit two box samples or chain sets for each floor material specified.
 - 2. Submit two chain sets of base color for color selection specified by Architect.
- C. Product Data: Submit manufacturer's product literature and installation instructions.

1.6 QUALITY ASSURANCE

- A. Manufacturer: Provide each type of resilient flooring product as produced by a single manufacturer, including recommended primers, adhesives, sealants, edge strips and other accessories as required.
- B. Subcontractor: Subcontract the Work of this Section to a firm specializing in resilient flooring Work, which is acceptable to the manufacturers of the products involved, and which can demonstrate at least 5 years prior experience in successful installations similar to the Work required herein.

1.7 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame/fuel/smoke rating requirements in accordance with ASTM E84.

1.8 OPERATION AND MAINTENANCE DATA

- A. Submit cleaning and maintenance data under provisions of Section 01300.
- B. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Store materials for three days prior to installation in area of installation to achieve temperature stability.
- B. Maintain ambient temperature required by adhesive manufacturer three days prior to, during, and 24 hours after installation of materials.

PART 2 PRODUCTS

2.1 BASE

- A. Manufacturers:
 - 1. "Wallflowers" by Flexco Company.
 - 2. "Rubber Myte" by Mercer Products Co., Inc.
 - 3. "Infinity" by Roppe.
 - 4. "Color Integrated Wall Base" by Armstrong.
 - 5. Substitutions: Under provisions of Section 01600.
- B. Rubber Base Materials: ASTM F1861 – Type TS, Thermoset Vulcanized Rubber; continuous, 6 inch high; 1/8 inch thick; top set coved. Color Black.
- C. Rubber Base Accessories: Preformed corners supplied by same manufacturer as the base. Coordinate height with height of base.

2.2 ACCESSORIES

- A. Primers and Adhesives: Health guard thin-spread adhesive by W.F. Taylor; to suit material and substrate conditions.
- B. Integral Cove backing strip: As recommended by Manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are smooth and flat with maximum variation of 1/8 inch in 10 ft., and are ready to receive Work.
- B. Verify compatibility of resilient base adhesive to substrate.
- C. Beginning of installation means acceptance of existing substrate and site conditions.

3.2 PREPARATION

- A. Prepare the substrate according to the material manufacturer's installation instructions. Remove wall ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with wall filler.

- B. Apply, trowel, and float filler to leave a smooth, flat, hard surface.
- C. Apply primer to substrate surfaces in accordance with manufacturer's recommendations.

3.3 **INSTALLATION - BASE**

- A. Determine height of base and locations scheduled from mandatory walk-thru.
- B. Fit joints tight and vertical. Maintain minimum measurement of 18 inches between joints. Install as long lengths as practicable.
- C. Scribe and fit internal corners.
- D. Install base on solid backing. Bond tight to wall surfaces. Glue is to be hand-applied without the use of a caulking gun to all permanent fixtures in room to receive base. Pre-formed outside corners are to be used on installation of rubber base and secured with DAP D-15 adhesive.
- E. Scribe and fit to door frames and other interruptions.

3.4 **CLEANING**

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

END OF SECTION

PAINTING
SECTION 09 90 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Surface preparation.
- B. Surface finish schedule.

1.3 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls: Temporary heating and lighting.
- B. Section 03201 - Concrete: Slabs on grade and concrete walls.
- C. Section 05500 - Metal Fabrications: Miscellaneous steel items.
- D. Section 07900 – Joint Sealants: Sealants used in conjunction with preparation of painted surface.
- E. Section 08110 - Steel Frames: Shop primed items.

1.4 REFERENCES

- A. ASTM D2016 - Test Method for Moisture Content of Wood.
- B. Steel Structures Painting Council (SSPC) Manual.
- C. Painting and Decorating Contractors of America (PDCA) Manual.
- D. Painting and Decorating Contractors of America (PDCA) Standard P3 for designation of Paint Colors.

1.5 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.6 QUALITY ASSURANCE

- A. Applicator: Company specializing in commercial painting special coatings and finishing with five years' experience.
- B. Conform to recommendations of the PDCA and SSPC manuals.

1.7 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame/fuel/smoke rating requirements for finishes.
- B. Coatings must comply with Oregon State Department of Environmental Quality "VOC Area Source" Rules.

1.8 SUBMITTALS

- A. Submit product data under provisions of Section 01300.
- B. Provide product data for each step or process described in 09900.
- C. Submit samples under provisions of Section 01300.
- D. Submit two "drawdowns" 8 x 8 inch in size for each color and finishing product scheduled, for Architects approval. Do no work until submittals have been reviewed and approved.
- E. Submit manufacturer's application instructions under provisions of Section 01300.

1.9 FIELD SAMPLES

- A. Locate where directed by Architect.
- B. Accepted sample will demonstrate minimum standard for work, and may remain as part of the Work.
- C. Simulate finished lighting conditions for review of field samples.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Section 01600.
- B. Store and protect products under provisions of Section 01600.
- C. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- D. Container labeling to include manufacturer's name, type of paint, brand name, manufacturer's batch number, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- E. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- F. Take precautionary measures to prevent fire hazards and spontaneous combustion.
- G. Confine the storage of paints and allied materials to a space particularly assigned, and keep such space neat and clean at all times.
- H. Open containers only as needed, and keep partially filled containers tightly closed when not in use.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees Fahrenheit for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 85 percent, or to damaged or wet surfaces unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees Fahrenheit for exterior; unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 ft. candles measured mid-height at substrate surface.

1.12 COLORS

- A. Colors of paint shall match approved control sample.
- B. Provide matching color & sheen as existing walls & ceilings.

1.13 EXTRA STOCK

- A. Provide one gallon in unopened, original container of each color and surface texture to Owner, minimum.
- B. Label each container with color, color mix formula, texture and room locations, in addition to the manufacturer's label.

PART 2 PRODUCTS

2.1 GENERAL

- A. Products for each general purpose must be of same manufacturer.
- B. Do not use products of different manufacturers over one another, except for shop prime coats specified in other Sections.

2.2 ACCEPTABLE MANUFACTURERS - PAINT

- A. Benjamin Moore.
- B. ICI / Fuller O'Brien.
- C. Kelly Moore.
- D. Miller Paint.
- E. Parker Paint
- F. Rodda Paint Co.
- G. Sherwin Williams.

H. PPG

I. Substitutions: Under provisions of Section 01600.

2.3 ACCEPTABLE MANUFACTURERS – INDUSTRIAL GRADE COATINGS

A. Tnemec

B. Amneron

C. Carboline

D. Devoc Coatings

E. Pittsburgh Paints, Industrial Maintenance High Performance Coatings.

F. Substitutions: Under provisions of Section 01600.

2.4 MATERIALS

A. Provide the best quality grade of the various types of coatings as regularly manufactured by approved paint materials manufacturers.

- B. Coatings:
1. Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
 2. Good flow and brushing properties; capable of drying or curing free of streaks or sags.

C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. 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.
 2. Interior Located Wood: 15 percent, measure in accordance with ASTM D2016.
- D. Beginning of installation means acceptance of existing surfaces.

3.2 **MATERIALS TO BE FINISHED**

- A. The following receives **no** finish except as indicated:
 1. Metals such as: Brass, bronze, copper, plated metals, stainless steel.
 2. Plastic laminate surfacing.
 3. Glass, unless otherwise noted.
 4. Materials having complete factory finish, such as electrical switch plates, lighting fixtures, finish hardware, and the like.
- B. All other surfaces are to be finished except as listed above or otherwise scheduled or noted.

3.3 **PREPARATION**

- A. Previously painted galvanized and primed steel surfaces: Remove rust and prepare surfaces in accordance with PCDA Manual. Feather edges of existing paint and prime surfaces with compatible primer.
- B. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- C. Correct minor defects and clean surfaces which affect work of this Section.
- D. Shellac and seal marks which may bleed through surface finishes.
- E. Galvanized Surfaces: Prepare in accordance with SSPC-SP1 Solvent cleaning.
- F. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Uncoated Steel and Iron Surfaces: Prepare in accordance with SSPC-SP3 Power tool cleaning.
- H. Shop Primed Steel Surfaces: Prepare in accordance with SSPC-SP2 or SP3 Hand tool cleaning. Feather edges to make touch-up patches inconspicuous. Clean surfaces in accordance with SSPC-SP1 Solvent Cleaning. Prime bare steel surfaces.
- I. Metal Doors: Seal top and bottom edges with primer.
- J. Joint Sealants: Seal all exposed joints of dissimilar materials with Sealant as recommended by paint manufacturer and as outlined under Section 07900 – Joint Sealants.

3.4 **PROTECTION**

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.5 **MIXING AND TINTING**

- A. Deliver paints and enamels ready-mixed to jobsite.
- B. Job-mix and job-tint only when acceptable to Architect.
- C. Mix only in clean, rust resistant containers.
- D. Use tinting colors recommended by manufacturer for specific type of finish.

3.6 **APPLICATION**

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.
- D. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- E. Sand lightly between coats to achieve required finish.
- F. Allow applied coat to dry before next coat is applied.
- G. Prime back surfaces and edges of interior woodwork with primer paint according to type of scheduled finish.
- H. Adequately ventilate areas following manufacturer's recommendations. Utilize forced ventilation if necessary.

3.7 **FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT**

- A. Refer to appropriate Sections in Division 15 and 16 for schedule of color coding and identification banding of equipment, ductwork, piping, and conduit.
- B. Paint shop primed equipment.
- C. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- D. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, and except where items are prefinished.
- E. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- F. Paint exposed conduit and electrical equipment occurring in finished areas.
- G. Paint both sides and edges of plywood backboards for electrical before installing equipment.
- H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.

3.8 **CLEANING**

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.9 **SCHEDULE - INTERIOR**

- A. Gypsum Board & plywood panels: Provide the following finish systems over interior gypsum board and plywood panel surfaces as well as wood trim: (Match existing adjacent surfaces.)
 - 1. Semigloss, Water-Based Epoxy (EP) for the new Restroom walls and ceilings: 2 finish coats over a primer.
 - a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils.
 - 1) Coronado: SuperKote 5000 Latex Primer Sealer 40-11.
 - 2) GP: None Required.
 - 3) Kelly: Sierra Performance S30 Griptec Sandable Primer.
 - 4) Miller: 6020 Premium High Solids PVA Wall Sealer.
 - 5) Moore: SuperSpec Interior Primer Sealer Undercoater 253.
 - 6) Parker: UltraTech C152 Latex Primer/Sealer.
 - 7) PPG: Speedhide Interior Latex Primer Sealer 6-2.
 - 8) Rodda: Heavy Body Scotseal 507801.
 - 9) S-W: Contractors Interior Latex Primer B28WF0162.
 - b. First and Second Coats: Odorless, semigloss, interior water-based epoxy enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 3 mils.
 - 1) Coronado Coropoxy Waterborne Acrylic Epoxy 138 Line.
 - 2) Devoe: 4426 Tru-Glaze WB Epoxy Coating <50 g/l VOC.
 - 3) Kelly: Sierra Performance S-16 Epoxy Acrylic Semi-Gloss.
 - 4) Miller: 4200 Water Base Epoxy.
 - 5) Moore: Corotech Waterborne Acrylic Epoxy V450.
 - 6) Parker: UltraTech C145 Pre-Catalyzed Water-Based Epoxy Semi-Gloss.
 - 7) PPG: Pitt-Glaze WB1 Interior Semi-Gloss Pre-Catalyzed Water-Borne Acrylic Epoxy.
 - 8) Rodda: EcoLogic Waterborne Epoxy 70503.
 - 9) S-W: Pro Industrial Waterborne Catalyzed Epoxy, B73 Series.

END OF SECTION

TOILET AND BATH ACCESSORIES
SECTION 10 80 00

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and other Conditions and other Division 1 - General Requirements sections, apply to the work specified in this Section.

1.2 SECTION INCLUDES

- A. Toilet and washroom accessories.
- B. Attachment hardware.

1.3 RELATED SECTIONS

- A. Section 01010 - Summary of Work: Toilet Accessories, supplied by Owner, installed by Contractor (OFCI).
- B. Section 05400 - Cold-Formed Metal Framing: Wall Framing.
- C. Section 06112 - Framing and Sheathing: In wall blocking for support.

1.4 REFERENCES

- A. ADA Accessibility Standards - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.
- B. ASTM A366 - Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
- C. ASTM A386 - Zinc Coating (Hot-Dip) on Assembled Steel Products.
- D. ASTM B456 - Electrodeposited Coatings of Copper plus Nickel plus Chromium and Nickel plus Chromium.
- E. ASTM A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
- F. ASTM A269 - Seamless and Welded Austenitic Stainless Steel Tubing for General Service.

1.5 SUBMITTALS

- A. Submit product data under provisions of Section 01300.
- B. Provide product data on accessories describing size, finish, details of function, attachment methods.
- C. Submit manufacturer's installation instructions under provisions of Section 01300.

1.6 REGULATORY REQUIREMENTS

- A. Install work in conformance with ADA Accessibility Standards.

1.7 **SEQUENCING AND SCHEDULING**

- A. Coordinate the work of this Section with the placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

PART 2 PRODUCTS

2.1 **MANUFACTURERS**

- A. Bobrick.
- B. Bradley Corp.
- C. McKinney/Parker.
- D. American Specialties
- E. Substitutions: Under provisions of Section 01600.

2.2 **MATERIALS**

- A. Sheet Steel: ASTM A366.
- B. Stainless Steel Sheet: ASTM A167, Type 304.
- C. Tubing: ASTM A269, stainless steel.
- D. Adhesive: Contact type, waterproof.
- E. Fasteners, Screws, and Bolts: Hot dip galvanized, tamperproof.
- F. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.3 **FABRICATION**

- A. Weld and grind smooth joints of fabricated components.
- B. Form exposed surfaces from single sheet of stock, free of joints.
- C. Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- D. Back paint components where contact is made with building finishes to prevent electrolysis.
- E. Shop assemble components and package complete with anchors and fittings.
- F. Provide steel anchor plates, adapters, and anchor components for installation.
- G. Hot dip galvanize exposed and painted ferrous metal and fastening devices.

2.4 **FACTORY FINISHING**

- A. Galvanizing: ASTM A386 to 1.25 oz./sq. yd.
- B. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.
- C. Chrome/Nickel Plating: ASTM B456, Type SC-2 satin finish.
- D. Stainless Steel: No. 4 satin luster finish.

PART 3 EXECUTION

3.1 **EXAMINATION**

- A. Verify that site conditions are ready to receive work and dimensions are as indicated on shop drawings.
- B. Beginning of installation means acceptance of existing conditions.

3.2 **PREPARATION**

- A. Deliver inserts and rough-in frames to site at appropriate time for building-in.
- B. Provide templates and rough-in measurements as required.
- C. Verify exact location of accessories for installation.

3.3 **INSTALLATION**

- A. Install fixtures, accessories and items in accordance with manufacturers' instructions.
- B. Install plumb and level, securely and rigidly anchored to substrate.

3.4 **SCHEDULE**

- A. Toilet Room & compartment Grab Bars: Furnish Bobrick No. B-6806 Series, Type 304 stainless steel 1-1/2 inch o.d. satin finish grab bars in toilet rooms, of lengths and shapes shown, and mounting conditions as required for wall construction on which they are mounted.
- B. Framed Mirrors: Furnish framed tempered mirrors conforming to material and construction provisions of Fed. Spec. DD-M-0411(1), Class 2, Style E, of sizes shown; Bobrick Model B-290 Series, with satin finish, stainless steel frames and theft resistant concealed hanger, sizes as shown on Drawings.
- C. Sanitary Napkin Disposal (ND): Owner furnished, Contractor installed (OFICI). Locate one at each new toilet fixture.
- D. Soap Dispenser (SD): Owner furnished, Contractor installed (OFICI). Locate one at each new sink.

TOILET AND BATH ACCESSORIES - SECTION 10 80 00

- E. Paper Towel Dispenser (PT): Owner furnished, Contractor installed (OFICI). Locate one at each new sink.
- F. Toilet Paper Dispenser (TP): Owner furnished, Contractor installed (OFICI). Locate one at each new toilet fixture.
- G. Seat Protector Dispenser (SP): Owner furnished, Contractor installed (OFICI). Locate one at each new toilet fixture.

END OF SECTION

COMMON WORK RESULTS FOR PLUMBING
SECTION 22 05 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. The provisions of This Section, Common Work Results for Plumbing, apply to all sections in Division 22.
- C. All Sections of Division 22 are interrelated. When interpreting any direction, material, and method specified in any section of Division 22 consider it within the entirety of Work in Division 22.

1.2 SUMMARY

- A. The intent of Division 22 Specifications and the accompanying Drawings is to provide a complete and workable facility with complete systems as shown, specified and required by applicable codes. Include all work specified in Division 22 and shown on the accompanying Drawings, including appurtenances, connections, etc., in the finished job.
- B. The Division 22 Specifications and the accompanying Drawings are complementary and what is called for by one shall be as binding as if called for by both. Items shown on the Drawings are not necessarily included in the Specifications and vice versa. Specifications shall supersede drawings in case of conflict.
- C. Imperative language is frequently used in Division 22 Specifications. Except as otherwise specified, requirements expressed imperatively are to be performed by the Contractor.
- D. The Drawings that accompany the Division 22 Specifications are diagrammatic. They do not show every offset, bend, tee, or elbow which may be required to install work in the space provided and avoid conflicts. Offsets and transitions shall be assumed at a minimum at each duct crossing, structural penetrations through shear walls or beams, structural grids where ceiling heights are restricted, and at piping mains. Follow the Drawing as closely as is practical to do so and install additional bends, offsets and elbows where required by local conditions from measurements taken at the Building, subject to approval, and without additional cost to the Owner. The right is reserved to make any reasonable changes in fixture location prior to roughing-in, without cost impact.

1.3 RELATED WORK

- A. The General and Supplemental Conditions apply to this Division, including but not limited to:
 - 1. Drawings and specifications.
 - 2. Public ordinances, permits.
 - 3. Include payments and fees required by governing authorities for work of this Division.
- B. Division 1, General Requirements, applies to this Division.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. All products and equipment shall comply with Oregon Revised Statute (ORS) 453.005(7) (e) prohibiting pentabrominated, octabrominated and decabrominated diphenyl ethers. Where products or equipment within this specification contain these banned substances, provide complying products and equipment from approved manufacturers with equal performance characteristics.
 - 2. General: All work and materials shall conform to the local and State codes, and all Federal, State and other applicable laws and regulations.
 - 3. Contractor responsible for obtaining and payment for all permits, licenses, and inspection certificates required in accordance with provisions of Contract Documents.

COMMON WORK RESULTS FOR PLUMBING SECTION 22 05 00

- B. Materials and equipment shall be new. Work shall be of good quality, free of faults and defects and in conformance with the Contract Documents.
- C. Apparatus shall be built and installed to deliver its full rated capacity at the efficiency for which it was designed.
- D. The entire plumbing system and apparatus shall operate at full capacity without objectionable noise or vibration.
- E. All equipment shall be installed level and true. Housekeeping pads and curbs shall account for floor or roof slope.
- F. Materials and Equipment:
 - 1. Each piece of equipment furnished shall meet all detailed requirements of the Drawings and Specifications and shall be suitable for the installation shown. Equipment not meeting all requirements will not be acceptable, even though specified by name along with other manufacturers.
 - 2. Where two or more units of the same class of equipment are furnished, use products of the same manufacturer. Component parts of the entire system need not be products of same manufacturer.
 - 3. Furnish all materials and equipment of size, make, type, and quality herein specified.
 - 4. Equipment scheduled by performance or model number shall be considered the basis of the design. If other specified manufacturer's equipment is provided in lieu of the basis of design equipment the contractor is responsible for all changes and costs which may be necessary to accommodate this equipment, including different sizes and locations for connections, different electrical characteristics, different dimensions, different access requirements or any other differences which impact the project.
- G. Workmanship:
 - 1. General: All materials shall be installed in a neat and professional manner.
 - 2. Manufacturer's Instructions: Follow manufacturer's directions where they cover points not specifically indicated. If they are in conflict with the Drawings and Division 22 Specifications, obtain clarification before starting work.
- H. Cutting and Patching:
 - 1. Cutting, patching, and repairing for the proper installation and completion of the work specified in this Division including plastering, masonry work, concrete work, carpentry work, and painting shall be performed by skilled craftsmen of each respective trade in conformance with the appropriate Division of Work.
 - 2. Additional openings required in building construction shall be made by drilling or cutting. Use of jackhammer is specifically prohibited.
 - 3. Fill holes which are cut oversize so that a tight fit is obtained around the sleeves passing through.
 - 4. Beams or columns shall not be pierced without permission of Architect and then only as directed.
 - 5. All new or existing work cut or damaged shall be restored to its original condition. Where alterations disturb lawns, paving, walks, etc., the surfaces shall be repaired, refinished, and left in condition existing prior to commencement of work.

1.5 SUBMITTALS

- A. Submit in accordance with section 01 33 00- Submittal Procedures.
- B. Shop Drawings:
 - 1. Shop drawings shall include but are not limited to:
 - a. Plumbing fixtures, carriers, water hammer arrestors, piping supports, pipe insulation.
 - b. Beam penetration drawings indicating beam penetrations meeting the requirements indicated on the floor plans and on the structural drawings to a minimum of 1/4" = 1'-0" scale.
 - c. Slab penetration drawings of plumbing, to a minimum of 1/4-inch equals 1'-0" scale.
 - 2. Submit shop drawings for review prior to beginning fabrication. Additional shop drawings may be requested when it appears that coordination issues are not being resolved in the field or when there

is a question as to whether contract documents are being complied with or the design intent is being met.

C. Product Data:

1. In general, submit product data for review on all scheduled pieces of equipment, include but are not limited to plumbing fixtures, carriers, water hammer arrestors, piping supports, pipe insulation.
2. Complete product connection requirements on all equipment requiring electrical connections or connections by other trades, and as required by each specification section or by drawing notes. Include manufacturer's detailed shop drawings, specifications and data sheets. Data sheets shall include capacities, RPM, BHP, pressure drop, design and operating pressures, temperatures, and similar data. Manufacturer's abbreviations or codes are not acceptable.
3. Indicate equipment operating weights including bases and weight distribution at support points.

D. Submission Requirements:

1. Shop Drawings and Product Data:
 - a. Refer to Division 1 for additional requirements related to submittals.
 - b. Submit copies of shop drawings and product data for Work of Division 22 in a 3-ring loose leaf binder with each item filed under a tab and labeled with its respective specification section number, article and paragraph, and mark if applicable.
 - c. Submit electronic copies of shop drawings and product data for Work of Division 22 in PDF format with each item filed under a folder and labeled with its respective specification section number, article, and paragraph and mark, if applicable.
 - d. Include a complete index in the original submittal. Indicate both original items submitted and note stragglers that will be submitted at a later date to avoid delay in submitting.
 - e. Shop drawings and product data shall be included with the original submittal. Partial submittals will not be accepted.

E. Contractor Responsibilities: It shall be the Contractor's responsibility to:

1. See that all submittals are submitted at one time and are in proper order.
2. Ensure that all equipment will fit in the space provided.
3. Assure that all deviations from Drawings and Specifications are specifically noted in the submittals. Failure to comply will void review automatically.

1.6 OPERATING AND MAINTENANCE MANUAL, PARTS LISTS, AND OWNERS INSTRUCTIONS

- A. Refer to Division 1 for additional requirements.
- B. Submit two bound copies of manufacturer's operation and maintenance instruction manuals and parts lists for each piece of equipment or item requiring servicing. Literature shall be on 8- 1/2"x11" sheets or catalogs suitable for side binding. Submit data when the work is substantially complete, packaged separately, and clearly identified in durable 3-ring binder. Include name and contact information for location of source parts and service for each piece of equipment. Clearly mark and label in each submittal, the piece of equipment provided with the proper nameplate and model number identified. Provide wiring diagrams for all electrically powered equipment. Also provide electronic (.pdf format) of all information in hard copy.

1.7 PROJECT CONDITIONS

- A. Existing Conditions: Prior to bidding, verify and become familiar with all existing conditions by visiting the site, and include all factors which may affect the execution of this Work. Include all related costs in the initial bid proposal.
- B. Coordinate exact requirements governed by actual job conditions. Check all information and report any discrepancies before fabricating work. Report changes in time to avoid unnecessary work.
- C. Coordinate shutdown and start-up of existing, temporary, and new systems and utilities. Notify Owner one week in advance.

1.8 WARRANTY

- A. Provide a written guaranty covering the work of this Division (for a period of one calendar year from

the date of acceptance by the Owner) as required by the General Conditions.

- B. Provide manufacturer's written warranties for material and equipment furnished under this Division insuring parts and labor for a period of one year from the date of Owner acceptance of Work of this Division.
- C. Correct warranty items promptly upon notification.

1.9 TEST REPORTS AND CERTIFICATES

- A. Contractor shall submit one copy of all test reports and certificates specified herein to the Architect.

1.10 SUBSTITUTIONS

- A. Contractor shall submit any requests for product substitutions in accordance with the Instructions to Bidders, section 01 60 00 – Product Requirements and the General and Supplemental Conditions.

PART 2 - PRODUCTS

2.1 PLUMBING FIXTURES

- A. Per schedule at end of section.

2.2 PIPING

- A. Waste and vent piping above grade:
 - 1. Cast iron, ASTM A 74 heavy weight hub and spigot ASTM C564 neoprene gaskets and conform to ASTM C1563.
 - 2. Cast Iron ASTM A888/CISPI 301 hubless with coupling assembly: standard duty ASTM C1277 or CISPI 301, Anaco, Mission, Tyler.
- B. Hot and Cold water piping above grade, primer piping above grade:
 - 1. Copper tube: ASTM B88 Type L Drawn. Fittings: ASTM B16.18 copper. Joints: ASTM B32, alloy Sn95 solder.

2.3 PIPE INSULATION

- A. Fiberglass: ASTM C547 rigid, non-combustible. Thermal conductivity value of .27 BTU*in/(hr*sf*F) at 75 degrees F. All service vapor retarder jacket: white Kraft paper reinforced with glass fiber and bonded to aluminum foil, with self-sealing longitudinal laps and butt strips or vapor barrier mastic. Thickness per current Oregon energy code.
- B. Fittings: PVC fitting covers, Schuller Zeston 2000, Knauf Proto Fitting, or approved. One piece molded type fitting covers and jacketing material, gloss white.
- C. Inserts: At pipe hangers and supports, provide thermal inserts with same outside diameter as pipe insulation. ASTM C533 calcium silicate with vapor barrier.

2.4 VALVES

- A. Two-piece, full port ball valve, bronze, 125 psig rating, extended stem/handle to accommodate insulation. Apollo, Armstrong, Conbraco, Crane, Hammond, Kennedy, Nibco, Stockham, Watts Wilkins, or approved.

2.5 ACCESS PANELS

- A. Furnish under this Division as specified in section 08 31 00-Access Doors & Panels.

2.6 SHOCK ARRESTORS

- A. PPP, JR Smith. Size per manufacturer's recommendations based on fixture units.

2.7 PIPE SLEEVES

- A. Interior Wall and Floor Sleeves: 18 gauge galvanized steel, or another pre-approved system.
- B. Interior Wall and Floor Sleeves (fire rated): Fire rated and water tight system approved by Authority Having Jurisdiction and Owners Insurance underwriter, with rating equal to floor or wall penetration, and designed specifically for the floor or wall construction, piping material, size and service.
- C. Exterior Wall Sleeves: Cast iron.
- D. On Grade Floor Sleeves: Same as exterior wallsleeves.

2.8 FLOOR, WALL AND CEILING PLATES

- A. Furnish stamped split type plates as follows:
 1. Floor Plates: Cast brass, chromium plated.
 2. Wall and Ceiling Plates: Spun aluminum.

PART 3 – EXECUTION**3.1 GENERAL**

- A. Installation shall meet current Oregon Plumbing Specialty Code as a minimum plumbing installation standard. Where applicable (e.g. seismic restraint), other applicable specialties codes set minimum standard. A higher standard may be required at times by drawings, specifications, or manufacturer's installation instructions.

3.2 ACCESS PANELS

- A. Install in accord with manufacturer's recommendations, coordinated with architectural features.
- B. Furnish 18x18-inch panels for ceilings and for access to equipment in soffits and shafts, and 12x12-inch for walls unless indicated otherwise.
- C. Furnish where indicated and where required to access valves, trap primers, shock arresters, and other appurtenances requiring operation, service or maintenance. Submit proposed locations for review prior to installation.

3.3 PIPE HANGERS

- A. Size to accommodate pipe with insulation/inserts at hangers.

3.4 SLEEVES

- A. Interior Floor and Wall Sleeves: Provide sleeves large enough to provide 3/4-inch clearances around pipe or ductwork. Where pipe or ductwork is insulated, insulation shall pass continuously through sleeve with 3/4-inch clearance between insulation and sleeve.
- B. Sleeves Through Rated Floors and Walls: Similar to interior sleeves except install fire rated system approved by Authority Having Jurisdiction and Owners insurance underwriter, with rating equal to floor or wall penetration, and designed specifically for the floor or wall construction, piping material, size and service.
- C. Exterior Wall Sleeves Below Grade: Provide water tight sleeves. Install at pipes entering building below grade and where shown. Adjust to provide positive hydrostatic seal. Contractor shall be responsible for following manufacturer's procedure for installing and tightening seal. Secure sleeves against displacement.
- D. On Grade Floor Sleeves: Same as below grade exterior wall sleeves, caulked from inside.
- E. Exterior Wall Sleeves Above Grade: Similar to interior wall sleeves except caulk outside with Tremco

Dimeric Sealant.

- F. Layout work prior to concrete forming. Do all cutting and patching required. Reinforce sleeves to prevent collapse during forming and pouring.
- G. All floor sleeves shall maintain a water barrier by providing a water tight seal or they shall extend 1-inch above finished floor except through mechanical equipment room floors and shafts where sleeves shall extend 2 inches above finished floor level. Sleeves through roof shall extend 8 inches above roof. Wall sleeves shall be flush with face of wall unless otherwise indicated. Waste stacks using carriers shall have sleeves flush with floor and sealed. Sleeves through planters shall extend 8 inches above planter base.
- H. Do not support pipes by resting pipe clamps on floor sleeves. Supplementary members shall be provided so pipes are floor supported.
- I. Special sleeves detailed on drawings shall take precedence over this section.

3.5 CLEANING

- A. General: Clean plumbing equipment, fixtures and piping of stampings and markings (except those required by codes), iron cuttings, and other refuse.
- B. Painted Surfaces: Clean scratched or marred painted surfaces of rust or other foreign matter and paint with matching color industrial enamel, except as otherwise noted.
- C. Additional requirements are specified under specific Sections of this Division.

3.6 EQUIPMENT PROTECTION

- A. Keep pipe and conduit openings closed by means of plugs or caps to prevent the entrance of foreign matter. Protect piping, conduit, fixtures, equipment and apparatus against dirty water, chemical or mechanical damage both before and after installation. Restore damaged or contaminated fixtures, equipment, or apparatus to original conditions or replace at no cost to the Owner.
- B. Protect bright finished shafts, bearing housings, and similar items until in service. No rust will be permitted.
- C. Cover or otherwise suitably protect equipment and materials stored on the job site.

3.7 ACCESSIBILITY

- A. General: Locate valves, thermometers, cleanout fittings and other indicating equipment or specialties requiring frequent reading, adjustments, inspection, repairs, and removal or replacement conveniently and accessibly with reference to the finished building.
- B. Thermometers and Gauges: Install thermometers and gauges so as to be easily read from the floors, platforms and walkways.

3.8 FLOOR, WALL AND CEILING PLATES

- A. Install on piping and ductwork passing through finished walls, floors, ceilings, partitions, and plaster furrings. Plates shall completely cover opening around pipe.
- B. Secure wall and ceiling plates to pipe, insulation, or structure.
- C. Plates shall not penetrate insulation vapor barriers.
- D. Plates not required in mechanical rooms or unfinished spaces.

3.9 PAINTING

- A. General: Coordinate painting of mechanical equipment and items with products and methods in conformance with the appropriate Division of Work, Painting. All exposed work under this division shall receive either a factory painted finish or a field prime coat finish, except:
 - 1. Exposed copper piping.
 - 2. Aluminum jacketed outdoor insulated piping.

COMMON WORK RESULTS FOR PLUMBING SECTION 22 05 00

- B. Equipment Rooms and Finished Areas:
 - 1. Insulation: Not painted.
 - 2. Hangers, Uninsulated Piping, Miscellaneous Iron Work, Structural Steel Stands, Uninsulated Tanks, and Equipment Bases: Paint one coat of black enamel.
 - 3. Steel Valve Bodies and Bonnets: One coat of black enamel.
 - 4. Brass Valve Bodies: Not painted.
 - 5. Equipment: One coat of grey machinery enamel. Do not paint nameplates.
- C. Concealed Spaces (above ceilings, not visible):
 - 1. Insulation: Not painted.
 - 2. Hangers, Uninsulated Piping, Miscellaneous Iron Work, Valve Bodies and Bonnets: Not painted.
- D. Exterior Steel: Wire brush and apply two coats of rust-inhibiting primer and one coat of grey exterior machinery enamel.
- E. Exterior Black Steel Pipe: Wire brush and apply two coats of rust-inhibiting primer and one coat of exterior enamel. Painting schemes shall comply with ANSIA13.1.

3.10 ADJUSTING AND CLEANING

- A. Before operating any equipment or systems, make thorough check to determine that systems have been flushed and cleaned as required and equipment has been properly installed, lubricated, and serviced. Check factory instructions to see that installations have been made accordingly and that recommended lubricants have been used.
- B. Use particular care in lubricating bearings to avoid damage by over lubrication and blowing out seals. Check equipment for damage that may have occurred during shipment, after delivery, or during installation. Repair damaged equipment as approved or replace with new equipment.

3.11 ELECTRICAL EQUIPMENT

- A. Piping for plumbing systems not serving electrical space shall not be installed in any switchgear room, transformer vault, telephone room, or electric closet except as indicated.
- B. Piping for plumbing systems shall not pass over switchboards or electrical panel boards. Where conflicts exist, bring to attention of Architect.

3.12 EQUIPMENT CONNECTIONS

- A. Make final connections to equipment specified in sections other than Division 22 of the specifications and Owner furnished equipment in accordance with manufacturer's instructions and shop drawings furnished and as indicated.
- B. Piping:
 - 1. Connections shall include hot and cold water, natural gas, sanitary waste and vent, lab waste and vent.
 - 2. Provide valves and specialties as specified and as detailed on the Drawings. Provide increasers, reducers, and any other fittings required for complete installation.
 - 3. All piping connections shall be independently supported to prevent undue strain on equipment.

END OF SECTION

PLUMBING FIXTURES
SECTION 22 42 00

PART 1 GENERAL

1.1 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.

1.2 SHOP DRAWINGS

- A. Provide Shop Drawings for the following equipment:
 - 1. Fixtures and Trim

PART 2 PRODUCTS

2.1 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. Manufacturers per Schedule on Drawings or as listed below.
 - 1. Faucet: Chicago Faucet No. 802-665ABCP, Deck mounted 4" fixed centers hot and cold water metering sink faucet, polished chrome plated solid brass construction; 2.2 FGPM pressure compensating Softflo aerator. 1-3/4" metal vandal proof MVP metering push handles with blue and red buttons. MVP self-closing, auto-timed metering cartridge, adjustable run time from 2 to 15 seconds — ADA ANSI/ICC A 117.1 approved.
 - 2. Water Closet — Floor Mounted — Kohler K-4406 Wellworth floor mounted 1.28 GPF flushometer valve elongated toilet bowl, or approved.
 - 3. Lavatory — Wall Hung — Kohler K-2005 Kingston lavatory, wall mounted, or approved. Provide in wall carrier.
 - 4. Lavatory systems: Bradley, Intersan, or approved.
 - 5. Wall Hydrant: Woodford, Zurn, or approved.
- B. Flush Valves: Includes entire flushometer assembly. Sloan EBV-89-A, Battery operated, diaphragm type with solenoid operator, sensor, and override button. Tamperproof cover. Non-hold open feature, angle stop, adjustable tail piece, vacuum breaker flush connection, and spud coupling. Provide drop ear elbows, or approved.
- C. Traps: Exposed traps which are readily accessible shall be not less than 17 gauge chrome plated brass tube, metal to metal ground joints. Standard brass of fixture, Dearborn Brass, McGuire Manufacturing, or equal.
- D. Supplies and Stop Valves: All fixtures (i.e. lavatories, sinks) shall be fitted with chrome plated solid brass stops, replaceable neoprene seat,

3/8" tube riser, 1/2" brass nipple to wall, loose key handle, escutcheon. Provide drop ear elbows and solid blocking as required for rigid installation. Replace all stops at existing replaced or relocated fixtures. Brasscraft, American Standard, Kohler, Moen Commercial, McGuire Manufacturing, or equal.

- E. Carriers: Carriers supported from floor with feet poured in concrete or bolted to floor per manufacturer's recommendations. Chrome plated cap screwed, single or double as required. Provide bottom bearing plates on urinal carriers. Use vertical compact carries where space is not available for a standard carrier. Use narrow base carriers for lavatories. Horizontal carrier, adjustable foot support and pipe fittings, JR Smith 0210, Wade Series W-31 0, Josam, Zurn, or equal. Vertical carrier, JR Smith 0440, Wade Series W-360, Josam, Zurn, or equal.
- F. Closet Seats: Solid white reinforced plastic, open front, non-metallic bumper, hinge with insert molded integrally in seat, concealed check. Olsonite, Church, Beneke, American Standard, Bennis or equal.

PART 3 EXECUTION

3.1 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.

3.2 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.

3.3 CLOSING IN UNINSPECTED WORK

- A. Do not close up or enclose work until it has been 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, 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.

3.3 CLEANING UP

- A. Prior to acceptance of Work building, 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.

BASIC ELECTRICAL MATERIALS & METHODS
SECTION 26 05 00

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all items, articles, materials, equipment, operations and/or methods listed, mentioned, shown and/or scheduled on the drawings and/or in these specifications, including all labor, services, permits, fees, utility charges, and incidentals necessary and required to perform and complete the electrical work described in this Division. Apply for all permits early in the project to avoid problems due to code revisions.
- B. See the contract conditions (general and supplementary) and Division 1 for requirements concerning this Division including, but not limited to, submittals, shop drawings, substitution requests, change orders, operation and maintenance manuals, record drawings, coordination, permits, record documents, contract closeout and warranties.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Mechanical equipment motors to be furnished under another Division but connected under this Division. Starters to be mounted and connected by this Division, but furnished by another Division unless otherwise noted on the electrical drawings. Verify and coordinate all equipment locations and electrical characteristics with other trades involved in the work. Coordination shall be done prior to rough-in or ordering equipment.
- B. Control wiring for mechanical equipment beyond provisions shown on the Electrical Drawings shall be performed under another Division of the work.

1.3 QUALITY ASSURANCE

- A. Do all work in accordance with National Electrical Code, state and local codes and amendments, National Fire Codes, American with Disabilities Act, and all other applicable codes.

1.4 PROJECT CONDITIONS

- A. The Contractor shall inspect the job site prior to bidding and familiarize himself with existing conditions which will affect the work. Prior to start of work, obtain "As built", "Record", or other Drawings showing existing underground utilities.
- B. Electrical drawings are diagrammatic indicating approximate location of outlets, lighting fixtures, electrical equipment, etc. Consult the Architectural, Structural, and Mechanical Drawings to avoid conflicts with equipment, structural members, etc. When required make all deviations from Drawings to make the work conform to the building as constructed, and to related work of others. Minor relocations ordered prior to installation may be made without added cost to Owner.
- C. Call to the attention of the Architect any error, omission, conflict or discrepancy in Drawings and/or Specifications. Do not proceed with any questionable items of work until clarification of same has been made.
- D. Under no conditions are beams, girders, footings or columns to be cut for electrical items unless so shown on Drawings or written approval obtained from the Architect.
- E. Verify the physical dimensions of each item of electrical equipment to fit the available space and promptly notify the Architect prior to roughing-in if conflicts appear. Coordination of equipment to the available space and to the access routes through the construction shall be the Contractor's responsibility.

1.5 SHOP DRAWINGS

- A. Prior to ordering equipment, and prior to Contractor's first application for payment, the Contractor shall, within 30 days after award of this work, submit to the Architect six (6) complete sets of shop drawings neatly bound in 3-ring binder form, with index page, indexed tabs corresponding to specification section numbers, data sheets of materials and equipment, wiring diagrams, details and calculations. First sheet shall list project name, contractor name, address, telephone, fax, and date. In addition this page shall bear Contractor's stamp, signature or other means to show that he has inspected same and certified that submitted material is correct in regard to quantity, size, dimension, quality and is coordinated with the Contract Documents. Shop drawings not in compliance will be returned without review.
- B. Data sheet shall identify equipment type, size, rating, style, catalog numbers and manufacturer's name of each item. Identification shall be with black arrows or black lines. Red and highlighters shall not be used.
- C. Wiring diagrams shall be specific to equipment provided clearly identifying wire sizes, terminations and connections. Diagrams required for lighting controls, clock systems, public address and sound system and fire alarm systems.
- D. Floor plans drawings shall indicate devices, zones/addresses and wiring.
- E. Contractor agrees that Shop Drawing Submittals processed by the Architect are not Change Orders; that the purpose of Shop Drawing Submittals by the Contractor is to demonstrate to the Architect that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.
- F. Contractor further agrees that if deviations, discrepancies or conflicts between Shop Drawings and Specifications are discovered either prior to or after Shop Drawing Submittals are processed by the Architect, the design Drawings and Specifications shall control and shall be followed.

1.6 EQUIPMENT, INSTALLATION, OPERATIONS AND MAINTENANCE MANUALS

- A. Prior to Contractor's last application for payment, the Contractor shall, submit to the Architect six (6) complete sets of Equipment, Installation, O&M Manuals. Include corrected shop drawings. Format shall be same as shop drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials shall be new and bear manufacturer's name, model number, electrical characteristics and other identification. All equipment to be U.L. listed or tested by agency approved by authorities having jurisdiction.
- B. Material and equipment shall be standard product of manufacturer regularly engaged in production of similar material for at least five years (unless specifically exempted) and shall be manufacturer's latest design.
- C. If the description of a product is in conflict with the product as specified in the catalog number, the description shall generally take precedence. Contact the Architect for clarification if this occurs.

- D. All equipment for essential or life safety systems must be rated and certified for the appropriate seismic zone.

2.2 BOXES

- A. Outlet and junction boxes shall be sized in accordance with code requirements or as noted on the drawings.
- B. Unless otherwise specified or shown on the drawings, all outlet boxes for new work shall be galvanized steel knockout, outlet boxes. Gangable boxes are not acceptable. Outlet boxes shall not be smaller than 4" square and 1-1/2 inches in depth, unless otherwise noted. All outlet box covers, rings, or other fittings shall be galvanized. Boxes which are exposed to the weather shall be cast metal. Outlet boxes for phone and data outlets shall be 2-1/8" deepboxes.
- C. Outlet boxes shall be designed for the intended use, and shall be installed flush with finish surface lines or not more than 1/8 inch back and shall be level and plumb. Long screws with spacers or shims for mounting devices are not acceptable. No combustible materials shall be exposed to wiring at outlets.
- D. Outlet boxes on opposite sides of fire or sound isolating partitions shall have a minimum horizontal separation of 24". Back to back boxes are not permitted in anywalls.
- E. Floor boxes shall be Walker RFB4 with RAKMII flush access hatch with carpet trim. Provide plates for mounting of duplex receptacles and RF-45 communications outlets. If the number of communications outlets exceeds the quantity which fits in a standard plate, provide a custom plate to accommodate the increased quantity.
- F. Floor boxes which contain voice and data cable often are shown with an empty conduit running up a wall and stubbing into the ceiling. Where no conduit is shown, stub a 1" conduit out the bottom of the low voltage section of the box and into the ceiling space of the floorbelow.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION METHODS

- A. Cutting or notching shall be kept to an absolute minimum and done when, and in a method approved by the Architect. Patch and correct finished surfaces damaged by electrical work.
- B. Devices and equipment shall be level and plumb and installed parallel with structural building lines. All equipment and enclosures shall fit neatly without gaps, openings, or distortions. Provide approved devices for closing all unused openings.
- C. Arrange circuit wiring as shown on the Drawings and do not alter or combine runs or homeruns without the specific approval of the Architect. Feeder runs shall not be recombined or altered.
- D. Ballasts, contactors, starters, transformers and like equipment which are found to be noticeably noisier than other similar equipment on the project will be deemed defective and shall be replaced.

BASIC ELECTRICAL MATERIALS AND METHODS - SECTION 26 05 00

- E. In general, the mounting heights shall be as noted on the Drawings, or as listed below, the Architectural Interior Elevations and drawing notes taking precedence. Where no heights are indicated, request clarification from the Architect. Consult the Architectural, Mechanical and Structural drawings to avoid conflicts prior to roughing-in and for exact locations. All dimensions are to the center of the device unless otherwise noted. Lighting dimensions are to the bottom of suspended fixtures and center of wall mounted fixtures unless otherwise noted.

Light Switches	46 inches
Convenience Receptacles	18 inches
Panelboard top	72 inches
Fire Alarm Signals	80 inches to bottom (but at least 6" below ceiling)
Fire Call Stations	46 inches
Telephone Outlets	18 inches

Where raceways penetrate floors, ceilings, ducts, chases, and fire walls, provide fire stopping to maintain integrity of the fire assembly. Fire stopping method shall be approved by the Code Authority having jurisdiction.

- F. All materials and equipment installed under this work shall be properly and adequately supported from the building structure except where ceiling construction or other provisions are specifically designed to support them. Support systems shall provide a safety factor of four. This shall apply to chains, hangers, anchors, clamps, screws, structural iron, and all other hardware and appurtenances associated with the support system.
- G. Rough-in for communications outlets for phone and data systems shall consist of a 4" square 2.25" deep (4SD) box with a single gang mud ring. Provide a 3/4" conduit to an accessible ceiling space. Conduit shall be terminated above the ceiling with protective insulated bushing and a pull string installed.
- H. Maintain the following minimum separations from voice and data cables. Power conduit - 12", transformers and motors - 40", fluorescent lighting - 12". Coordinate with the voice and data installer to assure these separations are met.

3.2 LOW VOLTAGE WIRING METHODS

- A. Unless stated otherwise in these specifications, or on the drawings, raceways for wiring of Public Address and Sound, Data, Voice and Cable TV systems utilizing N.E.C. class II current limitation methods will be required only in walls, inaccessible ceilings, and areas where conductors might be exposed to physical damage.
- B. Cables shall be either enclosed entirely in conduit raceway systems or be plenum rated. The ceiling spaces in this project are NOT air plenums.
- C. Conductors shall be concealed in all finished spaces and shall be run parallel to structural lines and supported at minimum 5 feet intervals from structure. Additional 6-inch pigtail shall be provided at outlet. If conductors are exposed in accessible ceiling spaces, provide slack in cable near outlet with additional 4 feet of cable coiled in ceiling and attached to wall for flexibility.
- D. Reroute existing data, voice and cable TV cables and outlets as shown on drawings including reterminating and testing of devices to meet Level 3 standards. If damaged during construction, replace all cables and outlets, splicing not allowed.

3.3 LABELING

- A. Clearly and properly label the complete electrical system to indicate the loads served or the function of each item of equipment provided under this work.
- B. Receptacles, switches and occupancy sensors: Provide panel and circuit identification on face of device. Black letters on clear background.
- C. Switchboards, distribution panelboards, panelboards, motor control centers, starters and disconnects: Provide engraved phenolic nameplate labels. Black with 0.5 inch high white letters. Labels shall identify name of equipment. Labels for switchboards, distribution panelboards, panelboards and motor control centers shall in addition identify voltage, phase, AIC rating with labels for load of each branch device and starter..

3.4 SAFETY

- A. The Engineer has not been retained or compensated to provide design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences or procedures required for the contractor to perform the work.

3.5 DEMOLITION

- A. It is the intent of these specifications to require the contractor to make all necessary adjustments to the electrical system, required to meet code, and accommodate installation of the new and remodeled work.
- B. Remove all existing equipment, 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.
- C. Disconnect all existing mechanical equipment scheduled for removal or relocation.
- D. Locations of items shown on the drawings as existing are based on as-built and other drawings which may contain errors. The Contractor shall verify the correctness of the information shown prior to bidding and provide such labor and material as is necessary to accomplish the intent of the contract documents. The plans may show some demolition conditions, but are not intended to show all of them.
- E. All materials accumulated during the demolition process are the Contractors property and shall be removed from the job site unless noted otherwise.
- F. Remove all abandoned raceways and cables.

3.6 POWER INTERRUPTIONS

- A. Keep outages to occupied areas to a minimum and prearrange all outages with the Owner's representative and utilities involved. Requests for outages shall state the specific dates and hours and the maximum durations, with the outages kept to these specified times.
- B. Contractor shall coordinate with the Owner so that work can be scheduled not to interrupt operations, normal activities, building access, etc. Coordinate work with other crafts for proper scheduling.
- C. No circuits shall be turned off without prior approval from owner. Coordinate with the Owner any interruptions which affect the operation of the remaining portions of the facility.

- D. This contractor will be liable for any damages resulting from unscheduled outages or for those not confined to the preapproved times. 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.

3.7 GROUNDING

- A. Ground all electric equipment, raceways and enclosures in accordance with code rules and established safety practices.
- B. Provide green grounding conductors in all raceways sized per NEC.

3.8 EQUIPMENT CONNECTIONS

- A. The location and method for connecting to each item of equipment shall be verified prior to roughing-in. The voltage and phase of each item of equipment shall be checked before connecting. Motor rotations shall be made in the proper direction. Pump motors are not to be test run until liquid is in the system and proper lubrication to all bearings in unit is checked.
- B. Conduit, wire and circuit breaker sizes for mechanical and equipment are based on the equipment ratings of one manufacturer. The equipment actually furnished may have entirely different electrical characteristics. Conduit, wire, circuit breakers, disconnects, etc. shall not be ordered or installed until exact electrical requirements are obtained. Responsibility for this coordination rests with the Contractor.

3.9 SEISMIC BRACING

- A. Furnish and install all seismic bracing of equipment, feeders, and other electrical items in accordance with prevailing codes. Provide and submit the required designs, calculations, certifications, and stamped drawings to the authority having jurisdiction and obtain their approval prior to installation or fabrication.

3.10 PAINTING

- A. All electrical equipment and conduit exposed in finished areas and on exterior walls are to be painted to match surrounding surfaces.
- B. Contractor shall coordinate the timing of painting requirements.
- C. Refer to Architectural specifications for methods and materials.

3.11 PROJECT RECORD DOCUMENTS

- A. Maintenance of Documents:
 - 1. Maintain at Jobsite, One Record Copy of: Contract Drawings, Specifications, Addenda, Reviewed Shop Drawings, Change Orders, Other Modifications to Contract and Field Test Records.
 - 2. Keep apart from documents used for construction.
 - 3. Keep documents available at all times for inspection by Architect.
- B. Recording:
 - 1. Label each document "PROJECT RECORD."
 - 2. Keep record documents current. Do not permanently conceal any work until required information has been recorded.

3. Contract Drawings, legibly mark to record actual construction; including but not limited to the following:

Depths of various elements; locations of underground items, with dimensions to building walls and corners; changes of dimensions and details; changes made by Addendum, Field Orders or Change Order.

Specifications and Addenda; legibly mark each Section to record changes made by Addendum, Field Order or Change Order.

3.12 COMPLETION

A. Complete each system as shown or specified herein and place in operation except where only roughing-in or partial systems are called for. Each system shall be tested and left in proper operation free of faults, shorts or unintentional grounds. Demonstrate system in the presence of the Architect, the Owner or their representative when requested.

3.13 FINAL OBSERVATION

- B. Contractor shall submit written certification that:
1. Contract Documents have been reviewed.
 2. Contractor has inspected Project for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and Systems have been tested and are operational.
 5. Project is completed and ready for final inspection.
- C. Architect will make final inspection as soon as possible after receipt of Certification.
- D. Should Architect consider that work is finally complete in accordance with Contract Document requirements, Contractor shall make Contract Closeout submittals.
- E. Should Architect consider that work is not finally complete:
1. He will so notify Contractor, stating reasons.
 2. Contractor shall take immediate steps to remedy deficiencies, and send second written notice to Architect certifying that work is complete.
 3. Architect will reinspect work.
- F. The Architect will make two final inspections. The first will determine deficiencies and errors in the work and the second will determine whether or not the noted deficiencies and errors have been satisfactorily corrected.
- G. If additional inspections are required because of the Contractor's failure to complete the deficiencies and errors prior to the second inspection, costs for the successive inspections will be back-charged to the Contractor by the Owner, who, in turn, will reimburse the Architect. Charges will be based as follows:
1. Architect time at current billing rates.
 2. Travel time, and all other expenses incurred in making inspections.
- H. Contractor to provide one (1) journeyman, tools, meters, instruments and other test equipment required by Architect. Contractor to remove and replace trims, covers, fixtures, etc., for Architect to review and test materials, systems, methods and workmanship. (Example: Removing switchboard and panel covers to take voltage/amp readings, review connections and wire size, etc.)

END OF SECTION

FIRE ALARM SYSTEMS

SECTION 16 72 00

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The Contractor shall furnish and install fire alarm devices, as specified herein and indicated on the drawings.
- B. Provide all signal initiating devices, audible and visual alarm devices, power supply, a wiring system, and all accessory devices required to provide a complete operating system.
- C. All components shall be compatible with the existing system.
- D. The system shall comply with the applicable provisions of the National Alarm Code (NFPA 72), Americans with Disabilities Act, and meet all requirements of the local authorities having jurisdiction. All equipment and devices shall be listed by the Underwriter's Laboratories, Inc., or approved by the Factory Mutual Laboratories.
- E. Add additional expansion components to the existing fire alarm panel and system as required to accommodate new initiating and warning devices which are being added to the system (detectors, call stations, strobes, horns, tamper switches, door holders, etc.)

1.2 SUBMITTALS

- A. Submit complete and descriptive shop drawings in accordance with Sections 01300 and 16050.
- B. Submit plans and specifications to the governing Building Official. Obtain his written acceptance of, and procure and pay for all permits for, the system prior to beginning work and ordering equipment. Send one set of approved drawings to Engineer.
- C. Submit Equipment, Installation, Operating and Maintenance Manuals and As-Installed drawings in accordance with Sections 01300 and 16050.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Fire Control Instruments 7200 Series per School Board Exemption..
- B. Arrange for the fire alarm system vendor to review the wiring and power supply capacity of the existing system. Increase the power supply capacity, signal circuit wire size, or add a remote power supply as needed to accomplish proper operation of the system.

- 2.2 Fire alarm system shall be microprocessor based analog addressable with integral keypad controls, power supplies, LCD display, battery charger, digital communicator, three remote annunciator panels (one at the front entrance, one in the custodial office and one location as determined by Owner), manual pull stations, photoelectric smoke detectors, heat detectors, air duct photoelectric smoke detectors with sampling tubes, sprinkler system flow switches, supervisory for sprinkler system devices, strobes, horn/strobes, vandal proof covers and capacity for 25-percent future growth

PART 3 - EXECUTION

3.1 WIRING

- A. Furnish and install all required wiring in accordance with local and National codes.

- B. Unless otherwise specified, minimum wire size shall be 16 gauge for audible alarm circuits, and 18 gauge for signal initiating circuits. All wiring shall be in plenum rated or totally enclosed in conduit. Conduit shall be sized by the manufacturer with 25 percent spare and voltage drop of 10 percent.
- C. Confirm that the existing power supply and circuiting have sufficient capacity to handle additional horns and strobes. If insufficient capacity exists, add additional components to resolve the problem. This might include such items as replacing existing signal circuits with larger wire or replacing power supplies. All signal devices must operate properly at completion.

3.2 **FIELD QUALITY CONTROL**

- A. A factory trained representative of the manufacturer shall supervise the final testing of the system and it shall be subject to the approval and acceptance of the responsible Architect. On completion of the acceptance tests, the Owner or his representative shall be instructed in the operation and testing of the system.
- B. The equipment manufacturer shall be represented by a local service organization and the name of this organization shall be furnished to the Architect and Owner.

END OF SECTION