RODD HANSEN, ARCHITECT, L.L.C.
ARCHITECTURE AND PLANNING

Eugene Public School District 4J

Adams Elementary School

Restroom Addition

C.I.P. 420.104.100

PROJECT MANUAL

October 22, 2014

SET:_____

1551 Oak Street Suite A, Eugene, Oregon 97401
P:(541) 687-7800 F:(541) 687-1200
email: rodd@rharchitectural.com

GENERAL PROJECT INFORMATION

PROJECT MANUAL:
Adams Elementary School – Restroom Addition
950 W. 22nd
Eugene, OR 97405
Eugene Public School District 4J
Eugene, Oregon
C.I.P. Project No. 420.104.100

OWNER:
Eugene School District 4J
715 West 4th Ave.
Eugene, Oregon 97402
CONTACT:
Project Manager, Harlan Coats
(541) 790-7400 Office
(541) 790-7420 FAX
coats@4j.lane.edu

ARCHITECT:
Rodd Hansen, Architect, LLC
1551 Oak Street, Suite A
Eugene, Oregon 97401
Project Architect: Rodd Hansen, AIA
Project Manager: Rodd Hansen, AIA
(541) 687-7800
(541) 687-1200
rodd@rharchitectural.com

DATE:
October 22, 2015

The following is a list of all Divisions, Sections, and Drawings which are included in the Project Manual

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

DIVISION 09 – FINISHES

DIVISION 10 – SPECIALTIES

DIVISION 22 – PLUMBING

Sealed Quotes will be received by Kathi Hernandez, Purchasing Services, for Adams Elementary School – Restroom Addition until 2:00pm PST, November 12, 2014, at the Eugene School District Facilities Management Office, 715 West Fourth, Eugene, Oregon 97402.

Briefly, the work is described as a single occupant ADA restroom / shower for SpEd. Work shall commence approximately December 1, 2014 and shall be substantially complete by February 1, 2015.

Beginning October 22, 2014, Prime Bidders, Sub-bidders and Suppliers may obtain bidding 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 Bidders, Sub-bidders, and Suppliers to obtain Bidding Documents and any and all Addenda from the hyperlink.

All quotations must be submitted on the form provided and enclosed in a sealed envelope marked:

Adams Elementary School – Restroom Addition
C.I.P. No. 420.104.100

A mandatory pre-quote conference and walk-through has been scheduled for October 29, 2014, at 3:00pm. The location of the conference will be Adams Elementary School, 950 W. 22nd, Eugene, Oregon.

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 bid 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.

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.

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: October 22, 2014

By: Kathi Hernandez, Facilities Management Assistant

PART 1 GENERAL

1.1. GENERAL INFORMATION

A. The term “quoter” shall refer to the firm or individual submitting a quote or quotation.

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, 541-790-7400, 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. PERFORMANCE BOND AND PAYMENT BOND

A. 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.

1.4. 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.

1.5. 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.

1.6. 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.

1.7. 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.

1.8. CONTRACTOR'S MARK UP FOR CHANGE ORDER WORK

A. The allowance for the combined overhead and profit included in the total net cost to the Owner shall be based as follows:

1. For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.

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

3. 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.

4. 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.)

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

6. 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:

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

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

c. For each Sub-subcontractor, 5 percent of the cost to be credited.

d. 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.

END OF QUOTE REQUIREMENTS

Quotation for: Adams Elementary School – Restroom Addition
C.I.P. No. 420.104.100

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

Due Date: November 12, 2014
Time: 2:00pm PST

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: [ ]

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

The undersigned agrees, if awarded the Contract, to substantially complete all Base Quote work on or before the dates specified in Section 01100.

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.

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: _____TIN#:_____

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: _____ CCB #_____

If corporation, attest: _____ Date: _____
(Secretary of 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 _____, 200

_____
(Notary Public for Oregon)

My Commission Expires: _____

END OF QUOTE FORM

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 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Project consists of a building addition for a single occupant ADA restroom and shower.

1. Project Location: 950 W. 22nd, Eugene, Oregon
2. Owner: Eugene School District 4J, 715 West Fourth Avenue, Eugene, OR 97402.

B. Architect Identification: The Contract Documents, dated October 22, 2014, were prepared for Project by Rodd Hansen, Architect, LLC, 1551 Oak Street, Suite A, Eugene, OR 97401

C. Project Manager: Mr. Harlan Coats has been appointed by Owner to serve as Project Coordinator.

1.3 CONTRACT

A. Project will be constructed under a general construction contract.

1. Construction Contractor Agreement

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 February 1, 2014.**

C. Achieve Final Completion within seven (7) days following the date of Substantial Completion.

1.5 USE OF PREMISES

A. Work Area Access: Buildings [will] [will not] 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 as indicated on Drawings.

E. Contractor Staging Areas: Limit staging to areas indicated on Drawings.

F. Construction Operations: Limited to areas indicated on Drawings.

1.6 WORK UNDER SEPERATE CONTRACTS

A. Separate Contract: None.

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

A. Future Contract: None.

1.8 PRODUCTS ORDERED IN ADVANCE

A. None.

1.9 OWNER-FURNISHED PRODUCTS

A. Owner will furnish light fixtures, soap dispensers, paper towel and toilet paper dispensers, sanitary napkin disposal and mirrors. The Work includes providing support systems to receive Owner's equipment and electrical connections for future hand dryer – see plan.

1. Owner will arrange for and deliver Shop Drawings, Product Data, and Samples to Contractor.
2. Owner will arrange and pay for delivery of Owner-furnished items according to Contractor's Construction Schedule.
3. After delivery, Owner will inspect delivered items for damage. Contractor shall be present for and assist in Owner's inspection.
4. If Owner-furnished items are damaged, defective, or missing, Owner will arrange for replacement.
5. Contractor shall review Shop Drawings, Product Data, and Samples and return them to Architect noting discrepancies or anticipated problems in use of product.
6. Contractor is responsible for receiving, unloading, and handling Owner-furnished items at Project site.
7. Contractor is responsible for protecting Owner-furnished items from damage during storage and handling, including damage from exposure to the elements.
8. If Owner-furnished items are damaged as a result of Contractor's operations, Contractor shall repair or replace them.

1.10 MISCELLANEOUS PROVISIONS

A. 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.

B. 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.

C. 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. Contractor's are to adhere to the regulations of Oregon OSHA for all projects within the School District.

D. 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.

E. 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.

F. 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 art Oregon Occupational Safety and Health Code OAR 437, Division 2, Subdivision J, General Environmental Controls Lockout/Tag-out (1919.147), or latest edition.

G. 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.

H. 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 01100A, 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 01100B at the end of this Section

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - SCHEDULE OF PRODUCTS ORDERED IN ADVANCE

PART 5 - ASBESTOS FORMS

Form 01100A

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 01100B

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 01100

ATTACHMENT A
CONSTRUCTION CONTRACTOR AGREEMENT TERMS & CONDITIONS with PERFORMANCE BOND AND PAYMENT BOND, PREVAILING WAGES AND LIQUIDATED DAMAGES

REVISED 7/19/2013

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 ORS279C.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. 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.

7. 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.

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. Contractor is to maintain and post copies of all MSDS 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.

8. 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.

9. 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.

10. ELECTRICAL REQUIREMEMTS:

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).

11. 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.

12. 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.

13. 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.

14. 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.

15. LIQUIDATED DAMAGES: The DISTRICT will suffer financial loss if the Work is not Substantially Complete, on the date specified for work to be substantially complete. The contractor and the Contractor's surety shall be liable for and shall pay the DISTRICT the sum hereinafter stipulated as fixed, agreed, and liquidated damages for each calendar day of delay until the date established in the Certificate of Substantial Completion.

The agreed amount of liquidated damages is $500.00 per each calendar day. The amount of liquidated damages may be reduced in cases of partial occupancy, at the sole discretion of the DISTRICT.

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 higher of the applicable state or federal 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. Where a building permit is required, submit documentation of Building Department inspection and acceptance.
i. 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 DISTRICT 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

CONSTRUCTION CONTRACTOR AGREEMENT

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

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 specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections include the following:

1. Division 0 Document 00 52 13 " Form of Agreement" for monetary values of established Unit Prices and Alternates.
2. Division 0 Document 00 72 13 "General Conditions" for additional requirements for Changes in the Work, Contract Sum, and Contract Time.
3. Division 1 Section 00 11 13 "Supplementary Conditions" for allowable percentages for Contractors' Overhead and Profit.
4. Division 1 Section 01 22 00 "Unit Prices" for administrative requirements for using unit prices.
5. Division 1 Section 01 33 00" Submittal Procedures" for Schedule of Values requirements.
6. Division 1 Section 01 60 00 "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.
7. Division 1 Section 01 78 39 "Project Record Documents" documentation requirements.

1.3 MINOR CHANGES IN THE WORK

A. Architect, with the concurrence of the Owner, will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 CHANGE REQUEST/PROCEED ORDER (CONSTRUCTION CHANGE DIRECTIVE)

A. Architect or Owner may issue a Change Request/Proceed Order on form included at end of Part 3.

1. Change Request contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
2. Proceed Order, when signed by the Owner, instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Proceed Order.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

C. Authorization Required: When a Change Request is approved and signed by the Owner, it becomes a Proceed Order authorizing the change requested. Do not proceed with any change without the Owner's signature on the Change Request/Proceed Order.

D. Owner-Initiated Change Requests: Architect will issue a Change Request, which will include a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Change Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Change Request after receipt of Change Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a complete cost breakdown including a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor, supervision, overhead, and profit directly attributable to the change.
    d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

E. Contractor-Initiated Requests: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Architect.

1. Changes requested by the Contractor will be authorized only by signature of the Owner on the prescribed. Do not proceed with any changes without this authorization.
2. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
3. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
5. Include costs of labor, supervision, overhead, and profit directly attributable to the change.
6. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
7. Comply with requirements in Division 1 Section 01 60 00 "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

F. Change Request Form: Use forms provided by Owner. Sample copies are included at end of Section 3.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Change Request, and at intervals to be determined, Architect will collect Change Requests and issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

CHANGE REQUEST/PROCEED ORDER

2011-2014 Capital Improvement Program
Eugene School District 4J

……..

CHANGE REQUEST NOTICE

Change Request No.: _____

Project No.:_____ Contract No.:_____ Date:_____

Project Title:_____

Contractor:_____

1. **REQUEST INFORMATION**
   Estimated $_____ Time_____ Days_____ Initiated by _____
   Reason for change: _____
   _____

2. **DESCRIPTION**
   Describe changes: _____
   _____
   Describe affected work: _____
   List plan and spec sections: _____
   Describe impacted activities: _____
   Comment: _____

3. **DATES**
   Need for change first known _____ By whom _____
   Contractor first notified _____ How _____
   Owner first notified _____
   Date approved or rejected _____ By whom _____

4. **RECOMMENDATION (cost and time)** _____

……

PROCEED ORDER

PROCEED ORDER NO.: _____ Date: _____

1. **PAYMENT/COST**
   Actual amount of change $_____ The contract time will be:
   Contractor amount $_____ ( ) increased ( ) decreased by _____ days
   Subcontractor amount $_____ ( ) will remain unchanged
   Type of payment (LS/T&M) _____

2. **MISCELLANEOUS**
   Subcontractors involved: _____
   Major materials: _____
   The cost is not to exceed $_____ Date: _____

3 **CHANGE REQUEST ACCEPTED BY:**
   Contractor: _____ Date: _____
   Architect: _____ Date: _____
   4J CIP Project Manager: _____ Date: _____
   4J CIP Program Manager: _____ Date: _____
   4J Facilities Director: _____ Date: _____

Without the signature of Facilities Director, or the acting Director, this Proceed Order is neither accepted or authorized, except by written authorization of other specific delegation.

END OF SECTION 01 25 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 specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

1. Division 1 Section 01 25 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Division 1 Section 01 27 00 "Unit Prices" for administrative requirements governing use of unit prices.
3. Division 1 Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
4. Division 1 Section 01 77 00 “Closeout Procedures” for final Application for Payment.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with Continuation Sheets.
b. Submittals Schedule.
c. Contractor's Construction Schedule.

2. Submit the Schedule of Values to Architect and Owner at earliest possible date but no later than seven days before the date scheduled for submittal of initial Application for Payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Submit draft of AIA Document G703 Continuation Sheets.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

C. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

    1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
    2. Include amounts of Change Orders issued before last day of construction period covered by application.
    3. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours.

D. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values (draft submitted previously).
3. Contractor's Construction Schedule (preliminary if not final).
4. Products list.
5. Schedule of unit prices.
6. Submittals Schedule (based Architect's list or required submittals).
7. List of Contractor's staff assignments.
8. Initial progress report.
9. Report of preconstruction conference.

E. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

F. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout procedures (See itemized list in Section 01 77 00 "Closeout Procedures").
2. Updated final statement, accounting for final changes to the Contract Sum.
3. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
4. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
5. AIA Document G707, "Consent of Surety to Final Payment."
6. Evidence that claims have been settled.
7. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 10 29 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 provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. Administrative and supervisory personnel.
   2. Project meetings.

B. Related Sections include the following:
   1. Division 1 Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
   2. Division 1 Section 01 73 00 "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
   3. Division 1 Section 01 77 00 "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.
   4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

   1. Preparation of Contractor's Construction Schedule.
   2. Preparation of the Schedule of Values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.

5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.4 SUBMITTALS

A. Key Personnel Names: Within 15 days of Notice-to-Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including pager, cell, and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.5 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Schedule meeting dates and times with Owner and Architect.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Architect will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, within three days of receiving them from the Architect.

B. Preconstruction Conference: Owner’s Project Manager will schedule a preconstruction conference before starting construction, no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Owner’s Project Manager, Architect, and their consultants, as required; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following (see sample agenda at the end of Part 3):

a. Introduction of persons present.
b. Tentative construction schedule.
c. Phasing.
d. Critical work sequencing and long-lead items.
e. Designation of key personnel and their duties.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for requests for interpretations (RFIs).
h. Procedures for testing and inspecting.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Communications.

l. Role of District's Project Manager.
m. Submittal procedures, including MSDS information.
n. Energy design requirements.
o. Preparation of Record Documents.
p. Use of the premises and existing building.
q. Work hours and restrictions.
r. Owner's occupancy requirements.
s. Responsibility for temporary facilities and controls.
t. Construction waste management and recycling.
u. Parking availability.
v. Office, work, and storage areas.
w. Equipment deliveries and priorities.
x. Safety and first aid.
y. Security.
z. Progress cleaning.

3. Minutes: Architect will record and distribute meeting minutes.
4. Statements made by the Contracting Agency's representative at the pre-construction conference are not binding upon the Contracting Agency unless confirmed by Written Addendum.

C. Preinstallation Conferences: When required by individual specification sections, conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner's Project Manager a minimum of four days prior to scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract documents.
b. Related requests for interpretations (RFIs).
c. Related Change Orders.
d. Purchases.
e. Deliveries.
f. Submittals.
g. Possible conflicts.
h. Compatibility problems.
i. Time schedules.
j. Weather limitations.
k. Manufacturer's written recommendations.
l. Warranty requirements.
m. Compatibility of materials.
n. Acceptability of substrates.
o. Space and access limitations.
p. Regulations of authorities having jurisdiction.
q. Testing and inspecting requirements.
r. Installation procedures.
s. Coordination with other work.
t. Required performance results.
u. Protection of adjacent work.

3. Contractor to record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Distribute minutes of the meeting to each party present and to parties who should have been present, within three working days.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to the Owner's Project Manager and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Status of correction of deficient items.
        14) Field observations.
        15) Requests for interpretations (RFIs).
        16) Status of proposal requests.
        17) Pending changes.
        18) Status of Change Orders.
        19) Pending claims and disputes.
        20) Documentation of information for payment requests.

3. Minutes: Architect will record and distribute to Contractor the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PRECONSTRUCTION CONFERENCE AGENDA (SAMPLE)

Eugene School District 4J
Adams Elementary School – Restroom Addition

[Date]

AGENDA

1. ( ) Introduction of Persons Present
   - ( ) District 4J
   - ( ) Consultants
   - ( ) Contractor (including job foreman)
   - ( ) Subcontractors

2. ( ) Availability of Contract Documents

3. ( ) Building Permit Status
   - ( ) Plan check and Building Permit paid by District
   - ( ) Pick up Permit at City of Eugene by Contractor
   - ( ) Location of site stored approved contract documents
   - ( ) Utility permits
   - ( ) LRAPA Permit

4. ( ) Prevailing Wage Requirements
   - ( ) Submittal schedule
   - ( ) Conformance with requirements

5. ( ) Communications
   - ( ) Notification of problems

6. ( ) Role of District's representative
   - ( ) Limits of authority
   - ( ) Visitation schedules

7. ( ) Work Description and Schedule
   - ( ) General work description
   - ( ) Proposed start date: _____
   - ( ) Proposed completion date: _____
   - ( ) Proposed project schedule and phasing
   - ( ) Progress schedule updates
   - ( ) Methods to be employed to maintain schedule
   - ( ) Work requiring Shop Drawings or submittals shall not commence until review is complete.

8. ( ) Submittals Required per Contract Documents
   - ( ) MSDS Information
   - ( ) Written proof of Asbestos Worker Certification
   - ( ) Name, Experience and Qualifications of Asbestos Supervisor
   - ( ) Copy of Contractor's Asbestos Abatement License
   - ( ) Other information as required by Section 01 31 00.
   - ( ) Schedule of values
   - ( ) List of subcontractors including name of contact person, telephone number, and address

9. ( ) Construction

( ) Working hours
( ) Use of premises/set up locations
( ) Protection of existing facilities
( ) Traffic and protection
( ) Excavation and clean-up
( ) Weather restrictions
( ) Deviation from details and/or specifications

10. ( ) Correction of Defects
    ( ) Daily and/or as observed

11. ( ) Weekly On-Site Progress Meetings
    ( ) Establish day and time: Day _____Time _____
    ( ) Provide updated project schedules
    ( ) Discuss project progress, problems, etc.
    ( ) Review applications for payment
    ( ) Required attendance
    ( ) Observation report distribution

12. ( ) Change Order Requests and Change Order Procedures
    ( ) Written Change Order requests required
    ( ) Supporting back-up will be required for all Change Orders
    ( ) Mark-up limitations on Change Orders
        ( ) Contractor - 15 percent
        ( ) Subcontractors - 10 percent
    ( ) Progressive requests and Change Orders
    ( ) Processing time required

13. ( ) Applications for Payment
    ( ) Use AIA documents G702 and G703 latest edition
    ( ) Provide 5 signed and notarized copies
    ( ) Wage certifications to be attached

14. ( ) Safety and Emergency Procedures

15. ( ) Clean-up Daily
    ( ) Project completion

16. ( ) Project Closeout
    ( ) Inspections for
        ( ) Air Clearance
        ( ) AHERA Close Out Requirements
        ( ) Substantial completion
            ( ) Contractor provided list of items to be completed
            ( ) Inspection with job foreman
        ( ) Final Acceptance
            ( ) Written notice from Contractor that all work is done and ready for inspection
            ( ) Inspection with job foreman
        ( ) Responsibility for cost of additional inspections
        ( ) Submittals for Closeout
            ( ) Final application for payment
            ( ) Final set of wage certifications
            ( ) Release of liens from all Subcontractors and general Contractor

17. ( ) Tour of Project Sites to Examine and Document Existing Conditions

18. ( ) Additional Comments

The undersigned acknowledges that the items listed above were discussed during this preconstruction conference and are fully understood.

Date:

A/E Firm:

Contractor:

Subcontractors:

END OF SECTION 01 31 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 documenting the progress of construction during performance of the Work, including the following:

1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.

B. Related Sections include the following:

1. Division 1 Section 01 29 00 "Payment Procedures" for submitting the Schedule of Values.
2. Division 1 Section 01 31 00 "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
3. Division 1 Section 01 33 00 "Submittal Procedures" for submitting schedules and reports.
4. Division 1 Section 01 40 00 "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format.

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. Initial Submittal: List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

B. Activities: Treat each floor or separate area as a separately numbered activity for each principal element of the Work

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

D. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work." Delivery dates indicated stipulate the earliest possible delivery date.

E. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work." Delivery dates indicated stipulate the earliest possible delivery date.

F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion**.**

G. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

2.3 CONTRACTOR’S CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within 10 days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

OR

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 5 percent increments within time bar.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect Owner’s Project Manager, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 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 submitting Shop Drawings, Product Data, Samples, Information Submittals, Delegated Design and other submittals.

B. Related Sections include the following:

1. Division 1 Section 01 29 00 "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
2. Division 1 Section 01 31 00 "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
3. Division 1 Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
4. Division 1 Section 01 40 00 "Quality Requirements" for submitting test and inspection reports and for mockup requirements, if any.
5. Division 1 Section 01 77 00 "Closeout Procedures" for submitting warranties.
6. Division 1 Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
7. Division 1 Section 01 78 23 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
8. Divisions 2 through 49 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

B. Submittals Schedule: Comply with requirements in Division 1 Section 01 32 00 "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time

will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 14 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

D. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.

E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, if received from sources other than Contractor without prior consent.

1. Transmittal Form: Provide locations on form for the following information:

a. Project name.
b. Date.
c. Destination (To:).
d. Source (From:).
e. Names of subcontractor, manufacturer, and supplier.
f. Category and type of submittal.
g. Submittal purpose and description.
h. Specification Section number and title.
i. Drawing number and detail references, as appropriate.
j. Submittal and transmittal distribution record.
k. Remarks.
l. Signature of transmitter.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked "Approved **OR** Approved as Noted."

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Use only final submittals with mark indicating “Approved **OR** Approved as Noted” by Architect.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Standard color charts.
e. Manufacturer's catalog cuts.
f. Wiring diagrams showing factory-installed wiring.
g. Printed performance curves.
h. Operational range diagrams.
i. Compliance with specified referenced standards.
j. Testing by recognized testing agency.
k. Application of testing agency labels and seals.
l. Notation of coordination requirements.
m. MSDS information, where applicable.

4. Submit Product Data before or concurrent with Samples.
5. Number of Copies: Submit the number required by the Contractor plus four (4) copies of Product Data, unless otherwise indicated. Architect will return two copies to Contractor and one to Owner. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
d. Schedules.
e. Design calculations.
f. Compliance with specified standards.
g. Notation of coordination requirements.
h. Notation of dimensions established by field measurement.
i. Relationship to adjoining construction clearly indicated.
j. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
3. Number of Copies: Submit four opaque copies of each submittal, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Architect will retain two **c**opies, including one for the Owner’s Project Manager; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of appropriate Specification Section.

3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor..

    c. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements specified in Division 1 Section 01 40 00 "Quality Requirements."

B. Coordination Drawings: Comply with requirements specified in Division 1 Section 01 31 00 "Project Management and Coordination."

C. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section 01 32 00 "Construction Progress Documentation."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section 01 40 00 "Quality Requirements."

M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 1 Section 01 78 23 "Operation and Maintenance Data."

Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

T. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.

2.3 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Approved; Approved As Noted; OR Rejected - Resubmit

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 33 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 quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:

1. Division 1 Section 01 32 00 "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Divisions 2 through 49 Sections for specific test and inspection requirements.

1.3 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.

2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Payment for these services will be made by Owner.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor**,** and the Contract Sum will be adjusted by Change Order.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section 01 33 00 "Submittal Procedures."

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.6 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of the Owner, described as follows:

<List Special Inspections Here>

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 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 requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections include the following:

1. Division 1 Section 01 11 00 "Summary of Work" for limitations on utility interruptions and other work restrictions.
2. Division 1 Section 01 33 00 "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
3. Division 1 Section 01 77 00 "Execution Requirements" for progress cleaning requirements.
4. Divisions 2 through 49 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

1.5 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.6 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.76-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts**,** with 1-5/8-inch- (42-mm-) OD top rails.

B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide concrete bases for supporting posts.

C. Lumber and Plywood: Comply with requirements in Division 6

D. Gypsum Board: Minimum 1/2 inch (12.7 mm) thick by 48 inches (1219 mm) wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: At Contractor’s option, prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

C. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high

humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

E. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

G. Telephone Service:

1. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

3.3 SUPPORT FACILITIES INSTALLATION

A. Parking: Arrange for temporary parking areas for construction personnel.

B. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

C. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section 01 77 00 "Execution Requirements" for progress cleaning requirements.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section 01 11 00 "Summary of Work."

B. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

E. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
2. Insulate partitions to provide noise protection to occupied areas.
3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
4. Protect air-handling equipment.
5. Weather strip openings.
6. Provide walk-off mats at each entrance through temporary partition.

F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

END OF SECTION 01 50 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 selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:

1. Division 1 Section 01 23 00 "Alternates" for products selected under an alternate.
2. Division 1 Section 01 77 00 "Closeout Procedures" for submitting warranties for Contract closeout.
3. Divisions 2 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.

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 Bidders 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 three copies 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 that he 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. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 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.

B. Submittal Time: Comply with requirements in Division 1 Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

SUBSTITUTION REQUEST FORM

TO: Rodd Hansen, Architect, LLC
1551 Oak Street, Suite A
Eugene, Oregon 97401

DEADLINE: November 4, 2014

PROJECT: Adams Elementary School – Restroom Addition
Eugene School District 4J

CIP # 420.104.100

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 affect 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

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 general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of Owner-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the Work.

B. Related Sections include the following:

1. Division 1 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 1 Section 01 33 00 "Submittal Procedures" for submitting surveys.
3. Division 1 Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

B. Final Property Survey: Submit 2 copies showing the Work performed and record survey data.

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. PROCEEDING WITH THE WORK INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Owner's Project Manager promptly.
1. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

C. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Owner's Project Manager.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

4. Maintain minimum headroom clearance of seven feet in spaces without a suspended ceiling.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated. Bring any conflicts to the Architect for review.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints where possible. Obtain Architect and Owner’s Project Manager approval for all questionable conditions.

H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction forces.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to applicable regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for safety and proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section 01 40 00 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 73 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 procedural requirements for cutting and patching.

B. Related Sections include the following:

1. Division 1 Section 01 31 00 – “Project Management and Coordination” for pre- construction and pre-installation conferences.
2. Division 2 Section "Selective Demolition" for demolition of selected portions of the building.
3. Divisions 2 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

A. Cutting and Patching Proposal: Submit a written request describing procedures prior to the time cutting and patching will be performed, requesting approval to proceed, for cutting or alteration which affects:
1. Structural integrity of any element of Project.
2. Integrity of weather-exposed or moisture-resistant element.
3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of site-exposed elements.
5. Work of Owner or separate contractor.

B. Include the following information:
1. Identification of Project and CIP number
2. Location and description of the affected Work.
3. Necessity for cutting or alteration.
4. Description of proposed Work and Products to be used.
5. Alternatives to cutting and patching.
6. Effect on work of Owner or separate contractor.
7. Written permission of affected separate contractor, if any.
8. Date and time work will be executed.

1.5 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
2. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety**.**

B. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

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

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

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.3 PERFORMANCE

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

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 29

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 contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Warranties.
3. Final cleaning.

B. Related Sections include the following:

1. Division 1 Section 01 29 00 "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 1 Section 01 73 00 "Execution Requirements" for progress cleaning of Project site.
3. Division 1 Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
4. Division 1 Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
5. Divisions 2 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.

14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect and Owner's Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit the following completed forms, items and documents:
    a. AIA Document G706 Contractor's Affidavit of Payment of Debts and Claims.
    b. AIA Document G706A Contractor's Affidavit of Release of Liens.
    c. AIA Document G707 Consent of Surety Company to Final Payment.
    d. Operation and Maintenance Manuals
    e. Warranties and Bonds. Submit original documents, including Contractor's General Warranty,
    f. Record Documents.
    g. Keys.
    h. Testing and Start-Up records.
    i. Affidavit of Prevailing Wages paid.
    j. Complete list of Contractor and all Subcontractors with address, phone numbers, and work
    k. Asbestos-Containing Materials Statement (Form 01100B).
    l. Proof of final acceptance and compliance from governing authorities having jurisdiction.

5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Owner's Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Cost of additional re-inspections by Architect and Owner's Project manager will be deducted from Final Payment to the Contractor.

1.5 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 10 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Remove snow and ice to provide safe access to building.
f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

k. Remove labels that are not permanent.

l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

m. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

n. Replace parts subject to unusual operating conditions.

o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

q. Clean ducts, blowers, and coils if units were operated without filters during construction.

r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

s. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 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 preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Maintenance manuals for the care and maintenance of products, material, finishes, systems, and equipment.

B. Related Sections include the following:

1. Division 1 Section 01 33 00 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Division 1 Section 01 77 00 "Closeout Procedures" for submitting operation and maintenance manuals.
3. Division 1 Section 01 78 39 "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
4. Divisions 2 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

A. Initial Submittal: Submit 2 draft copies of each manual at least 15 working days before requesting inspection for Final Completion. Include a complete operation and maintenance directory. Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.

B. Final Submittal: Submit one copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.

1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. List of all subcontractors and material suppliers, including names, addresses and phone numbers.
5. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

    a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include a Table of Contents for each volume with a list of products and major components of equipment included in the section on the face of each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software media for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.

3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.
6. Contact information.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.

2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared Record Drawings in Division 1 Section 01 78 39 "Project Record Documents."

G. Comply with Division 1 Section 01 77 00 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

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 Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Sections include the following:
1. Division 1 Section 01 77 00 "Closeout Procedures" for general closeout procedures.
2. Division 1 Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 2 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of Record Drawings as follows:
a. Final Submittal: Submit one set of marked-up Record Prints (not “Job Shack” set).

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one copy of each Product Data submittal.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an understandable drawing technique.

c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order.
k. Changes made following Architect's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect and Owner’s Project Manager.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Owner’s Project Manager’s reference during normal working hours.

END OF SECTION 10 78 39

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED IN OTHER SECTIONS

A.

1.2 COORDINATION

A. Coordinate with other Trades affecting or affected by Work of this Section.

1.3 REGULATORY AGENCY REQUIREMENTS

A. Blasting & Burning: None permitted.

PART 2 - PRODUCTS

2.1 HERBICIDE

A. Manufacturer & Brand: Contractor's choice
B. Type: Satisfy conditions of use.

PART 3 - EXECUTION

3.1 PROTECTION

A. Carefully maintain Bench Marks, Monuments, and other Reference Points, if disturbed or destroyed, replace as directed.
B. Protect Workmen, Passersby, and Neighboring Property against injury and damage.
C. Plan Equipment access to minimize soil disturbance and compaction outside of areas to be cleared.
D. Unless otherwise indicated, do not disturb Topsoil or Vegetation outside of areas to be cleared.
E. Maintain Pavement and Sidewalks clean.
F. Protect existing Construction to remain, if any. Leave in as good condition as found.

PART 3 - EXECUTION

3.2 CLEARING

A. Completely clear areas to be occupied by Construction and other Improvements.
B. Remove Snags, Brush, Grass, Weeds, Rubbish, Pavement, and Debris, if any.
C. Remove Trees only where so noted on Drawings.
D. Remove Willow and Blackberry, if any, to not less than 12 inches below original Ground surface.
E. Cut other Trees, Stumps, Shrubs, and Brush flush with or slightly below original Ground surface.

3.3 GRUBBING

A. Remove Stumps, Roots larger than 1-1/2 inches in diameter, Rocks larger than 4 inches, and existing Construction not suitable for bearing, to the following levels:
   1. In areas to receive Plants: To not less than 12 inches below Finish Grade.
   2. In areas to receive Construction or Pavement: To not less than 18 inches below Subgrade.
   3. In other areas: To not less than 6 inches below Finish Grade.

3.4 DISPOSAL OF CLEARED & GRUBBED MATERIAL

A. Remove from Site daily, and lawfully dispose.

3.5 STUMP POISONING

A. Treat any Stumps or Roots, over 3 inches in diameter, with Herbicide to prevent regrowth.
B. Apply Herbicide in accordance with Manufacturer's instructions.

END OF SECTION 02 23 00

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Site Clearing: Section 02 23 00

1.2 WORK INCLUDED, BUT REIMBURSED BY OWNER

A. Should Rock as defined below be encountered, other than any shown on Drawings, or any exposed to view during Bidding Period, Owner will pay extra for any necessary Rock removal and take credit for omitted Earth excavation, in accordance with Contract Conditions.

B. Should Unstable Soil as defined below or excessive Water be encountered, other than any shown on Drawings, or any exposed to view during Bidding Period, Owner will pay extra for necessary site dewatering or soil removal, in accordance with Contract Conditions. Owner will not pay for removal or dewatering of Unstable Soil caused by reasonably anticipated inclement weather or by Contractor's work at the Site.

C. Should Wells, Cisterns, Tanks, Cesspools, Garbage Pits, Foundations, Rubble, etc. be encountered, other than any shown on Drawings, or any exposed to view during Bidding Period, Owner will pay extra for any necessary removal and take credit for omitted Earth excavation, in accordance with Contract Conditions.

1.3 DEFINITIONS

A. Rock:
   1. Boulders larger than 1 cu. yd. or Material that requires Splitting, Drilling, Blasting or other Specialized Equipment for removal.

B. Unstable Soil:
   1. Soft, loose, or wet Ground that is incapable of supporting Material, Equipment, Personnel, or Structure.

C. Unsuitable Fill Material:
   1. Soil with more than 2% Organic Fragments by volume, and/or with more than Optimum Moisture Content for compaction, and/or with Debris.

D. AASHTO:
   1. American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D.C., 20004

E. Weed-free:
   1. Material containing less than 5 objectionable Weeds per 100 sq. ft. Weeds include Dandelion, Jimsonweed, Quack Grass, Horsetail, Mustard, Canadian Thistle, Morning Glory, Rush Grass, Lambs Quarter, Chickweed, Cress, Crabgrass, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, and any other similar objectionable growth.

1.4 COORDINATION

A. Coordinate with other Trades affecting or affected by Work of this Section.

1.5 REGULATORY AGENCY REQUIREMENTS

A. This project is on Tribal land, therefore there is no regulating agency. However, the Tribe is requiring the project to be built to current relevant building codes.

1.6 ADVANCE NOTICE

A. Notify Engineer at least 48 hours prior to performing Site Proof Rolling so Work can be observed.

PART 2 - PRODUCTS

2.1 GRAVEL

A. Material: Round; water-worn; washed; sound; durable Rock which is free of soft, friable, thin, elongated, or laminated Pieces; disintegrated Material; organic Matter; Oil; Alkali; or other Deleterious Substances.
B. Maximum Size: See Filling under Part 3 - Execution
C. Minimum Size: 5% maximum passing #200 Sieve
D. Gradation: Even

2.2 CRUSHED ROCK

A. Material: Washed; sound; durable Rock which is free of soft, friable, thin, elongated, or laminated pieces; disintegrated Material; organic Matter; Oil; Alkali; or other Deleterious Substance.
B. Shape: Mechanically crush as follows:
   1. Fracture at least 70% of Particles on at least 2 Faces.
   2. Maximum Unfractured Particles:
      a. 3/8 inch and larger Rock: 10%
      b. Smaller than 3/8 inch Rock: 5%
C. Maximum Size: See Filling under Part 3 - Execution
D. Minimum Size: 5% maximum passing #200 Sieve
E. Gradation: Even

2.3 NATIVE MATERIAL

A. Existing Soil excavated from Project Site and stockpiled on Project Site for future use.

2.4 IMPORTED LOAM

A. Material: Fertile, friable, natural, native of locality, and reasonably free of Subsoil, Clay, Silt, Stones, Lumps, Plants, Roots, Sticks, Weeds, Seeds, and other Extraneous Matter. Material need not be processed and screened.
B. Extent of Work: Provide if stockpiled Existing Topsoil is not sufficient to complete Work.

2.5 COMPACTION EQUIPMENT

A. Type: Contractor's choice, but appropriate for conditions of use.
B. Caution: Within 3 ft. of Walls or Curbs use only small, manually-guided Compactors.

PART 3 - EXECUTION

3.1 EXISTING CONDITIONS

A. Prior to starting Work of this Section, verify that Site Clearing has been properly completed and that existing Grades agree with Drawings.
B. Notify General Contractor about defects requiring correction.
C. Do not start Work until conditions are satisfactory.
D. Should any suspected Contaminated Soil be encountered perform the following:
   1. Immediately notify Engineer and Dept. of Environmental Quality.
   2. Comply with Engineer's directions and Regulatory Agency requirements.
   3. Perform no Work that could disturb or spread suspected Contaminated Soil.
   4. Owner will employ and pay Testing Lab to confirm presence of Contaminated Soil.
   5. If Laboratory Tests confirm presence of Contaminated Soil, Owner will remove Contaminated Soil and will issue Change Order increasing Contract Sum for any proven additional cost to the Contractor and extending Contract Completion Date for any proven Contractor's lost time.

3.2 PROTECTION

A. Monuments:
   1. Carefully maintain Bench Marks, Monuments, and other Reference Points.
   2. If disturbed or destroyed, replace as directed.
B. Existing Utilities:
   1. Comply with requirements specified.
C. Traffic Control:
   1. Unless otherwise approved by Governing Authorities, provide necessary Barricades, Detours, Warning Devices, Flaggers, and coordinate Equipment movement to maintain Vehicle and Pedestrian Traffic on Public and Private Streets, Drives, and Walks.
D. Street Cleaning:
   1. Maintain Public and Private Streets and Walkways clean and Drains open at all times.
E. Dust Control:
   1. Protect Persons and Property against damage and discomfort caused by Dust; water where necessary to settle Dust and where directed.
F. Existing Trees to remain:
   1. Protect against damage.
G. Work of this Section:
   1. Except under Pavement and Walkways, protect Graded Material against damage and compaction from Traffic.
   2. Provide necessary Slopes and Ditches to drain Site during construction. Prevent Soil Erosion and Silt Deposition.
H. Other Work and Adjacent Property:
   1. Protect against damage and discoloration caused by work of this Section.

3.3 CUTTING EXISTING CONCRETE

A. Cut, prior to excavating, with vertical, straight-line Joints using Concrete Saw or other Tool designed for cutting concrete
B. Concrete Cut Width: Extend Cut 1 ft. beyond each side of Excavation.

C. Replace Concrete to condition at least as good as existing prior to cutting.

3.4 EXCAVATION

A. After Site Clearing Work is completed, but before excavating:
   1. At Planting Areas: Break up remaining Sod-like Vegetation to approximately 4 inch depth.
   2. Elsewhere: Strip at least 6 inches of existing Topsoil, and stockpile for possible future use.
   3. Remove from Topsoil any Vegetation, Sticks, Clods, Rocks larger than 1-1/2 inches, excessive Gravel, Subsoil, and Debris.

B. Excavating:
   1. Excavate with square-edge Buckets as necessary for Work shown on Drawings or specified.
   2. Allow ample space for Concrete Formwork and Utility Trenching.
   3. Do not weave, pump, rut, or otherwise disturb Excavated Grade Surfaces with Equipment.
   4. Protect any Excavation Slopes with securely anchored Plastic Sheeting. Install as soon as practical following excavation, and maintain as long as necessary to prevent Soil erosion.
   5. Remove any Disturbed Material and replace with Compacted Fill at no additional cost to Owner.
   6. Leave Bearing Surfaces undisturbed, level, and true. Where necessary, compact as specified below.

C. Blasting:
   1. None permitted.

D. Depth of Excavation:
   1. Excavate to elevations no higher than shown on Drawings.
   2. Notify Engineer if adequate Soil Bearing is not reached.
   3. Drawings indicate Contract Quantities; adjustments for variations will be made in accordance with General Conditions.

E. Temporary Stockpiling of Excavated Material:
   1. Locate within Construction Area as directed by District representative.
   2. Unless otherwise approved, do not obstruct Private or Public Streets, Drives, or Walkways.
   3. Locate sufficiently far from Excavation edges to prevent Stockpiled Material from falling into Excavation, and as required to eliminate effect on Excavation stability.
   4. At Stockpiles remaining during Rainy Periods, grade and cover Stockpile as required to prevent Compaction, Erosion, and Water Infiltration.
   5. Unless otherwise indicated, stockpiling Topsoil is not required if Topsoil can be distributed directly to final position.

F. Water, Snow, Ice, & Frost:
   1. Keep Bearing under Footings dry and free of Snow, Ice, and Frost.
   2. Provide and operate Pumping Equipment necessary to keep Excavations free from Standing Water. Do not reduce adjacent Ground Water level to extent that could endanger or damage adjacent Structures or Property.
   3. Do not create "quick" condition or affect Soil Bearing Capacity.

4. Do not discharge "removed" Water into permanent, on-site Utilities or Trenches without Sediment Control.
5. If Bearing Surfaces are softened by Water, Snow, Ice, or Frost, re-excavate to Solid Bearing and fill at Contractor's expense with Concrete as specified in Section 03 30 00.

3.5 EXCESS OR SHORTAGE OF EARTH

A. Provide additional Material herein specified or needed for Fills.
B. Stockpile excess Earth Material suitable for filling. Remove from Site unused and unsuitable Fill Material.

3.6 PROOF-ROLLING SUBGRADE

A. Following Subgrade preparation, within 24 hours prior to Fill or Base Course placement, and in Engineer's presence; proof-roll Subgrade beneath Building and Pavement Areas with fully-loaded 10 to 12 cu. yd. Dump Truck. Contractor shall notify Engineer a minimum of 48 hours prior to proof rolling the subgrade.
B. If any areas pump, weave, or appear soft, immediately notify Engineer about encountered conditions. Unless otherwise directed, over-excavate areas in 6 inch minimum lifts until suitable material is found. Then add a geotextile fabric as shown on the plans and fill with Crushed Rock compacted as specified below. When over-excavated areas are determined, a change order will be prepared for additional payment at unit prices defined in the bid documents for material used.
C. If significant length of time has passed between completion of Fill placement and construction start, or if vehicle traffic has been routed across area, repeat proof-rolling specified above.

3.7 FILLING

A. General:
   1. Before proceeding, remove any Snow, Ice, Frozen Material, Debris or Decayable Matter from areas to be filled.
   2. To insure bond, scarify any Sloping Ground to receive Fill.
   3. Make Fills as soon as feasible to assure thorough settlement.
   4. Uniformly place Fills adjacent to Structures to prevent unbalanced loading.
   5. Place Fills in the following maximum loose-lift thicknesses:
      a. Where Compacted with Heavy Equipment Compactors: 6 inches
      b. Where Compacted with Hand-operated Compactors: 4 inches
B. Fills directly under Concrete Footings & Flatwork:
   1. Base Course:
      a. Material: Crushed Rock
      b. Maximum Size: 1-1/2 inches
      c. Thickness: Fill space between underside of Leveling Course above and existing Subgrade below.
   2. Leveling Course:
      a. Material: Gravel
      b. Maximum Size: 3/4 inch
      c. Thickness: 6 inches

C. Fills beneath Sloping Concrete Flatwork & Asphalt Pavement:
   1. Slope Fill to prevent reducing Concrete and Asphalt thicknesses.
D. Fills at Planting Areas:
   1. Fill with stockpiled Native Topsoil or Imported Loam.

3.8 COMPACTING FILLS

A. Maintain optimum Moisture Content for compaction.
B. Minimum ASTM D-1557 (modified proctor) Compaction:
   1. Under and within 2 ft. of Slabs and Pavements: 95%
   2. Under and within 2 ft. of Foundations: 95%
   3. Elsewhere: 95%
C. Extend Fill-compaction to at least 5 ft. beyond edges of Work to be supported.

3.9 WET WEATHER WORK

A. If Fill is to be placed during wet weather or under wet conditions when control of Soil Moisture-content is not possible, Fill Material shall contain no more than 5% Material passing No. 200 Mesh Sieve (by weight).
B. Additionally:
   1. Slope Ground Surface in Construction Area and seal with Smooth Drum Roller to promote rapid Water-runoff and to prevent Water-ponding, and
   2. Perform Work in small areas, and carry through to completion to minimize exposure to wet weather, and
   3. Where Traffic over exposed Subgrade is anticipated, protect Subgrade with 12 inch minimum thickness Working Blanket of compacted clean Crushed Rock applied over non-woven Filter Fabric. Areas used as Haul Routes for heavy Construction Equipment may require thicker Blanket. If necessary limit traffic as required to prevent Soil disturbance, and
   4. Leave no Soil uncompacted so it can soak-up Water. Remove Soil which has become too wet for compaction, and replace with new Specified Fill Material.
C. Optional Treatment:
   1. Immediately following excavation, cover Subgrade with Geotextile Fabric. Overlap Fabric Seams 24 inches minimum.

3.10 GRADING

A. Rough Grading:
   1. Grade entire area of Property to reasonably true and even surfaces.
   2. Unless otherwise shown on Drawings, slope Ground at 5% rate for at least 10 ft. away from Building to facilitate drainage.
   3. Prevent Water-ponding.
   4. Grade to uniform levels or slopes between given Grade Points.
   5. Round Surfaces at abrupt Grade changes.
B. Levels:
   1. Grade area around Construction to the following levels:
      a. Paving, Walks, and other Hard-surfaced Areas:
         1. To underside of Surfacing, allowing for Gravel Base Course.
      b. Lawn Planting Areas:

1. To Finish Grades, allowing for 12 inches of stockpiled Native Topsoil or Imported Loam.

C. Finish Grading:
1. If Subsoil has not been freshly graded, scarify at least 6 inches deep. Areas to compacted levels shown on Drawings.
2. Spread available Stockpiled Topsoil and necessary Imported Loam over Planting areas to compacted level shown on Drawings.
3. Without over-compacting, roll and tamp Soil to prevent future settlement.
4. Remove Stones and Clods larger than 3/4 inch in size; Twigs and Sticks; and any other Foreign Matter.
5. Leave Surfaces ready for Soil-preparation Work by Landscape Subcontractor.

3.11 GRADING TOLERANCE

A. Position Finish Grade within 0.10 ft. of Grades shown on Drawings.

3.12 RECONDITIONING FINISHED WORK

A. Where completed Work has been disturbed by subsequent Work, Operations, or Adverse Weather; scarify Surface, re-shape, and re-compact to required Density at no additional cost to Owner.

3.13 CLEANING & REPAIRING

A. Including Work of other Trades, clean, repair and touch-up, or replace when directed, Work which have been soiled, discolored, or damaged by Work of this Section.
B. Remove Debris from Project Site upon Work completion, or sooner if directed.

END OF SECTION 02 30 00

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 This section includes the following:

1. Demolition and removal of selected portions of the building and finishes.
2. Salvage of existing items to be reused or recycled.

1.3 SALVAGE

A. None. Remove and dispose of all material from site as noted on Drawings.

1.4 SUBMITTALS

A. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.5 PROTECTION

A. General:
Protect portions of existing facilities which are to remain against damage and discoloration. Allow no leaks, even temporary, in existing building.

B. Barriers, Safety Guards, and Warning Lights. Provide where necessary for public protection.

C. Utilities
Keep active utilities intact and in continuous operation.

1.6 SCHEDULE

A. Provide a proposed schedule of demolition Work to the Owner for review within 5 days of receiving the written Notice to Proceed. Contractor shall coordinate with Owners asbestos abatement contractor, if any.

1.7 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

C. Use materials from manufacturers and suppliers specified or approved by the Architect.

D. All work shall comply with governing building and safety codes.

1.8 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on the Drawings and specified herein.

B. Deliver, store, and transport materials to avoid damage to the materials or to any other work.

1.9 PROJECT CONDITIONS

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.

B. Notify Architect when work is scheduled to be started and completed.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.

1.10 ALTERNATES

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

PART 2 - PRODUCTS

2.1 PROTECTIVE BARRIERS AND COVERS

A. Provide demolition materials, barriers, protective covers, etc. to complete the work as specified.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not start work until conditions are satisfactory.

3.2 SITEWORK PREPARATION

A. Obtain all required permits and approvals and obey all restrictions, deadlines, and notification requirements of governing agencies.

B. Notify owners and tenants of adjacent properties of impending work.

C. Identify and clearly mark underground utility lines, pipe, cable, and conduits.

3.3 DUST-PROOF PARTITIONS

A. Build where necessary to prevent dust-spread.

B. Face with plywood attached solidly to studs and cross blocking.

C. Cover joints with reinforced Kraft paper cemented in place.

D. Maintain dust-proof; remove only when directed.

E. Provide access and egress doors as required to maintain fire escape routes.

3.4 CLEANING AND REPAIRING

A. Allow no debris to accumulate in buildings, or on grounds, streets, or walks.

B. Haul away from site as soon as removed.

C. Dispose of at Contractor’s expense.

D. Clean, repair and touch, or replace when directed, adjacent property and surfaces which have been soiled, discolored, or damaged by work of this Section.

END OF SECTION 02 41 19

PART 1 - GENERAL

CONTRACT CONDITIONS

Work of this Section is bound by the General Conditions, Supplementary Conditions, and Division 1 bound herewith in addition to this Specification and accompanying Drawings.

RELATED WORK SPECIFIED ELSEWHERE

Concrete Reinforcement including Bar Supports and Reinforcement Accessories, Section 03 20 00.
Cast-in-Place Concrete, Section 03 30 00.

WORK INSTALLED BUT FURNISHED BY OTHERS

Build in as directed by those Contractors, without weakeni defacing formwork.

DESIGN AND ENGINEERING

Formwork design and engineering, as well as construction, Contractor's responsibility.

CONTRACT QUANTITIES

Drawings and Specifications indicate contract quantities. If quantity adjustments are made contract price will be ad in accordance with unit prices.

REGULATORY AGENCY REQUIREMENTS

Conform to Building Code requirements, if more rigid than specified herein.
Notify Architect of differences before starting Work.

ALLOWABLE TOLERANCES FOR CONCRETE

Variation from Level
Sills, Horizontal Grooves, and Conspicuous Lines:
3/16 inch in any bay or 20 feet maximum.
3/8 inch in 40 feet or more.
Variation of Building Lines
1/4 inch in any bay or 20 feet maximum.
Variation in Cross-Sectional Dimensions
Minus 1/8 inch; plus 1/4 inch.
Variation in Surface Tolerance
1/8 inch in any 10 feet measured with 10 foot straight-edge.
Deflection of Form Facing Material between Supports
0.0025 x span, maximum.
Column and Wall Locations
Accurately located within 1/8 inch.
Openings and Slabs
Accurately sized and located within 1/8 inch plus or minus
Crossing Property Lines
Regardless of tolerances specified above, no construction shall extend beyond the legal boundary of the project.

PRODUCT DELIVERY, STORAGE, AND HANDLING
Protect against damage and discoloration.

COORDINATION
Coordinate with other trades affecting or affected by Work of this section.

PROTECTION

Work of this section.

ALTERNATES
Refer to Section 01 03 00 for possible effect upon Work of this section.

PART 2 - PRODUCTS

PLYWOOD FORMS
APA B-B Plyform grade Plywood, Class 1.
Thickness: As required by Concrete placement rate.

PLANK FORMS (Typical Use)
Douglas Fir or Hemlock S4S, green, with no loose knots or knot holes; maximum Knot size 1-1/2 inch and well scattered.
Size as required to support concrete at rate poured.
Provide at footing and flatwork perimeters, unless otherwise indicated.

FORM TIES
Plastic cone type; Burke, Bowman, Richmond, Doyton, JEF, or approved; with standard 1inch breakback; equipped with inner waterproofing washer; and type recommended by manufacturer for conditions of installation.
Wire ties and wood spacers not permitted.

EMBEDDED ITEMS
Steel Reinforcement
Refer to Section 03 20 00.
Anchor Bolts
Furnished by Steel Fabricator and General Contractor.

FORM TREATMENT
For Plank Forms
Clean water.
For Plywood Forms
Coat with approved Stainless Form Oil, using minimum quantity required for satisfactory form removal.

PART 3 - EXECUTION

GENERAL

Conform to shapes, lines, and dimensions shown on drawings.
Brace and tie together to insure that position and shape are maintained.
Make tight to prevent concrete leakage.
Arrange joints as indicated or directed.
Form surface indentations, as shown on Drawings.
Provide access openings as required for cleaning and inspection of forms and embedded items prior to placing concrete. Locate where not exposed to view.
Anchor as required to prevent upward or lateral formwork movement during concrete placement.

PLYWOOD FORMS

Prevent plywood end grain from forming concrete exposed to view.

BRACING

Provide as required to meet load requirements.
Protect against undermining or settlement when placed on ground

FORM TIES

Unless otherwise indicated or approved, locate equidistant and symmetrical; align vertically and horizontally.

OPENINGS AND CHASINGS

Provide openings and chasings of slabs and walls for mechanical and electrical work.
Sizes and locations as directed by mechanical and electrical trades.

EARTH FORMS

Native soils or consolidated backfill may be used as foundation side forms provided that the soil is not prone to sloughing and concrete dimensions are increased by 3 inches at each side where earth forms occur. Obtain Architect's approval prior to use of earth forming technique.

TREATMENT OF FORMS

Plank Forms
Keep wet previous to placing concrete; wet thoroughly just before concrete placing.
Plywood Forms
When treating previously set forms, prevent coatings from covering reinforcing steel or existing concrete where bond is required.
Prohibit coatings from collecting in puddles.

PART 3 - EXECUTION (Continued)

EMBEDDED ITEM INSTALLATION
Steel Reinforcement
Refer to Section 03 20 00.
Anchor Bolts
Secure in accordance with approved setting drawings.
Set with templates to assure accurate bolt positioning.

ADJUSTMENTS
Reposition to true alignment prior to, during, and after concrete placement, if necessary.
During concrete placement, in areas where formwork develops weakness, settlement, or distortion, stop placement and remove or strengthen formwork.

FORM CLEANING
Remove debris and foreign matter from formwork prior to concrete placement. Remove loose rust and foreign matter from reusable hardware prior to installation into formwork.
Leave forms and shoring in place until concrete has attained sufficient strength to safely support own weight and imposed loads..

FORM REMOVAL
Remove forms at time and in manner to insure safety of structure, and without concrete surface damage.
Remove top forms from any sloping concrete surfaces as soon as concrete is self supporting. Repair and finish, if necessary, and cure immediately.

FORM RE-USE
Withdraw projecting nails; clean concrete from contact surfaces.
Replace with new material when necessary or when directed.
Re-use forms only when contact surfaces equal those specified for original use.

CLEANING AND REPAIRING
Remove formwork and debris from project site upon Work completion or sooner, if directed.
Including Work of other sections, clean, repair and touch-up, or replace when directed, products which have been soiled, discolored, or damaged by Work of this section.

END OF SECTION 03 10 00

PART 1 - GENERAL

CONTRACT CONDITIONS

Work of this Section is bound by the General Conditions, Supplementary Conditions, and Division 1 bound herewith in addition to this Specification and accompanying Drawings.

RELATED WORK SPECIFIED ELSEWHERE

Quality Requirements, Section 01 40 00.
Concrete Formwork, Section 03 10 00.
Cast-in-Place Concrete, Section 03 30 00.

CONTRACT QUANTITIES

Provide all required steel reinforcement, including reinforcement at Masonry walls.
Drawings and specifications indicate contract quantities.

ALLOWABLE VARIATION FROM DRAWING DIMENSIONS

Fabrication
Sheared Length: Plus or minus 1 inch.
Stirrup, and Tie Dimensions: Plus or minus 1/2 inch.
All Other Bend Dimensions: Plus or minus 1 inch.
Placement
Concrete cover: Plus or minus 1/4 inch.
Spacing between Bars: 1/4 inch.
Bar relocation to avoid interference with other reinforcement, conduits, or embedded items: 1 Bar diameter, unless otherwise approved by Architect.

SHOP AND PLACEMENT DRAWINGS

Follow "Manual of Standard Practice for Detailing Reinforced Concrete Structures, Standard 315", published by American Concrete Institute, Box 9094, Farmington Hills, MI, 48333.
Submit in accordance with Section 01 30 00.

PRODUCT DELIVERY, HANDLING, AND STORAGE

Protect against damage, rust, mud, grease, and oil.
Tag each piece or bundle; indicate size, grade, and location.

COORDINATION

Coordinate with other trades affecting or affected by Work of this Section.

PROTECTION

Protect other Work against damage and discoloration caused by Work of this Section.

ALTERNATES

Refer to Section 01 03 00 for possible effect upon Work of this Section.

PART 2 - PRODUCTS

BARS
ASTM A615, grade 60.

TIE WIRE
Black, annealed steel 16 gauge minimum Fed. Spec. QQ-W-461.

ACCESSORIES
Conform to "Manual of Standard Practice" published by Concrete Reinforcing Steel Institute, 933 North Plum Grove Road, Schaumburg, IL, 60173.
Include all devices necessary for proper reinforcement placement, spacing, supporting, and fastening.
Fabricate from concrete, ceramics, metal or plastic.
Galvanize metal accessories in contact with finished concrete surfaces.

FABRICATION
Follow Concrete Reinforcing Steel Institute "Manual of Standard Practice".

PART 3 - EXECUTION

EXISTING CONDITIONS
Verify that surfaces to receive reinforcement are accurately sized and located, square, plumb, rigid, secure, and otherwise accurately prepared.
Prior to starting Work, notify General Contractor of defects requiring correction.
Do not start Work until conditions are satisfactory.

INSTALLATION
General
Conform to Uniform Building Code paragraphs hereinafter named and amplified.
Welding of Rebar will not be allowed.
Bending
Conform to paragraph 1907.1, .2 and .3.
Bend Bars without heat.
Field bending partially embedded bars not permitted without Architect's approval.
Placing
Conform to paragraph 1907.5.
Secure against displacement.
Spacing
Conform to paragraph 1907.6.
Clear distance between parallel Bars, including splices, unless otherwise permitted by Code, no less than:
- Nominal Bar diameter.
- 1-1/2 times maximum Concrete Aggregate size.
- 1 inch.

PART 3 - EXECUTION (Continued)

INSTALLATION (Continued)
Splicing
At All Bars:
36 Bar diameters minimum, but no less than 24 inches.
Protective Concrete Covering
Conform to paragraph 1907.7.
3 inches minimum
At principal structural members cast directly against the ground, including Footings.
2 inches minimum
At principal structural members in direct contact with the ground after Formwork removal.
3/4 inches minimum, or Bar diameter, whichever the larger
At slabs and walls not exposed directly to ground or weather.
1-1/2 inches minimum, or bar diameter, whichever larger
All other locations.

SPECIAL REINFORCEMENT, unless otherwise shown on Drawings:
At Wall Corners and Intersections
Splice horizontal Wall Reinforcing with corner bars; same size and spacing.
Extend beyond Corner or Intersection 36 Bar diameters, 24 inches minimum.
At Slab Re-entrant Corners
Provide 2each, 48 inch long, #4 Bar diagonally across Corners.

CLEANING AND REPAIRING
Prior to concrete placement, remove loose flaky rust, mud, oil, and other bond-reducing coatings.
Remove debris from project site upon Work completion or sooner, if directed.
Including Work of other Sections, clean, repair replace when directed, Products which have been soiled, discolored, or damaged by Work of this Section.

END OF SECTION 03 20 00

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. This section includes the following:

1. Footings
2. Slabs-on-grade

1.3 SUBMITTALS

A. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, ore other circumstances warrant adjustments.

1.4 QUALITY ASSURANCE

A. Follow these standards: Place concrete according to ACI 301. Reinforcing to comply with ACI 301 and related ACI, CRSI, and ASTM standards. Formwork to comply with ACI 301, 318, and ACI 347. Tolerance standards for level, plumb, and aligned construction shall be as per ACI 117.

PART 2 - PRODUCTS

2.1 FORMWORK MATERIALS

A. Miscellaneous materials include: Construction joints: Tongue and groove extruded plastic as manufactured for this purpose to be installed where sawn trenches in existing slabs cross existing control joints. Joint filler: Premolded asphaltic board as per ASTM D 1751.

B. Vapor retarder for concrete slab on grade: “Moistop Ultra 10", 10 mil fiberglass reinforced polyethylene, manufactured by Fortifiber Building Products Systems, or approved.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, ¾ by ¾ inch min.

D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 REINFORCING MATERIALS

A. Reinforcing bars or wire mesh: All Interior and Exterior slabs on grade shall be reinforced with #4 deformed bars spaced 18" o.c.

2.3 CONCRETE MATERIALS

A. Concrete ingredients: Portland cement ASTM C 150 Normal-Type I. Aggregate, fine and course as per ASTM C 33. Water as per ASTM C 94, clean, free of salt or any chemicals or contaminants that might injure the concrete. Where exposed aggregate finish is noted on the Drawings provide special "exposed aggregate mix" to match as closely as possible the exposed aggregate finish of existing exposed aggregate finish closest to new slab.

B. Admixtures and miscellaneous materials:
1. Air entraining admixture as per ASTM C 260 and manufacturer's instructions. Water reducing, retarding, accelerating admixtures as per: ASTM C 494 and manufacturer's instructions. Bonding agent: Polymer resin. Non-shrink grout: Non-metallic mineral aggregate, cement, water reducing materials as per ASTM C 494 and as per manufacturer's instructions.

C. Curing & Sealing products:
1. Curing and protection paper: Products shall comply with ASTM C 171. Use non-staining curing paper or paper with polyethylene film on floor slabs.
2. Liquid curing & hardening agents as manufactured by Sonneborn or its descendants, or approved.
3. Interior Flatwork to receive finish covering: Clear, colorless, with fugitive dye, approved by floor covering Contractor; meet or exceed ASTM C-309-Type 1., no VOC
4. Exterior Flatwork without finish covering: White pigmented, non-yellowing, meet or exceed ASTM C-309-Type 1, no VOC.

2.4 CONCRETE MIXTURE

A. All mixing and tests to assure compliance with standards as per CI 301.
1. Provide concrete ready-mixed in compliance with ASTM C 94. Concrete strength will conform to ACI 301, 318, and applicable building code requirements.

Compressive strength of 1700 psi in 7 day test.

Compressive strength of 3500 psi in 28 day test.

Slump (5) inches maximum.

B. Add air entraining admixture as required to protect concrete exposed to exterior weather. Admixture as per ACI 301 and 318 and manufacturer's instructions.

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. Concrete slabs shall be fully supported by compacted crushed rock.

B. Joints & Formwork: Install formwork to provide movement joints to align with and continue existing control joints.

C. Clean cut edges of existing concrete and remove trash, scraps, and other foreign materials prior to installing new concrete..

D. Avoid damage to existing concrete surfaces which are scheduled to remain. It is the intent of this Contract to avoid the need to replace existing resilient flooring.

E. Tool scored joints into concrete slabs at joints between new and existing slabs and to extend existing score lines through new concrete surfaces.

F. Concrete slab patches shall be steel troweled smooth at building interior to match adjacent finishes.

G. Where exterior walks are cut and patched, or extended, new concrete shall be finished to match slopes of adjacent existing walks to continue existing drainage patterns. Finishes of new walks shall match texture and patterns of existing walks.

3.2 CONCRETE - PRE-PLACEMENT COORDINATION

A. Obtain all required agency approvals.

3.3 FORMWORK

A. Install vapor retarder under slabs on grade with joints lapped a minimum of 8 to 12 inches. Seal entire vapor retarder watertight.

B. Coordinate installation of related work before concrete pour, and protect from damage all work such as base plates, utility boxes, drains, conduit, pipes and plumbing. Put required attachments, accessories, and inserts in place before pouring.

C. Prepare previous concrete work for connection with new work by cleaning with wire brush and adding bonding agent as per manufacturer's instructions.

D. Install joint filler at joint lines where concrete slab abuts building exterior foundation wall. Separate slab from vertical surfaces with 1/2" joint filler or bond breaker. Install concrete without interruption between construction or expansion joints.

E. Areas to receive concrete shall be free of debris or organic matter and wetted if dry.

F. Keep formwork in place after pouring until concrete reaches required strength. Adjust and retighten forms as necessary to fasten securely against concrete surfaces. Keep all formwork bracing in place after pouring until ample time has passed for concrete to reach required strength.

3.4 CONCRETE PLACEMENT

A. Provide site sample test materials such as cylinders, slump cone and measuring equipment.

B. Record dates and times of placement, interruptions, tests, completion, and finish work. Verify concrete requirements for tests and mix before delivery and placement.

C. Slump must pass visual inspection. Check test results at 3 or 7 days, and confirm at 28 days.

3.5 INSTALLATION

A. Ready-mix concrete to conform to ACI 301 and 304. Allow no unauthorized watering or overwatering.

B. Job-mixed concrete shall not be installed at exterior exposed slabs. Small concrete patches at building interior may be Job-mixed and shall conform to ACI and ASTM. Keep cement in dry storage. Protect all materials from contamination. Keep mix water clean and free of salts or other harmful chemicals.

C. Follow a continuous concrete delivery schedule to allow uninterrupted placement of concrete for exterior walkways. Avoid any unplanned cold joints. Do not allow mix trucks to stay beyond allowable waiting period before pouring concrete. Typical waiting limits are: Less than an hour on hot days. Less than half an hour after water has been added.

D Preparation: All materials, equipment, and personnel shall be as required to perform the work shown and specified. Verify that slabs will be properly sloped for required drainage.

3.6 CONCRETE PROTECTING AND CURING

A. Provide for curing of concrete as per ACI 308 for a minimum of seven days. Start curing procedures promptly after pour, to protect concrete from premature drying. Control curing methods, covers, and wetting, with special attention to weather conditions. Apply curing compound in strict accordance with manufacturer's instructions for conditions of use.

B. During curing, protect concrete from heat or cold, to maintain temperature between 50 and 70 F. Degrees. Protect concrete from inclement weather, running water, construction equipment, movement and load stress. Apply liquid sealer in strict accordance with manufacturer's instructions for conditions of use.

C. Where exposed aggregate finish is noted wash off excess concrete to expose aggregation on same day of concrete installation. Expose top surfaces only of aggregate to preserve mechanical bond of each aggregate with the slab. Apply liquid sealer in strict accordance with manufacturer's instructions for conditions of use.

3.7 FINISHING FORMED SURFACES

A. Match up finish work to adjacent or nearby surfaces at all joints, edges, and corners.

B. Floating, troweling, and special finishes shall be as noted on the Drawings. Do not begin floating until bleed water is gone and avoid over-troweling. Do not dust cement to expedite

troweling start time.

C. Complete finishes as shown on the Drawings including troweled finish for walking surfaces or those receiving floor covering or membrane. Broom finish shall be non-slip for landings and walkways.

D. After first floating, check plane of surface with 10' steel straight edge. Finish work, measured with a 10' straightedge, must not exceed a tolerance of 1/8" in 10' in any direction. Exterior slabs which allow ponding of water to occur shall be removed and replaced.

3.8 FORM REMOVAL, CLEANING & REPAIRING

A. Remove formwork as per CSI 301 and 318. Remove wood formwork below grade, as well as above grade.

B. Protect newly poured concrete surfaces from damage during and after stripping of forms. Promptly remove form tie clamps before corrosion can begin. Remove loose nails and other metals that might leave rust. Grout any depressions in concrete smooth and level.

C. After form removal, promptly repair honeycombs and all other surface defects on concrete surfaces that will remain visible as directed by the Architect.

D. Clean work surfaces, remove formwork, completely remove debris from the job site.

END OF SECTION 03 30 00

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 rough carpentry work:
1. Wood framing.
2. Sheathing.
3. Subflooring.
4. Underlayment.
5. Backing panels for utilities.
6. Nailers, blocking, furring, metal connectors at all post/beam/footing joints, and sleepers.
7. Glue-laminated beams, girders, and headers specified under 06 19 00

1.3 SUBMITTALS

A. Submit for approval product data.

1.4 QUALITY STANDARDS

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber, finished 4 sides, 19% maximum moisture content:
1. Light framing: Construction grade Douglas Fir or Southern Pine, appearance grade where exposed.
2. Structural framing and timbers: No. 1 grade Douglas fir or southern pine, appearance grade where exposed.
3. Boards: Construction grade.

B. Wood for nailers, blocking, furring and sleepers: Construction grade, finished 4 sides, 19% maximum moisture content. Pressure preservative treat items in contact with roofing, flashing, waterproofing, masonry, concrete or the ground. Provide blocking for all mounted items, including:
   1. Casework and shelving.
   2. Handrails and railings.
   3. Toilet accessories.
   4. Window treatment.
   5. Nailers for roof crickets

C. Plywood, APA rated for use and exposure & Cementitious Underlayment:
   1. Cementitious underlayment for single-ply roofing: 1/4" Dens-deck as manufactured by Georgia Pacific, or approved cementitious underlayment board as required to meet UL Class A requirement for roofing assembly.
   2. Subflooring: APA sheathing, 1-1/8" thick 2:4:1, 48/24 Douglas Fir Plywood
   3. Wall sheathing: APA sheathing, ½" C-D plugged, Exterior.
   4. Roof sheathing: APA sheathing, 5/8", 32/16 Douglas Fir Plywood Exterior.
   5. Backing panels: APA C-D plugged interior with exterior glue, 3/4" thick.

D. Building paper: Asphalt saturated felt, non-perforated, ASTM D 226, Type 1.

E. Air infiltration barrier @ Interior face of Exterior Studs typical: 6 mil Visqueen or approved equal.

F. Wood treatment:
   1. Preservative treatment: Pressure-treated with waterborne preservatives, to comply with AWPB LP-2 for above-ground items LP-22 for ground contact items. Kiln dry after treatment to 19% max. moisture content for lumber and 15% for plywood. Treat above-ground wood exposed to deterioration by moisture and all wood in contact with the ground or fresh water.
   2. Fire-retardant treatment: Pressure impregnated, to comply with AWPA C20 for lumber and AWPA C27 for plywood; provide where indicated and where required by code. Do not use fire-retardant treatment containing ammonium phosphates.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Wood framing: Comply with recommendations of NFPA Manual for House Framing, NFPA Recommended Nailing Schedule, and NFPA National Design Specifications for Wood Construction.

B. Plywood: Comply with recommendations of APA Design and Construction Guide - Residential and Commercial.
   1. Minimum Nailing Standards for Wall Sheathing: 8d nails @ 6" o.c. at all edges, 12" o.c. at all intermediate supports.
   2. Minimum Attachment Standards for Floor Sheathing: #10 x 2-1/2" screws @ 6" o.c. at all edges, 12" o.c. at all intermediate supports.

3. Minimum Attachment Standards for Roof Sheathing: 8d nails @ 6" o.c. at all edges, 12" o.c. at all intermediate supports. Decrease nail spacing to 4" o.c. at all edges and 8" o.c. at intermediate supports within 10 feet of roof edges and at roofs over third floor areas.

C. Provide nailers, blocking and grounds where required. Set work plumb, level and accurately cut. Provide 2 inch nominal solid fire blocking between studs and other framing at a maximum spacing of 10' centers and at all floor and fire rated ceiling lines.

D. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with other work.

E. Comply with manufacturer's requirements for cutting, handling, fastening and working treated materials. Provide STAINLESS STEEL OR DOUBLE GALVANIZED FASTENERS for attachments of all Pressure Treated Materials.

F. Restore damaged components. Protect work from damage.

TABLE 2304.9.1 FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]	LOCATION
1. Joist to sill or girder	3 - 8d common ($2^1/_2$″ × 0.131″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	toenail
2. Bridging to joist	2 - 8d common ($2^1/_2$″ × 0.131″) 2 - 3″ × 0.131″ nails 2 - 3″ 14 gage staples	toenail each end
3. 1″ × 6″ subfloor or less to each joist	2 - 8d common ($2^1/_2$″ × 0.131″)	face nail
4. Wider than 1″ × 6″ subfloor to each joist	3 - 8d common ($2^1/_2$″ × 0.131″)	face nail
5. 2″ subfloor to joist or girder	2 - 16d common ($3^1/_2$″ × 0.162″)	blind and face nail
6. Sole plate to joist or blocking	16d ($3^1/_2$″ × 0.135 ″) at 16″ o.c. 3″ × 0.131″ nails at 8″ o.c. 3″ 14 gage staples at 12″ o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3- 16d ($3^1/_2$″ × 0.135″) at 16″ o.c. 4 - 3″ × 0.131″ nails at 16″ o.c. 4 - 3″ 14 gage staples at 16″ o.c.	braced wall panels
7. Top plate to stud	2 - 16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	end nail
8. Stud to sole plate	4 - 8d common ($2^1/_2$″ × 0.131″) 4 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	toenail
	2 - 16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	end nail
9. Double studs	16d ($3^1/_2$″ × 0.135″) at 24″ o.c. 3″ × 0.131″ nail at 8″ o.c. 3″ 14 gage staple at 8″ o.c.	face nail
10. Double top plates	16d ($3^1/_2$″ × 0.135″) at 16″ o.c. 3″ × 0.131″ nail at 12″ o.c. 3″ 14 gage staple at 12″ o.c.	typical face nail
Double top plates	8 - 16d common ($3^1/_2$″ × 0.162″) 12 - 3″ × 0.131″ nails 12 - 3″ 14 gage staples	lap splice
11. Blocking between joists or rafters to top plate	3 - 8d common ($2^1/_2$″ × 0.131″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	toenail
12. Rim joist to top plate	8d ($2^1/_2$″ × 0.131″) at 6″ o.c. 3″ × 0.131″ nail at 6″ o.c. 3″ 14 gage staple at 6″ o.c.	toenail
13. Top plates, laps and intersections	2 - 16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	face nail
14. Continuous header, two pieces	16d common ($3^1/_2$″ × 0.162″)	16″ o.c. along edge
15. Ceiling joists to plate	3 - 8d common ($2^1/_2$″ × 0.131″) 5 - 3″ × 0.131″ nails 5 - 3″ 14 gage staples	toenail
16. Continuous header to stud	4 - 8d common ($2^1/_2$″ × 0.131″)	toenail

TABLE 2304.9.1—continued FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]	LOCATION
17. Ceiling joists, laps over partitions (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common ($3^1/_2$″ × 0.162″) minimum, Table 2308.10.4.1 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples	face nail
18. Ceiling joists to parallel rafters (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common ($3^1/_2$″ × 0.162″) minimum, Table 2308.10.4.1 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples	face nail
19. Rafter to plate (see Section 2308.10.1, Table 2308.10.1)	3 - 8d common ($2^1/_2$″ × 0.131″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	toenail
20. 1″ diagonal brace to each stud and plate	2 - 8d common ($2^1/_2$″ × 0.131″) 2 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	face nail
21. 1″ × 8″ sheathing to each bearing	3 - 8d common ($2^1/_2$″ × 0.131″)	face nail
22. Wider than 1″ × 8″ sheathing to each bearing	3 - 8d common ($2^1/_2$″ × 0.131″)	face nail
23. Built-up corner studs	16d common ($3^1/_2$″ × 0.162″) 3″ × 0.131″ nails 3″ 14 gage staples	24″ o.c. 16″ o.c. 16″ o.c.
24. Built-up girder and beams	20d common (4″ × 0.192″) 32″ o.c. 3″ × 0.131″ nail at 24″ o.c. 3″ 14 gage staple at 24″ o.c.	face nail at top and bottom staggered on opposite sides
	2 - 20d common (4″ × 0.192″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	face nail at ends and at each splice
25. 2″ planks	16d common ($3^1/_2$″ × 0.162″)	at each bearing
26. Collar tie to rafter	3 - 10d common (3″ × 0.148″) 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples	face nail
27. Jack rafter to hip	3 - 10d common (3″ × 0.148″) 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples	toenail
	2 - 16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	face nail
28. Roof rafter to 2-by ridge beam	2 - 16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	toenail
	2 -16d common ($3^1/_2$″ × 0.162″) 3 - 3″ × 0.131″ nails 3 - 3″ 14 gage staples	face nail
29. Joist to band joist	3 - 16d common ($3^1/_2$″ × 0.162″) 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples	face nail

TABLE 2304.9.1—continued FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]		LOCATION
30. Ledger strip	3 - 16d common (3 1/2″ × 0.162″) 4 - 3″ × 0.131″ nails 4 - 3″ 14 gage staples		face nail at each joist
31. Wood structural panels and particleboard[b] Subfloor, roof and wall sheathing (to framing)	1/2″ and less	6d[c, l] 2 3/8″ × 0.113″ nail[n]	
	19/32″ to 3/4″	1 3/4″ 16 gage[o] 8d[d] or 6d[e] 2 3/8″ × 0.113″ nail[p] 2″ 16 gage staple[p]	
	7/8″ to 1″	8d[c]	
	1 1/8″ to 1 1/4″	10d[d] or 8d[e]	
Single floor (combination subfloor-underlayment to framing)	3/4″ and less	6d[e]	
	7/8″ to 1″	8d[e]	
	1 1/8″ to 1 1/4″	10d[d] or 8d[e]	
32. Panel siding (to framing)	1/2″ or less	6d[f]	
	5/8″	8d[f]	
33. Fiberboard sheathing[g]	1/2″	No. 11 gage roofing nail[h] 6d common nail (2″ × 0.113″) No. 16 gage staple[i]	
	25/32″	No. 11 gage roofing nail[h] 8d common nail (2 1/2″ × 0.131″) No. 16 gage staple[i]	
34. Interior paneling	1/4″	4d[j]	
	3/8″	6d[k]	

For SI: 1 inch = 25.4 mm.

a. Common or box nails are permitted to be used except where otherwise stated.

b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.

c. Common or deformed shank (6d - 2″ × 0.113″; 8d - 2 1/2 ″ × 0.131″; 10d - 3″ × 0.148″).

d. Common (6d - 2″ × 0.113″; 8d - 2 1/2 ″ × 0.131″; 10d - 3″ × 0.148″).

e. Deformed shank (6d - 2″ × 0.113″; 8d - 2 1/2 ″ × 0.13 1″; 10d - 3″ × 0.148″).

f. Corrosion-resistant siding (6d - 1 7/8 ″ × 0.106″; 8d - 2 3/8 ″ × 0.128″) or casing (6d - 2″ × 0.099″; 8d - 2 1/2 ″ × 0.113″) nail.

g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports, when used as structural sheathing. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications.

h. Corrosion-resistant roofing nails with 7/16-inch-diameter head and 1 1/2-inch length for 1/2-inch sheathing and 13/4-inch length for 25/32-inch sheathing.

i. Corrosion-resistant staples with nominal 7/16-inch crown or 1-inch crown and 1 1/4-inch length for 1/2-inch sheathing and 1-inch length for 25/32-inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).

j. Casing (1 1/2 ″ × 0.080″) or finish (1 1/2 ″ × 0.072″) nails spaced 6 inches on panel edges, 12 inches at intermediate supports.

k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.

l. For roof sheathing applications, 8d nails (2 1/2 ″ × 0.113″) are the minimum required for wood structural panels.

m. Staples shall have a minimum crown width of $^{7}/_{16}$ inch.

n. For roof sheathing applications, fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.

p. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

END OF SECTION 06 10 00

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. This section includes the following:

1. Provide all wall insulation in walls as shown on drawings.
2. Provide all roof / attic insulation over ceiling areas as shown on drawings
3. Provide all rigid insulation on exposed concrete stemwalls as shown on drawings.

1.3 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

1.4 DEFINITIONS

A. “R” value designates thermal resistance of insulation only, not including alleged air spaces or other factors assumed to result in higher “R” values.

1.5 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on drawings and specified herein. Deliver, store, and transport materials to avoid damage to the products or to any other work and as per the General Conditions.

1.6 PREPARATION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.

PART 2 - PRODUCTS

2.1 THERMAL INSULATION

A. Insulation shall be flexible fiberglass insulation batts with Kraft paper facing at warm

side (interior).
Manufactured by Owens-Corning, Certainteed or approved.
Location: As specified herein.
R-value:21 Thickness: 5 ½"

Rigid Insulation: shall be extruded polystyrene, closed cell foam
Manufactured by Owens-Corning, Certainteed or approved.

B. Provide tapes, fastenings, and other related materials as instructed by insulation manufacturer.

PART 3 - CONSTRUCTION AND INSTALLATION

3.1 MATERIALS HANDLING

A. Keep insulation materials totally dry at all times in storage and during installation.

3.2 INSTALLATION

A. Keep areas to be insulated clean and dry. Do not install insulation where it might be exposed to water.

B. Install as per manufacturer's instructions and building code requirements. Keep ventilation space unobstructed.

END OF SECTION 07 20 00

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cementitious express/reveal jointed panel with accessories.

1.2 RELATED SECTIONS

A. Section 06 10 00 - Rough Carpentry: Wood framing and bracing.

B. Section 06 10 00 - Rough Carpentry: Sheathing.

C. Section 07 21 00 - Insulation: Exterior wall insulation.

1.3 REFERENCES

A. ASTM International (ASTM):
1. ASTM B136 - Standard Method for Measurement of Stain Resistance of Anodic Coatings on Aluminum.
2. ASTM B244 - Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments.
3. ASTM C834 - Standard Specification for Latex Sealants.
4. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
5. ASTM C1186 - Standard Specification for Flat Non-Asbestos Fiber-Cement Sheets.
6. ASTM D1117 - Standard Guide for Evaluating Nonwoven Fabrics.
7. ASTM D1730 - Standard Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting.
8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
9. ASTM E96 - Test Methods for Water Vapor Transmission of Materials.
10. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
11. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.
12. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure.

B. AATCC127 - Water Resistance: Hydrostatic Pressure Test.

C. TAPPI - T460 - Air Resistance of Paper (Gurley Method).

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Installation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Manufacturer's best practice guide.
4. Technical data sheet.

5. Standard CAD drawings

C. Shop Drawings: Provide detailed drawings of atypical non-standard applications of cladding junctions and penetrations which are outside the scope of the standard details and specifications provided by the manufacturer.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 4 by 6 inches (100 by 150 mm), representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

A. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques
1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

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

B. Store siding flat on a smooth level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.

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

1.7 PROJECT CONDITIONS

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

1.8 WARRANTY

A. Manufacturer's Warranty: 30-year limited product warranty against manufacturing defects.
1. Application Warranty: Application limited warranty for 2 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. James Hardie Building Products, Inc., Certainteed, or approved.

B. Requests for approval of equal substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 CLADDING

A. Code Compliance Requirement for Siding Materials:
1. Fiber-cement siding, complies with ÅSTM C 1186 Type A Grade II.

2. Fiber-cement siding, complies with ASTM E 136 as a noncombustible material.
3. Fiber-cement siding, complies with ASTM E 84 Flame Spread Index = 0, Smoke Developed Index = 5.
4. Fiber-cement siding, complies with ÅSTM E 119 1 hour and 2 hour fire resistive assemblies listed with Warnock Hersey.
5. Fiber-cement siding, tested to ASTM E330 for Transverse Loads.
6. Intertek Warnock Hersey Product Listing.
7. Manufacturer's Technical Data Sheet.

2.3 WEATHER BARRIER

A. Weather Barrier: HardieWrap and HardieWrap Flashing and Seam Tapes, or approved.
Code Compliance Requirement for Weather Barrier:
1. Thickness, 11 mil sheet.
2. Breathability in accordance with ÅSTM E96.
3. Tear strength in accordance with ASTM D1117.
4. Water resistance in accordance with AATCC127.
5. Air Penetration in accordance with TAPPI - T460.
6. HardieWrap Weather Barrier ICC-ES Evaluation Report ESR-2258

2.4 FURRING (STRAPPING)

A. Rainscreen Cavity: Install Hardie Reveal Panels, or approved, on a drained and vented rainscreen cavity, with a minimum 3/8 inch (9.5mm) air cavity. Selection of cavity vent materials shall be incorporated into the design to prevent insect and pest entry.

2.5 ACCESSORIES

A. Trims: Trims confirm to a 6063 alloy in T-5 temper with a minimum thickness of 0.050 inch. All reveal trims are 12 feet in length.
1. Horizontal trim.
2. Vertical trim.
3. Outside corner trim.
4. Inside corner trim.
5. J channel trim.
6. Drip cap trim.

B. Finishes of Trims:
1. Chem Film for field painting of Reveal Trims; Chem Film Coating shall conform to ASTM N D1730
2. Clear anodized metal finish aesthetic; clear anodizing shall conform to ASTM B244 and ASTM B136.
3. Color coated finish as supplied in accordance with manufacturers requirements

2.6 FASTENERS

A. Fasteners: For attaching Hardie Reveal Panel to a rain screen provide the following:
1. Wood Framing: 10-12 1-1/2 inch long x 0.47 inch HD low profile Torx (T20W) (TW-S-D12-4.8x38).
2. Steel Framing: 10-12 1-1/2 inch long x 0.47 inch HD low profile Torx (T20W) (TW-S-D12-4.8x38).
3. Fasteners shall be of high quality stainless steel to ensure resistance to corrosion. For field painting, fasteners should be treated to accept paint adhesion.
a. Alternatives must be approved by the architect. e.g. decorative screws, nails,

bugle head screws, etc.

2.7 FINISHES

A. Factory Primer: Provide factory applied universal primer.
   1. Primer: Factory applied sealer/primer by James Hardie. Apply flat sheen finishes to panels.
   2. Topcoat: Refer to Section 09 90 00 and Exterior Finish Schedule.

B. Factory Finish for Trim:
   1. Trim for Factory-Applied Coating and Field-Applied Finish: Chem Film.
   2. Trim for Factory-Applied Finish and No Field-Applied Finish: Clear anodized.

PART 3 EXECUTION

3.1 EXAMINATION.

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

B. If framing preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

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

C. Ensure that drainage plane in intact and all penetrations are sealed.

3.3 INSTALLATION

A. Wood Framing: Nominal 2 inch by 4 inch (51 m by 102 mm) wood framing selected for minimal shrinkage and complying with local building codes, including the use of water-resistive barriers or vapor barriers where required. Minimum 1-1/2 inches (38 mm) face and straight, true, of uniform dimensions and properly aligned.
   1. Install water-resistive barriers and claddings to dry surfaces.
   2. Repair any punctures or tears in the water-resistive barrier prior to the installation of the siding.
   3. Protect siding from other trades.

B. Metal Framing: Minimum 20 gauge 3-5/8 inch (92 mm) C-Stud 16 inches maximum metal framing complying with local building codes, including the use of water-resistive barriers and/or vapor barriers where required. Minimum 1-1/2 inches (38 mm) face and straight, true, of uniform dimensions and properly aligned.
   1. Install water-resistive barriers and claddings to dry surfaces.
   2. Repair any punctures or tears in the water-resistive barrier prior to the installation of the siding.
   3. Protect siding from other trades.

C. Furring: Install furring on a minimum 3/8 inch rainscreen cavity, or in accordance with local building code for rainscreen requirements.

D. Panel Installation: Install materials in strict accordance with manufacturer's installation

instructions.

1. Place fasteners no closer than 3/4 inch (9.5 mm) from panel edges and 2 inches (51 mm) from panel corners.
2. Use fasteners as specified in the James Hardie Tech Data sheet and in the Hardie Reveal Panel Installation Instruction.
3. Install panel using 1/2 inch (13 mm) spacers at horizontal joints. Leave bottom edge of panel above all horizontal trims exposed, no caulking shall be placed at this overlap of Horizontal Reveal Trim. Factory primed edge shall always be used.
4. Install a kickout flashing to deflect water away from the siding at the roof intersection.
5. Install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then install the kickout.
6. Allow minimum vertical clearance between the bottom edge of siding and any other material in strict accordance with the manufacturer's installation instructions and as determined by James Hardie Zone.
7. Maintain clearance between siding and adjacent finished grade.
8. Specific framing and fastener requirements - refer to the applicable building code compliance reports.

3.4 FINISHING

A. Finish factory primed siding with a minimum of one coat of high quality 100 percent acrylic exterior flat grade paint with flat finish within 180 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

B. Field cut edges shall be coated during the installation process using an exterior grade primer/sealer that is compatible with the type of paint to used on project.

3.5 PROTECTION

A. Protect installed products until completion of project.

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

END OF SECTION 07 45 70

PART 1 - GENERAL

CONTRACT CONDITIONS

Work of this Section is bound by the General Conditions, Supplementary Conditions, and Division 1 bound herewith in addition to this Specification and accompanying Drawings.

RELATED WORK SPECIFIED ELSEWHERE

Sealing Sheet Metal Joints, Section 07 60 00.
Glazing Compounds employed by Set Glass, Section 08800.
Acoustic Caulking at Gypsum Wallboard, Section 09250.

MECHANICAL AND ELECTRICAL PENETRATION FIRE STOPPING SYSTEMS

See Mechanical and Electrical Specifications.

EXTENT OF WORK

Fill space beneath exterior door thresholds with STPe sealant.
Caulk exterior joints around meter bases, window frames, door frames, expansion joints, and other openings in exterior walls, which are subject to moisture infiltration, with STPe type sealant.
Caulk elsewhere shown on Drawings.

CERTIFICATE OF COMPLIANCE

Submit prior to starting work, manufacturer's written certification that specified sealants are suitable for intended use.
Submit upon work completion, manufacturer's written certification that specified sealant has been properly mixed and installed.

PRODUCT DELIVERY, STORAGE AND HANDLING

Protect against damage and cold temperatures.
Store in original, tightly sealed containers, and with original legible labels thereon.
Do not open containers or remove labels until Architect reviews.

WEATHER DURING WORK

Perform no Work when weather exceeds manufacturer's specified limits.

COORDINATION

Coordinate with other trades affecting or affected by work of this section.

PROTECTION

Mask surfaces adjacent to joints as required for complete protection.

WARRANTY

Caulking and Sealing subject to 20-year Weatherproof Warranty.

PART 2 - PRODUCTS

SILYL-TERMINATED POLYETHER SEALANT (STPe)
Sonneborne Sonolastic 150.

COLOR OF EXPOSED SEALANT
Approximate color of adjacent surfaces, unless otherwise directed.

PRIMER AND SURFACE CONDITIONER
Made or recommended by sealant manufacturer.

BACKER ROD
Closed-cell, polyethylene or “soft” gasketing rod; Dow “Ethafoam”, or approved. Diameter: ¼” greater than width of joint where to be installed.

ROPE YARN
Raveled strands of non-staining fiber or cotton wicking.

MIXING
Follow sealant manufacturer's directions.

PART 3 - EXECUTION

EXISTING CONDITIONS
Verify that joints to be sealed and filled are clean, dry, and free from dust, oil, grease, rust, lacquer, laitence, loose mortar, or other bond-reducing matter.
Allow concrete surfaces to dry at least 4weeks before caulking or sealing.
Prior to starting work, notify General Contractor of defects requiring correction.

SURFACE PREPARATION
Remove dust and dirt by brushing and air-blowing.

PRIMING
Prime surfaces as required by manufacturer's instructions. Apply with bristle brush.
Do not flood surfaces.

PART 3 - EXECUTION (Continued)

BACKING INSTALLATION
Joints to receive STPe Sealant
Install Backer Rod behind Sealant in accordance with Manufacturer’s directions.
Provide in as long continuous lengths as practicable.
Stretch taut and force into Joints to uniform depth, approximately joint width but not to exceed inch.
Replace any punctured backer rod.

SEALANT INSTALLATION
Mix and apply in accordance with manufacturer's directions using gun-type dispenser.
Seal joints before applying final Paint coat.
Size gun nozzle to fit joint.
Fill joints and voids solid; superficial pointing with skin bead not acceptable.
Install flush with adjacent surfaces.
Tool joints smooth within 10 minutes after installation.
Remove masking materials, if any, immediately after sealant installation.

CLEANING
Remove excess material as work progresses and leave surfaces neat, smooth, and clean.
Remove debris from project site upon work completion or sooner, if directed.
Including work of other sections, clean, repair and touch-up, or replace when directed, products which have been soiled, discolored, ore damaged by work of this section.

END OF SECTION 07 95 10

Roofing Systems At Units

Listed below are two (2) roof assemblies that can be applied at the restroom addition. One system is with hot asphalt bitumen and the other roof system is Heat-welded (Torch) applied assembly.

Hot Asphalt Bitumen

Clean existing built-up roofing of all sediment and debris around transition. Prime existing cap sheet with asphalt primer around outside of curb a minimum 28" inches for a full width sheet application. Allow asphalt primer to dry prior to any roofing application.

Install two (2) layers of modified base sheet mechanically correct over new roof deck. Feather each layer 6" inches beyond each other onto existing primed roof.

Install full width sheet of white mineral surface S.B.S. cap sheet over the base plies.

Mastic, tape and granule roofing outside edges of finished roofing.

Heat Welded Atatic Polypropylene (APP)

Clean existing built-up roofing of all sediment and debris around transition. Prime existing cap sheet with asphalt primer around outside of curb a minimum 28" inches for a full width sheet application. Allow asphalt primer to dry prior to any roofing application.

Heat-weld (Torch) one layer of black smooth Atatic Polypropylene (A.P.P.) modified bitumen a minimum of 20" onto existing primed roof. ***Note-** Contractor to use all safety precautions while using torch heating the APP materials and roof. A fully functional fire extinguisher must be present at all times.

Heat- weld (Torch) one full width sheet layer of white granulated A.P.P. modified bitumen to extend over the existing layer of black smooth A.P.P.

Mastic, tape and granule roofing outside edges of finished roofing.

PART 1 - GENERAL

1.01 CONTRACT CONDITIONS

A. This Contractor is bound by the General Conditions, Supplementary Conditions, and Division 1 bound herewith in addition to this Specifications and accompanying Drawings.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Sealants, Section 07 90 00.

B. Finish Painting, Section 09 90 00.

1.03 SHOP DRAWINGS

A. Submit in accordance with General Conditions.

B. Show joints, types and locations of fasteners, and special shapes.

1.04 GUARANTEE

A. Guarantee work weathertight for 2 years, subject to General Condition terms.

1.05 ALTERNATES

A. Refer to Section 01 03 00 for possible effect upon work of this Section.

PART 2 - PRODUCTS

2.01 SHEET METAL

A. Galvanized Steel: ASTM A-525, Coating Designation: G-90, lock-forming quality conforming to ASTM A-527.

2.02 REGLETS

A. Type detailed, or as required by conditions of use.

B. 24 ga. galvanized steel.

C. Provide with factory-formed corners and joint connectors.

2.03 NAILS

A. Flat head, wire, barbed, slating type, conforming to Fed. Spec. FF-N-105B, Type 11, Style 23.

B. Galvanized steel, 1 inch long by 12 ga., minimum.

2.04 SCREWS

A. Pan head, self-tapping, sheet metal type conforming to Fed. Spec. FF-S-107; #7 by one inch long minimum, cadmium plated.

2.05 RIVETS

A. 1/8 inch minimum diameter, length as recommended by rivet manufacturer for materials to be joined; cadmium plated.

2.06 EXPANSION ANCHORS

A. Type recommended by manufacturer by conditions of use. Submit for Architect's review and acceptance.

B. 1/4 inch diameter by 1 inch long, minimum.

2.07 SOLDER

A. ASTM B-32; 50% tin and 50% lead.

2.08 FLUX

A. Rosin, cut muriatic acid, or commercial preparation for material to be soldered.

2.09 SEALANT

A. Silicone type, Dow, GE, or approved.

2.10 ASPHALT PLASTIC CEMENT

A. Fed. Spec. SS-C-153, Type 1.

2.11 PRIMER COATING AND UNDERCOATING

A. Zinc Dust Zinc Oxide, Fed. Spec. TT--641D, Type 11.

2.12 ASPHALTIC COATING COMPOUND

A. Fed. Spec. TT-C-494, Type 11.

2.13 WINDOW HEAD, JAMB, & SILL FLASHING

A. Self adhering 8" x 40 mil elastomeric flashing wrap over window head & jamb nailing fins & under window sill nailing fin. Provide at perimeter of all exterior windows & other exterior openings in walls.

2.14 FABRICATION

A. General:
1. Form to shapes and dimensions shown with planes and lines in true alignment.
2. Hem exposed edges.
3. Angle bottom edges of vertical surfaces to form a continuous 1" wide drip edge .

B. Cleats:
1. Same material and thickness as sheet metal.

2.15 GUTTER AND DOWNSPOUTS

A. 5” 26ga. pre-finished continuous gutters – color selected from manufacturer’s stock colors

PART 3 - EXECUTION

3.01 EXISTING CONDITIONS

A. Verify that surfaces to receive sheet metal are smooth, clean and otherwise properly prepared.

B. Verify that reglets and nailers to receive sheet metal are properly placed.

C. Prior to starting work notify General Contractor of defects that require correction.

D. Do not start work until conditions are satisfactory.

3.02 FIELD MEASUREMENTS

A. Before fabricating sheet metal, verify shapes and dimensions of surfaces to be covered.

B. If field measurements differ slightly from Drawing dimensions modify work as required for accurate fit.

C. If measurements differ substantially notify Architect prior to fabrication.

3.03 INSTALLATION, GENERAL

A. Install work watertight, without waves, warps, buckles, fastening stresses, distortion, or defects which impair strength or mar appearance.

B. Install planes and lines to true alignment.

C. Allow for sheet metal expansion and contraction.

3.04 CLEAT INSTALLATION

A. Space 2 feet on center, unless continuous cleats or other spacings are specified hereunder.
B. Secure spaced cleats to substrate with 2 fasteners.

C. Secure continuous cleats to substrate with fasteners spaced at 12 inch maximum centers.

D. Cover fastener heads with cleat tabs.

3.05 HEAD FLASHING INSTALLATION

A. Install one piece over entire new window, extend beyond jambs 1" minimum.

B. Flashing may be fastened with screws directly into frames or supported by cleats, minimum 3 per head.

3.06 ELASTOMERIC FLASHING INSTALLATION

A. Self adhering 8" x 40 mil elastomeric flashing wrap over window head & jamb nailing fins & under window sill nailing fin: Provide & conceal at perimeter of all windows & other openings in walls.

3.07 SEALANT INSTALLATION

A. Apply 1/4 inch diameter bead, centered in full length of joint.

3.08 ASPHALT PLASTIC INSTALLATION

A. Trowel apply 1/8 inch thick.

B. Coat dissimilar metal surfaces prior to installation.

3.09 CLEANING AND REPAIRING

A. As work progresses, neutralize excess flux with 5% to 10% washing soda solution, and thoroughly rinse.

B. Including products of other Sections, clean, repair and touch-up, or replace when directed, products which have been soiled, discolored, or damaged by work of this Section.

C. Leave surfaces ready for finish painting specified in Section 09 90 00.

D. Remove debris from project site upon work completion or sooner, if directed.

END OF SECTION 07 60 00

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 snuggly 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

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 titles 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. 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. ofDal-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. MAPEl Corporation.
8. Summitville Tiles, Inc.
9. TEC Specialty Products Inc.

B. Portland Cement Mortar (Thickset) Installation Materials: ANSI Al08.1A.

C. Cement Backer Board for thinset wall installations: Wonder Board, 1/2" inch thickness, or approved.

D. Epoxy Grout: ANSI All8.3, 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. Trowe1able Under1ayrnents 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 Al08.l0, 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 Al08.1A, 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 Fll3-01.

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

A. Refer to color schedules noted on drawings.

END OF SECTION 09 30 00

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 surface preparation and painting for ALL remodeled / affected areas. Extend preparation and painting on All affected surfaces to the nearest wall corner. ALL exposed surfaces (new or existing) shall be painted a uniform color – match existing.

B. Painting includes all exposed bare and covered pipes, ducts, exposed steel supports and surfaces of mechanical and electrical equipment that do not have a factory applied final finish.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:
   a. Toilet enclosures.
   b. Factory finished mechanical and electrical equipment.
   c. Light fixtures.

2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
   a. Furred areas.
   b. Ceiling plenums.
   c. Pipe spaces.
   d. Duct shafts.

3. Finished metal surfaces include the following:
   a. Anodized aluminum.
   b. Stainless steel.
   c. Chromium plate.
   d. Copper and copper alloys.
   e. Bronze and brass.

4. Operating parts include moving parts of operating equipment and the following:
   a. Valve and damper operators.
   b. Linkages.
   c. Sensing devices.
   d. Motor and fan shafts.

5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

6. Do not paint previously unpainted masonry.

7. Do not paint previously unpainted concrete.

1.3 SUBMITTALS

A. Product Data: For each paint system indicated. Include primers.

1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.

B. Samples for Initial Selection: For each type of finish-coat material indicated. After color selection, Architect will furnish color chips for surfaces to be coated.

C. Qualification Data: For Applicator.

1.4 QUALITY ASSURANCE

A. Paints shall be applied in accordance with manufacturer's printed directions.

B. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

C. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.

D. Mockups: Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.

1. Architect will select one room or surface to represent surfaces and conditions for application of each type of coating and substrate.
   a. Wall Surfaces: Provide samples on at least 10 sq. ft..
   b. Small Areas and Items: Architect will designate items or areas required.

2. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.

a. After finishes are accepted, Architect will use the room or surface to evaluate coating systems of a similar nature.

3. Final approval of colors will be from benchmark samples.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.
1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.6 EXTRA STOCK

A. One gallon of each color used. Label for identification and store where directed.

1.7 PROJECT CONDITIONS

A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

B. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS- PAINT

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

B. Manufacturers' Names: Shortened versions (shown m parentheses) of the following manufacturers' names are used in other Part 2 articles:
1. ICI Dulux Paint Centers (ICI Dulux Paints).

2. PPG Industries, Inc. (Pittsburgh Paints).
3. Sherwin-Williams Co. (Sherwin-Williams).
4. Rodda.
5. Substitutions by approval.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

C. Colors: As selected by Architect from manufacturer's full range.

2.3 INTERIOR PRIMERS

A. Interior Gypsum Board and Veneer Plaster Primer (new work): Factory-formulated latex-based primer for interior application.

1. ICI Dulux Paints; 1000-1200 Dulux Ultra Basecoat Interior Latex Wall Primer: Applied at a dry film thickness of not less than 1.2 mils.
2. ICI Dulux Paints; 1030-1200 Ultra-Hide PVA Interior Primer Sealer General Purpose Wall Primer: Applied at a dry film thickness of not less than 1.9 mils.
3. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1 .0 mil.
4. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils.

B. Interior Gypsum Board and Veneer Plaster Primer (Existing Work): Factory formulated s alven-based primer for interior application.

1. ICI Dulux Paints; 1120 -1200, wall and woodwork penetrating solvent-based prime sealer
2. Sherwin Williams; B79WOOOIO, PrepRite ProBlock interior alkyd primer sealer.
3. Kelly Moore; 935 stain lock.

C. Interior Wood Primer for Acrylic-Enamel: Factory-formulated acrylic-latex-based

interior wood primer.

1. ICI Dulux Paints; 1010-1200 Ultra-Hide Aquacrylic Stain Killer Primer Sealer: Applied at a dry film thickness of not less than 1.8 mils.
2. Pittsburgh Paints; 6-855 SpeedHide Latex Enamel Undercoater: Applied at a dry film thickness of not less than 1 .0 mil.
3. Sherwin-Williams; PrepRite Wall and Wood Primer B49W200 Series: Applied at a dry film thickness of not less than 1.6 mils.
4. Sherwin-Williams; PrepRite Classic Interior Primer B28Wl01 Series: Applied at a dry film thickness of not less than 1 .6 mils.

E. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.

1. ICI Dulux Paints; 4030-xxxx True-Glaze-WB: Applied at a dry film thickness of not less than 2.0 mils.

F. Interior Glazed CMU: Urethane modified acrylic bonding primer.

1. X-1-M Products, Inc.; X-1-M UMA: Applied per manufacturer's instructions.

2.4 INTERIOR FINISH COATS

A. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel.

1. ICI Dulux Paints; 1402-XXXX Dulux Professional Acrylic Eggshell Interior Wall & Trim Enamel: Applied at a dry film thickness of not less than 1.4 mils.
2. Kelly-Moore; 1686 Dura-Poxy Eggshell Acrylic Enamel: Applied at a dry film thickness of not less than 1 .6 mils.
3. Pittsburgh Paints; 6-400 Series SpeedHide Eggshell Acrylic Latex Enamel: Applied at a dry film thickness of not less than 1.25 mils.
4. Sherwin-Williams; ProMar 200 Interior Latex Egg-Shell Enamel B20W200 Series: Applied at a dry film thickness of not less than 1.6 mils.

B. Interior Semi-gloss Acrylic Enamel: Factory-formulated semi-gloss acrylic-latex enamel for interior application.

1. ICI Dulux Paints; 1406-XXXX Dulux Professional Acrylic Semi-Gloss Interior Wall & Trim Enamel: Applied at a dry film thickness of not less than 1.5 mils.
2. Pittsburgh Paints; 6-500 Series SpeedHide Interior Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.0 mil.
3. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W200 Series: Applied at a dry film thickness of not less than 1.3 mils.

C. Interior Full-Gloss Acrylic Enamel: Factory-formulated full-gloss acrylic-latex interior enamel.

1. ICI Dulux Paints; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish: Applied at a dry film thickness of not less than 1.6 mils.
2. Pittsburgh Paints; 6-8534 SpeedHide Interior Latex 100 Percent Acrylic Gloss Enamels: Applied at a dry film thickness of not less than 1.0 mil.
3. Pittsburgh Paints; 90-374 Pitt-Tech One Pack Interior/Exterior High

Performance Waterborne High Gloss DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils.

4. Sherwin-Williams; ProMar 200 Interior Latex Gloss Enamel B21W201: Applied at a dry film thickness of not less than 1.5 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.

1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation

1. Existing painted surfaces have numerous paint layers and bottom layers may contain lead based paint. Should suspect layers be encountered, adhere to the following paragraph, 3.2D for additional precautions for preparation of surfaces containing lead paint. Review procedure with District before proceeding.
2. Maintenance painting will frequently not permit or require complete removal of all old coatings prior to repainting. However, all surface contaminations such as oil, grease, loose paint, mill scale, dirt, foreign matter, rust, mold, mildew, mortar, efflorescence and sealers must be removed to assure sound bonding to the tightly adhered old paint. In addition, glossy surfaces of old paint films must be clean and dull before repainting (thorough washing with an abrasive kitchen cleanser will clean and dull in one operation, or wash thoroughly and dull by sanding. Remove sanding dust.) Spot

prime all bare areas with appropriate primer,\. Feather all edges. Fill depressions left by removed paint. Always check for compatibility of the previously painted surface with the new coating by applying a test patch of 2-3 square feet. Allow to dry thoroughly and check adhesion.

3. Remove loose paint by hand scraping and/or wire brushing.
4. Do not sand or scrape cement plaster or stucco.
5. Surfaces: Correct defects and clean surfaces which affect work of this section.
6. Mold or mildew must be removed by scrubbing with a mixture of one quart of household bleach to three quarts of water. CAUTION: DO NOT ADD HOUSEHOLD DETERGENTS OR AMMONIA TO THE BLEACH SOLUTION. Wear protective glasses or goggles, waterproof gloves and protective clothing and quickly wash off any of the solutions that touches the skin. Scrub well with brush and allow solution to remain on the surface for ten minutes before rinsing thoroughly with clean water. Allow to dry.
7. Surfaces may be solvent cleaned, if required, only with approval of the Owner's representative and the Architect.
8. Acid washing, water blasting or sand blasting is generally not acceptable. Exceptions need prior written approval by the Owner' representative and the Architect unless called for in the contract documents.
9. Glossy surfaces shall be dulled.
10. Treat areas where factory applied coating has been damaged as unfinished material. Sand edges of blemishes to achieve a smooth transition.
11. Marks: Seal with appropriate sealer those marks which may bleed through surface finishes.
12. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.
13. Doors, Frames: Finish door edges and protect hardware from damage. Remove as may be required to apply specified finish.
14. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
15. Concrete, Masonry, Plaster, Stucco: Repair surface defects. Remove grease, oil and other contaminants by solvent cleaning. Scrape carefully to remove deteriorated coatings. Glossy or very hard coatings should be sanded lightly to promote maximum adhesion of the subsequent coating. Surface must be thoroughly dry before coating.
16. Galvanized Surfaces: Remove surface contamination and oils and thoroughly clean with surface conditioner in accordance with manufacturer's instructions.
17. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
18. Bare, Sandblasted or Pickled Metal: Treat with a metal treatment before applying primer.
19. Aluminum: Remove surface oxidation on aluminum scheduled to be painted. Apply etching primer immediately after cleaning.
20. Interior Wood Items Scheduled to Receive Paint Finish: Remove tape residue and wire staples. Wipe off dust and grit prior to priming. Seal knots, knot holes,

pitch streaks and resinous sapwood sections with sealer. Fill nail and screw holes. Rough areas and cracks after primer has dried, sand between coats.

21. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, knot holes, pitch streaks and resinous sapwood sections with sealer. Set nails (nail pops) and fill nail holes with tinted exterior caulking compound after prime coat has been applied. Sand smooth as required. Clean and allow surface to be thoroughly dry before coating.
22. Plastic: Sand lightly and wipe with solvent appropriate for material.
23. At completion of preparation, remove all evidence of paint chips, dust, and debris as a result sanding, scraping; and caulk and window putty removal. District dumpsters not available for disposal of waste generated by this project.

D. Surface Preparation - Existing Lead Based Paint

1 . Prepare surfaces with the additional following precautions.
2. Some paint in this project is assumed to be lead containing and where identified shall be prepared and painted according to the following guidelines. Contractor is solely responsible for protection of workers and the public. Safety precautions shall include, but not be limited to, the following:
   a. Follow all regulatory agency requirements in the handling, collecting and disposal of lead containing paint.
   b. Maintain the safety of workers through the usage of respirators and other measures deemed appropriate by the contractor or as required by governmental agencies.
   c. No power sanding, drilling, grinding, or sawing of lead based paint surfaces is permitted unless area is isolated and under negative air containment.
   d. Cover areas with plastic sheeting to collect debris. Bag up and dispose of lead based material with rest of debris.
   e. Avoid unnecessary scraping or sanding of lead based paint surfaces.
   f. Surfaces are to be minimally hand sanded only. All visible dust created shall be promptly collected with a HEPA vacuum, and cleaned from building surfaces with a damp cloth or sponge.
   g. All debris from surface preparation shall be collected for safe disposal before the next school day. No one is to be able to walk through, breath, or otherwise be able to ingest potentially lead laden debris material.
   h. Torches and heat guns are prohibited.
   1. Dry abrasive blasting is prohibited.
   J. Use of paint strippers is prohibited.
   k. Surfaces proven to not contain lead may be prepared without these additional preparation precautions. Testing swabs are available from District for contractor's use.

E. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint m a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

F. Tinting: Tint each undercoat a lighter shade to simplify identification of each

coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
7. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
8. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
9. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer over metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1 . Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.

3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:
1. Un-insulated metal piping.
2. Uninsu1ated plastic piping.
3. Pipe hangers and supports.
4. Tanks that do not have factory-applied final finishes.
5. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
6. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
7. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

G. Electrical items to be painted include, but are not limited to, the following:
1. Switchgear.
2. Panelboards.
3. Electrical equipment that is indicated to have a factory-primed finish for field painting.

H. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no bum-through or other defects due to insufficient sealing.

I. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

J. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
1. Owner will engage a qualified independent testing agency to sample paint material

being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.

2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting.
Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

I. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA Pl.

3.7 INTERIOR PAINT SCHEDULE

A. Refer to drawings for schedule of lusters.

B. Primer may be omitted at previously painted surfaces that remain intact.

C. Previously painted wall and ceiling surfaces: Provide the following finish systems:

1. Acrylic-Enamel Finish: Two finish coats over a primer. (Full alkyd prime coat at walls.)

D. Gypsum Board: Provide the following finish systems over interior gypsum board and veneer plaster surfaces:

1. Acrylic-Enamel Finish: Two finish coats over a primer.

E. Wood and Hardboard: Provide the following paint finish systems over interior wood surfaces:

1. Acrylic-Enamel Finish: Two finish coats over a wood under-coater.
   a. Primer: Interior wood primer for acrylic-enamel and semi-gloss alkyd-enamel finishes.
   b. Finish Coats: Interior acrylic enamel.

F. Ferrous Metal: Provide the following finish systems over ferrous metal:

1. Acrylic-Enamel Finish: Two finish coats over a primer.

a. Primer: Interior ferrous-metal primer. b. Finish Coats: Interior acrylic enamel.

G. Clear Finish Wood (doors, cabinets and other clear finish wood): Provide the following:
1. Interior Semi-Gloss Spar Urethane: Two coats minimum.

H. Clear finish wood to receive a painted finish: Provide the following:
1. Primer: One coat oil based primer.
2. Finish Coats: Two coats acrylic Latex Enamel.

End of Section 09 90 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 0J Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Public-use washroom accessories.
2. Underlavatory guards.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule:

l. Identify locations using room designations indicated on Drawings.

PART 2- PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

A. Basis-of-Design Product: The design for accessories is based on products indicated. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:

1. Bobrick Washroom Equipment, Inc.
2. Bradley Corporation.

B. Owner furnished; Contractor installed (OFCI) items are listed for reference.

C. Toilet Tissue (Roll) Dispenser (TPD) OFCI:
1. Product: Fort James.

D. Paper Towel Dispenser (PTD) OFCI:
l. Product: Georgia Pacific Series 2000.

F. Liquid-Soap Dispenser OFCI: Wall mounted type.

G. Grab Bar:
1. Basis-of-Design Product: Bobrick B-5806.

K. Mirror Unit (MR) OFCI:

1. Basis-of-Design Product: Bobrick B-165.
2. Size: As indicated on Drawings.

L. Shower Curtain:

1. Product: Imperial Fastener Company – Sure-Chek Break-A-Way – No Mesh curtain system with track – color as selected.

2.2 FABRICATION

A. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3- EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

END OF SECTION 10 28 00

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division I Specification Sections, apply to this section.

1.2 SUBMITTALS

A. Provide Shop Drawings for the following:
1. Pipe Supports
2. Piping Specialties

1.3 RELATED WORK SPECIFIED ELSEWHERE
A. Refer to Division 26 related electrical work.
B. Refer to Division 1, 01 1 0 00 Summary of Work for description of alternates and phasing of work.

1.4 WORK INCLUDED

A. Provide all materials, labor, equipment together with all incidental items not shown or specified, which are required by code and good practice to provide complete systems. Refer to Division 1, 01 10 00 Summary of Work.

1.5 COORDINATION

A. Coordinate all work in Division 22 with work specified in other Divisions to provide a complete installation. Expense of changes required because of lack of supervision or coordination shall be borne by the Contractor. Such changes shall be to the satisfaction of and directly supervised by the Architect.

1.6 CONTRACT DRAWINGS

A. Location of ductwork, piping, and equipment on Drawings is approximate. Plan exact location with respect to measurements on the job and work of other trades prior to work. If measurements differ slightly, modify work. If measurements differ substantially, notify Architect prior to fabrication.

1.7 SITE VISIT

A. Examine site of proposed work and become familiar with job conditions affecting work. No additional allowance will be granted due to lack of information of existing conditions.

1.8 SUBSTITUTIONS

A. Manufacturer's and catalog numbers indicate quality of equipment or materials. Manufacturers not listed require prior approval. Substitution requests must be

made in writing to the Architect prior to bid in accordance with Division 1, 01 60 00 Product Requirements. Provide sufficient information indicating compliance with these Specifications.

1.9 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Provide shop drawings in accordance with Division 1, 01 33 00 Submittal Procedures. Submittals shall include all information necessary as required for complete check including any changes or modifications to the drawings necessary.

1.10 RECORD DRAWINGS

A. Provide record "as-built" drawings in accordance with Division 1, 01 78 39 Project Record Drawings. Show all deviations from Contract Drawings, including addenda and change order items. Show depth of all stub outs and underground lines. Dimension all concealed piping from column grids or building lines. Transfer all information to reproducible drawings as required at the completion of the project.

1.11 PERMITS, CODES, AND INSPECTIONS

A. Permits: Obtain all permits and pay fees required by governing agencies having jurisdiction over this work.

B. Codes, Standards: Applicable codes and standards contained therein shall determine minimum requirements for materials, methods, and labor practices not otherwise stated herein.

C. Inspections: Arrange and pay for inspections and tests required by codes or ordinances.

1.12 CUTTING AND PATCHING

A. In accordance with Division 1, 01 73 29 Cutting and Patching.

1.13 TEMPORARY SERVICES

A. Provide in accordance with Section Division 1, 01 50 00 Temporary Facilities and Controls as required for completion of Work.

B. Water system shall remain in operation during construction. Coordinate individual area shut downs with Owner.

1.14 OPERATING AND MAINTENANCE DATA

A. Submit in accordance with Division 1, 01 78 23 Operation and Maintenance Data. Include information only on the exact equipment installed. Include the following information where applicable:
1. Approved shop drawings.

2. Manufacturer's printed operating, maintenance, and service information.
3. Service and Dealer directory listing.
4. Manufacturer's parts list.
5. Written certification of disinfection of the domestic water system.

1.15 START UP

A. The Mechanical Contractor shall be responsible for proper operation of all systems and shall coordinate start up procedures, calibration and system checkup with subcontractors present. System operational problems shall be diagnosed and corrected as required for system operation.

1.16 COMPLETION

A. General: When installation is complete, cleaned and adjustments specified herein made, operate system to demonstrate to Architect that system is complete and operating in conformance with these Specifications.

B. Final Inspection: Work hereunder will not be inspected for Substantial Completion until operating and maintenance data, record drawings and directories specified herein have been approved.

C. Final Completion: Entire installation turned over to the Owner in finished and satisfactory working condition.

1.17 WARRANTY

A. Provide a written warranty covering Work of the Division for a period of one year in accordance with Division 1, 01 77 00 Closeout Procedures. Include manufacturer's written warranties for material and equipment.

PART 2- PRODUCTS

2.1 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials and equipment in a manner to prevent damage and deterioration. Store in original container. Indoor units, if stored outside, must be covered.

2.2 MATERIALS

A. All materials employed in permanent construction shall be new, full weight, in first class condition and suitable for space provided. All similar materials shall be of one manufacturer.

2.3 VARIATIONS IN EQUIPMENT

A. If approved mechanical equipment of other manufacturer requires modification or additions to any Work as shown on the drawings, Mechanical Contractor shall arrange for and pay costs of such changes as part of this Work.

2.4 PIPES AND PIPE FIITINGS

A. Cast Iron Soil Pipe: No-hub cast iron pipe with gasket and clamp fittings conforming to ANSI Standard Al12.5.1 .

B. Steel Pipe: Schedule 40 pipe, black or galvanized, conforming to ASTM A120. Size 2" and smaller fittings shall be threaded.

C. Copper Tube: Hard drawn copper conforming to ANSI H23.1 and ASTM B88. Type L above grade, type K below grade. Fittings shall be wrought copper 95-5 solder joint fittings, type K, conforming to ANSI B16.22.

2.5 VALVES

A. All valves of a given type shall be of one manufacturer. Manufacturer's name and number listed are intended to indicate quality. Valves manufactured by Crane, Appollo, Nibco, Powell, Jenkins, Watts, Stockham, Hammond, as listed below, or approved.

B. Ball Valves:

1. Size 2" and Smaller: Bronze two piece body, 150 WSP, full port, lever handle with stops. Threaded or soldered ends to match pipe. Brass stem and chrome plated ball. Teflon or ethylene propylene seats. Provide stem extender for insulated valves. Must meet Federal Specification MSS SP-110 and WW-V-35, Type II. Hammond 8501, 8511.

2.6 PIPE SUPPORTS AND ACCESSORIES

A. Use adjustable pipe hangers on suspended pipe. Chain or perforated strap hangers are not permitted. Provide supports between piping and building structure where necessary to prevent swaying.

B. Pipe Hangers:

1. Size 3" and smaller cast iron, Schedule 40 steel: Adjustable, malleable iron, solid or split ring, black. UL and FM approved. PHD 505, Grinnell, or equal.
2. Size 3-112" and larger cast iron, Schedule 40 steel: Carbon steel, black finish. UL and FM approved. PHD 450, Grinnell, or equal.
3. Copper tubing hangers: Steel hanger; PHD 151, Grinnell, or equal. On insulated piping provide calcium silicate or rigid foam inserts of same diameter as pipe insulation.

C. Insulation Protection: Provide insulation shields, 18 ga. x 12" length galvanized steel shield to encompass 112 circumference or as designed for insert. PHD 170, Grinnell, or equal.

D. Supports for exposed piping routed along fmished walls shall be metal framing channels with pipe clamps. Superstrut Series 1000 Charmel with 702 Pipe Clamp.

2.7 PIPING SPECIALTIES

A. Escutcheons: Cast brass, nickel or chrome, split ring type, plated, size sufficient to cover pipe sleeve or opening.

B. Unions: Iron body with brass seat for steel pipe, bronze or brass for copper pipe, 125 lb. MWP.

B. Insulating Unions: 250 lb. MWP, ends to match piping. Flow of electric current must be below 1% of the galvanic current. Gasket material as recommended by manufacturer for service intended. Epco or equal.

2.8 EXCAVATION AND BACKFILL

A. Bedding and Backfill Material: Unclassified or native material shall be excavated materials, free of roots, large rocks, debris, clay or other foreign material.

B. Crushed Rock: 3/4" minus, conforming to the latest Oregon State Highway Specification for base rock.

C. Gravel: 112" by No. 4 washed pea gravel.

D. Sand: Washed concrete sand or washed fill sand.

PART 3- EXECUTION

3.1 CLEANING SYSTEMS

A. After all fixtures and piping systems are installed, system shall be thoroughly cleaned per Division 1. Remove all stickers and tags from fixtures. Clean bowls and fixtures. Clean all piping systems prior to installation of insulation or painting. Repair or replace any discoloration or damage to system, building finish, or furnishing resulting from failure to properly clean systems.

3.2 ACCESS TO EQUIPMENT AND ACCESSORIES

A. Install equipment with adequate access for service. Provide access doors where shown or required for proper access to valves, P-traps, trap primers, cleanouts, shock absorbers, vacuum breakers, and all other mechanical equipment requiring maintenance where area is not accessible by other means.

B. Access doors shall be minimum size of 12 X 12 inches. Access doors and filter rack access shall have handles and shall be lockable where required. Access doors shall have same fire rating as the surface they are installed in. Type, size, and exact location of access doors shall be coordinated with Architect prior to Work.

3.3 SEISMIC REQUIREMENTS

A. All piping and fixtures shall be provided with hangers, transverse bracing, longitudinal bracing, bolts, and connection types per OSSC.

3.4 PIPES

A. Route piping in general locations indicated. Coordinate with other piping, Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation of insulation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight.
Conceal piping above ceiling and within furring and walls unless otherwise indicated.
Piping shall not be installed on the floor without prior approval.

E. Install piping on warm side of building insulation.

3.5 VALVES

A. Valves shall be the full size of pipes in which they are installed unless otherwise noted on Drawings. Install valves in groups where possible. All valves shall be accessible. All valves to be installed with stem above horizontal.

B. Valve Application:
1. Install valve types as specified herein and as designated by symbols on the Drawings. Unless otherwise noted provide ball valves in domestic water systems.
2. Install valves for shut off and to isolate equipment, parts of systems, and vertical risers.

3.6 PIPE SUPPORTS AND ACCESSORIES

A. Supports for hot water pipes shall rest directly on the pipe insert with insulation tight to insert. Supports for cold water pipes shall rest on the insulation with specified protection. Supports for all piping not more than two feet from each change of direction.

B. Vertical Pipe Supports:
1. Vertical pipes adjacent to walls: Support by means of bracket formed of steel straps bolted to wall, with clamps around pipe. Super Strut with series 700 clamps or equal.
2. Vertical pipes not adjacent to walls: Riser clamp at each floor, steel on steel pipe and copper-plated on copper pipe.

C. Horizontal Pipe Supports:
1. Support cast iron piping at each joint and at each branch fitting with same size rod diameter as specified below.

2. Spacing for horizontal steel and copper piping supports as follows unless otherwise indicated on Drawings:

Pipe size	Rod Diameter	Max. Spacing
		Steel & Copper
Up to 1"	3/8"	6'-0"
1-1/4" thru 2"	3/8"	10'-0"
2-1/2" thru 3-112"	1/2"	10'-0"
4"	5/8"	14'-0"
6"	3/4"	17'-0"

3.7 PIPING SPECIALTIES

A. Escutcheons: Install on exposed pipes passing through walls, floors, or ceilings where pipes are exposed in finished areas and within cabinets. Escutcheons not required in Mechanical Rooms.

B. Unions: Place in line at all equipment and where shown or required to facilitate maintenance or removal.

D. Insulating Unions: Place in line in accessible locations wherever ferrous and non-ferrous metals come in contact in plumbing systems. Place in line at water heaters.

3.8 COMPONENT IDENTIFICATION

A. Piping: Identify all piping size 1" and larger with the name and direction of flow on the pipe at 20' intervals, at each take-off, and at penetrations through structure. Lettering shall be 1" high block. Marking Services MS-900 or equal.

B. Valves: Identify all valves with a tag attached to the equipment. Tags shall be a 1-1/2" numbered brass or plastic disc and shall indicate system served.

C. Review naming scheme with Owner prior to fabricating labels.

3.9 PAINTING

A. All pipe hangers, ferrous piping, supports, and equipment without factory finish installed in mechanical room or outside the building shall be painted flat black.

B. Prepare all equipment and piping for painting if painting is required in Divison 1, Painting.

3.10 PIPE PENETRATION

A. Where pipes pass through walls, ceilings, or floors, seal off void between opening and duct, or pipe and sleeve. Provide escutcheon in exposed locations.

B. Where pipes or other material pass through or penetrate any fire-resistant wall, ceiling, or floor use approved fire resistant materials and completely seal voids the full thickness of material being penetrated. USG Firestop Firecode System, Pro Set, or equal.

3.11 FLASHING

A. All pipe penetrations through roof shall be manufactured piping penetration packages or flashing cones compatible with roofing material and acceptable to Roofing Contractor. Coordinate with General Contractor and Roofing Manufacturer. Stormtite Multiflash or equal.

3.12 EXCAVATION AND BACKFILL

A. Determine location and elevation of underground utilities and uncover by hand digging. If damaged by Contractor, replace immediately at no expense to the Owner and as approved by Architect.

B. Completely de-water trenches and excavations before pipe is laid or concrete is placed. When necessary to prevent caving, excavation shall be adequately shored and braced. Shoring shall remain in place for 12" above pipe until testing and inspection are complete. Remove from site excavated materials not suitable for backfill. Delay backfill of trenches until all tests are performed and until after inspection and approval by governing authority. Repair any damage to existing streets, sidewalks, concrete piping, etc., at Contractor's expense.

C. Width oftrench shall be adequate to provide working space, but in no case less than 12" plus the inside diameter of the pipe to be placed therein. Provide 6" minimum between adjacent pipes.

D. Grade Bottom of Trenches: Construct to lines and grades as shown or as required with proper allowances for pipe thickness and gravel base. Over excavation shall be corrected with approved materials, thoroughly compacted.

E. Pipe Bedding: Provide the following minimum bedding materials:
1. Sanitary Piping = 4" crushed rock.
2. Domestic Water Piping = 4" sand.

F. Backfilling:
1. Provide Architect with photocopy of all field sketched as-built information on location of underground utilities prior to cover.
2. Under building slabs, concrete slabs, paved areas, streets or sidewalks, all backfill shall be pea gravel or crushed rock. Fill material shall extend from the bedding material to the bottom of surfacing material. Fill all voids around pipe. Fill in 8" lifts and compact to 9S% density of AASHO-T-180.
3. Outside areas except as specified above, all pipe covered with minimum of 12" of pea gravel or crushed rock and remainder of trench filled with thoroughly compacted native

material.

4. Should backfilled ditch show settlement at any time through one year guarantee period, Contractor shall bring ditch back to grade with compacted fill and repair any damage to concrete or paved areas caused by settlement.

END OF 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 other Division 1 Specification Sections, apply to this section.

1.2 SUBMITTALS

A. Provide Shop Drawings for all insulation products to be used on this project.

PART 2- PRODUCTS

2.1 MATERIALS

A. All glass fiber coverings and liners shall have a composite fire and smoke hazard rating as tested by procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding 25 flame spread, 50 smoke developed. All accessories, such as adhesive, mastic cements, tape, and fabric cloths for fitting shall have the same component ratings as listed above. Materials must conform to the Uniform Mechanical Code, latest edition. Insulating characteristics shall meet OSSC, latest edition.

2.2 PIPE INSULATION

A. Fiberglass: Preformed pipe insulation with a thermal conductance of 0.23 BTU per inch per square foot per deg. F. per hour at a mean temperature of75F. White kraft and foil reinforced with glass fibers (all service jacket), self-sealing lap. Vapor barrier on cold pipes. Schuller "Micro-Lok AP-T Plus", Owens-Coming "24ASH", or equal.

B. Insulation Kit: Preformed, vinyl coated, white or beige insulation kit for exposed waste, cold water, and hot water piping. Insulation kit shall be able to be reinstalled after removal. Access to stop valve without removing insulation. Trap Wrap 500R, Truebro, McGuire Manufacturing, or equal.

PART 3- EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:
1. Prior to all Work of this section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where installation may properly commence.
2. Verify that the Work of this section may be installed in accordance with all pertinent codes and regulations and the approved Shop Drawings.

B. Discrepancies:
1. In the event of discrepancy, immediately notify the Architect.
2. Do not proceed with installation in the areas of discrepancy until all such discrepancies have been fully resolved.

3.2 APPLICATION

A. Pipe Insulation: Provide the following minimum insulation thickness or as required by Code.
1. Potable cold water piping above grade - 111 fiberglass.
2. Potable hot water piping above grade - 111 fiberglass.
3. Insulated piping exposed to view- Insulation jacket cover.
4. Piping below handicap accessible fixtures - Insulation kit.

3.3 INSTALLATION

A. General:
1. Insulation shall be applied on clean, dry surfaces, after inspection and release for insulation.
2. All insulation shall be continuous through wall and ceiling openings and sleeves.
3. Insulate and cover all fittings, valve bodies, etc., as specified herein.

B. Pipe Insulation:
1. Fiberglass (cold surfaces)- All joints firmly butted together. Seal jacket lap joints on top or back so as to be least noticeable with vapor barrier adhesive. Vapor barrier must be applied with a continuous unbroken seal.
2. Fiberglass (hot surfaces) - All joints firmly butted together. Seal jacket lap joints on top or back so as to be least noticeable.
3. Fiberglass Joints- Cover all fittings including mechanical groove type fittings with one- piece premolded PVC fittings and inserts which meet the composite fire and smoke hazard ratings as tested by procedure ASTM-E-84. Seal fittings on cold surfaces with vapor barrier retarder. Secure PVC fittings with tape.
4. Insulation Jacket Cover-Cover all piping exposed to view with jacket and fitting covers. Seal all seams with solvent weld adhesive and locate to be least noticeable.

3.4 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose Work until it has been properly and completely inspected and approved.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required; and, after it has been completely inspected and approved, make all repairs and replacements

with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner. -

3.5 CLEANING UP

A. Prior to acceptance of the building, thoroughly clean all exposed portions of the insulation installation, removing all labels and all traces of foreign substance. Remove all debris accumulated by this Work.

END OF SECTION 22 07 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. Piping

PART 2- PRODUCTS

2.1 PIPING

A. Domestic water pipe above grade: Type L copper.

2.2 PLUMBING SPECIALTIES

A. Shock Absorbers: Water Hammer Arrestors- precharged bellows type shock absorbers with integral flow orifice. Josam Series 75000, JR Smith Series 5000, Zurn, Wade, 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.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 CUTTING STRUCTURAL FRAMING

A. Exposed Members: Not permitted unless shown on Drawings or otherwise approved.

B. Concealed Joists and Rafters:
1. Notches prohibited in middle 1/2 of member length. Notches shall not be greater than l/6 of member depth.

2. Bored holes allowed in middle 1/3 of member length, prohibited within 2 inches

of member top or bottom. Bored holes shall be no greater than 113 of member depth.

C. Concealed Studs:

1. Maximum notching depth and size of bored holes:
   At exterior and bearing walls - 25% of member width. At all other walls- 40% of member width.

D. Beams, Columns, and Posts: Not permitted without prior approval.

3.3 PIPE AND FITTNGS

A. Route piping in general locations indicated. Coordinate with other piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation of insulation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight. Conceal piping above ceiling and within furring and walls unless otherwise indicated. Piping shall not be installed on the floor without prior approval.

E. Install piping on warm side of building insulation.

F. For noise reduction isolate piping with resilient mounts where piping passes through studs and joists. Caulk pipe openings in floor and wall penetrations.

G. Copper Tube: All joints shall be silver brazed, or 95-5 tin antimony solder. All joints below grade permitted only where necessary and only with silver brazed joints.

3.4 SHOCK ABSORBERS -

A. Water Hammer Arrestors: Locate water hammer arrestor in supply line as shown and in accordance with recommendations ofPiumbing and Drainage Institute Standard PDI-WH201. Install ahead of all solenoid or quick closing valves. Determine size of arrestor by the fixture unit value of the fixtures supplies using PDI symbols to designate sizes:

1. Size A 1-11 Fixture Units
2. Size B 12-32 Fixture Units
3. Size C 33-60 Fixture Units

B. All installations of water hammer arrestors shall be provided with means for access for repair or replacement without disturbing finished construction. Coordinate access panel type and location with Architect. All access panels to be lockable type.

3.5 PIPE TEST

A. Test and disinfect all piping per code requirements. Make all tests before pipes are concealed. Provide valves and temporary plugs or caps as needed to isolate sections of piping for testing.

B. Domestic Water Piping:

1. Test hydrostatically at 125 psi. Remain under pressure for minimum of two hours with no leakage.
2. Follow Oregon State Board of Health requirements for disinfection. Employ firm specializing in disinfection. Provide written certification at completion of Work to Owner and Architect.

3.6 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose Work until it has been properly and completely inspected and approved.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, 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.

3.7 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.

END OF SECTION 22 11 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 . Piping
2. Plumbing Cleanouts

PART 2 - PRODUCTS

2.1 PIPING

A. Waste and vent within building: No-hub cast iron pipe with gasket and clamp fittings conforming to ANSI Standard A I12.5.I. Schedule 40 pipe, black or galvanized, conforming to ASTM A 120 with threaded cast iron drainage fittings may be used for vent piping above grade.

2.2 PLUMBING CLEANOUTS

A. Plumbing cleanouts shall be installed in the drainage system where noted on Drawings or where specifically required by the governing plumbing code. Cleanouts to be full line size.

B. Cleanout types as follows:
l. Wall Cleanout: Taper thread, bronze countersunk plug. In frame construction, round stainless steel flush access cover with satin top. Coverplate secured with vandalproof screws. Josam Series No. 58700, J.R. Smith 4472-U, Wade, Zurn, or equal.
2. Floor Cleanout: Adjustable cast iron body, inside caulking connection with internal bronze cleanout plug. Scoriated satin nikaloy top, secured with vandalproof screw. Josam Series No. 56000, JR Smith 4023NB, or equal. Use square top in ceramic tile floors, Josam Series No. 56020, J.R. Smith 4043NB, Wade, Zurn 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.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 CUTTING STRUCTURAL FRAMING

A. Exposed Members: Not permitted unless shown on Drawings or otherwise approved.

B. Concealed Joists and Rafters:
1. Notches prohibited in middle 1/2 of member length. Notches shall not be greater than 1 /6 of member depth.
2. Bored holes allowed in middle 1/3 of member length, prohibited within 2 inches of member top or bottom. Bored holes shall be no greater than 1/3 of member depth.

C. Concealed Studs:
1. Maximum notching depth and size of bored holes: At exterior and bearing walls -25% of member width. At all other walls - 40% of member width.

3.3 PIPE AND FITTNGS

A. Route piping in general locations indicated. Coordinate with other piping, ducts, conduits and equipment making necessary offsets. Install to conserve headroom and interfere as little as possible with use of available space. Group piping at common elevations wherever possible.

B. Slope piping and arrange for drainage at low point.

C. Provide clearance for proper installation and for access to other pipes, valves, and equipment as required.

D. Install horizontal lines parallel with walls and partitions, vertical risers plumb and straight. Conceal piping above ceiling and within furring and walls unless otherwise indicated. Piping shall not be installed on the floor without prior approval.

E. For noise reduction isolate piping with resilient mounts where piping passes through studs and joists. Caulk pipe openings in floor and wall penetrations.

F. Waste Piping: Drainage piping sloped at 1/4" per foot unless otherwise noted on plans. Changes in size made with reducing and wye fittings.

3.4 PIPE TEST

A. Test all piping per code requirements. Make all tests before pipes are concealed. Provide valves and temporary plugs or caps as needed to isolate sections of piping for testing.

B. Building Drainage, Waste and Vent Piping: Test hydrostatically by filling piping system with water to the highest point. The water shall be kept in the system for at least 15 minutes before inspection starts. System shall be tight at all points.

3.5 CLOSING IN UNINSPECTED WORK

A. Do not cover up or enclose Work until it has been properly and completely inspected and approved.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, 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.

3.6 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.

END OF SECTION 22 13 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. Faucets: 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 A117.1 approved.
2. Water Closets – Floor Mounted – Kohler K-4406 Wellworth floor mounted 1.28 GPF flushometer valve elongated toilet bowl, or approved.
3. Water Closets – Wall Hung – Kohler K-4325-0 Kingston wall mounted 1.28GPF flushometer valve toilet bowl, or approved.
3. Urinals – Wall Hung – Kohler K-4960-ET; ¾" top spud, 0.5 GPF, 14" extended trim – ADA ANSI/ICC A117.1 approved.
3. Urinals – Floor Mounted – Kohler K-4920-T, ¾" top spud, 0.5 GPF, ADA ANSI/ICC A117.1, approved.
3. Lavatories – Wall Hung – Kohler K-2005 Kingston lavatory, wall mounted, or approved.
3. Lavatory systems: Bradley, Intersan, or approved.
4. Wall Hydrant: Woodford, Zurn, or approved.

B. Flush Valves: **Provide the entire flushometer assembly**; Sloan EBV-89-A, Battery operated, diaphragm type with solenoid operator, sensor, and override button. Tarnperproof 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 chromeplated 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

chromeplated 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. Chromeplated 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, Bemis 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.

B. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 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 cover up or enclose Work until it has been properly and completely inspected and approved.

B. Should any of the Work be covered up or enclosed prior to all required inspections and approvals, uncover the Work as required, 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.

3.4 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.

END OF SECTION 22 42 00