



Anchorage School District

TURNAGAIN ELEMENTARY SCHOOL INTERIOR UPGRADES

**ITB 2018-812
ASD PROJECT No. 380015**

DATE ISSUED: April 11, 2018

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>No. of Pages</u>
DIVISION 00 - BIDDING AND CONTRACT REQUIREMENTS		
00020	Invitation to Bid	1
00100	Instructions to Bidders	13
00200	Project Schedule Milestone Dates.....	1
00300	Bid Form	4
00500	Contractor Agreement Form.....	3
00610	Bid Bond Form.....	3
00620	Performance and Payment Bond Form	9
00630	Sample Forms and Certificates	32
00700	General Conditions of the Contract for Construction.....	66
00800	Supplementary General Conditions to the Contract for Construction	5
00820	Wage Rates	1
DIVISION 01 - GENERAL REQUIREMENTS		
01010	Summary of Work	4
01041	Project Coordination	2
01045	Cutting and Patching	3
01070	Abbreviations and Definitions	3
01090	Referenced Specifications.....	3
01120	Alteration Procedures	2
01200	Project Meetings	3
01300	Submittals	2
01311	Project Schedule.....	3
01340	Shop Drawings, Product Data and Samples	5
01370	Schedule of Values.....	2
01380	Construction Photographs	2
01400	Quality Control	8
01561	Airborne Contaminant Control	5
01600	Materials and Equipment.....	2
01610	Delivery, Storage and Handling.....	3
01630	Substitution and Product Option	3
01700	Project Close-out	3
01710	Cleaning.....	1
01720	Project Record Documents.....	3
01730	Operation and Maintenance Data.....	4
01750	Closeout Forms	16
DIVISION 02 – SITEWORK		
02 41 19	Selective Demolition	4
DIVISION 06 – WOODS AND PLASTICS		
06 10 00	Rough Carpentry	12
06 16 00	Sheathing.....	6

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>No. of Pages</u>
06 20 23	Interior Finish Carpentry	3
06 64 00	Plastic Paneling	2
DIVISION 08 – DOORS AND WINDOWS		
08 11 13	Metals Doors and Frames	5
08 31 13	Access Doors and Frames	2
08 33 23	Overhead Coiling Doors	4
08 71 00	Finish Hardware.....	20
DIVISION 09 - FINISHES		
09 22 16	Non-Structural Metal Framing	5
09 29 00	Gypsum Board.....	4
09 51 13	Acoustical Ceilings.....	2
09 65 00	Resilient Flooring	4
09 65 13	Resilient Base and Accessories	3
09 65 66	Resilient Athletic Flooring	4
09 68 00	Carpet	11
09 84 33	Sound Absorbing Wall Units	4
09 91 23	Interior Painting.....	7
DIVISION 10 – SPECIALTIES		
10 10 00	Marker and Tackboards.....	3
10 26 00	Wall and Door Protection.....	2
DIVISION 22 – PLUMBING		
22 05 00	Common Work Results for Plumbing	9
22 05 05	Selective Demolition for Piping and Equipment	2
22 05 29	Hangers and Supports for Plumbing Piping and Equipment.....	5
22 05 53	Identification for Plumbing Piping and Equipment.....	3
22 07 00	Plumbing Insulation	5
22 10 00	Plumbing Piping.....	8
22 40 00	Plumbing Fixtures	5
DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING		
23 09 23	Direct Digital Control System for HVAC	3
DIVISION 26 – ELECTRICAL		
26 01 26	Testing and Maintenance for Electrical Systems	3
26 05 00	Common Work Results for Electrical.....	5
26 05 19	Low Voltage Electrical Power Conductors and Cable	5
26 05 26	Grounding and Bonding for Electrical Systems.....	3

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>No. of Pages</u>
26 05 29	Hangers and Supports for Electrical Systems.....	8
26 05 33	Raceway and Boxes for Electrical Systems	10
26 05 53	Identification for Electrical Systems.....	4
26 05 90	Selective Electrical Demolition	3
26 27 26	Wiring Devices.....	3
26 29 13	Enclosed Controllers.....	2

DIVISION 27 – TELECOMMUNICATIONS

27 05 28	Pathways for Communications Systems	3
27 10 00	Structured Cabling	8
27 51 23	Intercommunication Systems	5

DRAWINGS

T0.0	Title Sheet & Index
T0.1	Code Analysis, Overall Floor Plan & Scope of Work
T0.2	Vicinity Map, Symbols, Abbreviations & Notes
AD2.1	First Floor Demolition Plan – Area C
AP1.1	Architectural Photo Details
AP1.2	Architectural Photo Details
A2.1	First Floor Plan – Area C
A2.2	Enlarged Plans, Finish Schedule and Equipment
A3.1	MPR 52 Interior Elevations
A3.2	Gym 54 Interior Elevations
A3.3	Kitchen 57 Interior Elevations, & Details
M0.1	Legend, Schedule and Abbreviations
M1.1	Underfloor Demolition Plan
M1.2	Above Floor Plumbing Demolition Plan
M2.1	Plumbing Underfloor Remodel Plan
M2.2	Enlarged Remodel Plans, Mechanical Detail
E0.1	Electrical Legend
E1.1	Kitchen Demolition and Remodel Plan

INVITATION TO BID (ITB) NUMBER: 2018 - 812
Turnagain Elementary School - Interior Upgrades

Sealed bids will be received in accordance with the time schedule shown below by the Anchorage School District, Purchasing Department, located at 4919 Van Buren Street Anchorage, Alaska 99517 for Turnagain Elementary School - Interior Upgrades per the attached Instructions to Bidders, General Conditions, Technical Specifications, Drawings and Bid Form.

ESTIMATED CONSTRUCTION COST: Between \$100,000 - \$500,000

On-Site Visit:	April 17, 2018 at 4:00 p.m. Local Time
Pre-Bid Conference:	April 18, 2018 at 11:00 a.m. Local Time
Bid Opening:	May 2, 2018 at 2:00 p.m. Local Time

At the above indicated time, the bids will be opened publicly and read. Bids received by the Purchasing Department after the time fixed for opening of the bids will not be considered. Time of receipt will be as determined by the time stamp at the Purchasing Department.

DOCUMENTS:

Prospective bidders may obtain copies of bidding documents at the Anchorage School District website <http://www.asdk12.org/depts/purchasing/PurchasingBids.aspx> Only electronic versions of this ITB are issued.

A copy of the current plan holder's list can be viewed at:
http://apps.asdk12.org/depts/purchasing/meeting/Plan_Holders/2018/812.xlsx

NOTICE TO BIDDERS:

A bid bond in the amount of five (5%) percent of the total amount of the base bid will be required (**cash, personal or business checks are unacceptable**). The successful Contractor shall be required to furnish 100 percent performance and payment bonds.

The Anchorage School District reserves the right to reject any and all bids, and to waive any informalities or irregularities in bidding procedures.

PRE-BID CONFERENCE AND SITE VISIT:

An On-Site Visit will be held on April 17, 2018 at 4:00 p.m. Local Time at Turnagain Elementary School, 3500 W. Northern Lights Blvd., Anchorage, Alaska 99517. Please meet at the Front Office.

A Pre-Bid Conference will be held April 18, 2018 at 11:00 a.m. Local Time at Anchorage School District, Purchasing Department, located at 4919 Van Buren Street Anchorage, Alaska 99517.

All Bidders are encouraged to attend the On-site and Pre-Bid Conference. Major sub-bidders are also encouraged to attend.

The Anchorage School District is committed to providing reasonable accommodations, according to applicable state and federal laws, to all individuals with a qualifying disability. If you require a reasonable accommodation in order to participate in this or any other district process, please contact the Anchorage School District's Compliance/Equal Employment Opportunity Office at (907) 742-4132.

END OF SECTION

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL INFORMATION

- 1.01 Refer to the Invitation to Bid for information relating to time, date and place for receipt of bids and other pertinent bidding information.
- 1.02 Anchorage School Board Policy 3515.5 prohibits a contractor whose employees or agents may have direct or incidental contact with Anchorage School District (the District) students from sending any employee or agent to district property who has been convicted of a sex offense under federal law or the law of any state and who is required to register as a sex offender under Alaska law or by court order, or who has been convicted of child kidnapping under federal law or the law of any state and who is required under Alaska law or court order to register on the Alaska Department of Public Safety Sex Offender/Child Kidnapper Central Registry. Board Policy 3515.5 requires contractors to certify in writing the contractor's knowledge of and compliance with Board Policy 3515.5. ***Prior to executing a contract*** for this project, the selected Contractor shall verify that no employee or agent who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state. In addition, the contractor shall certify that, to its knowledge, no employee or agent is a convicted sex offender or child kidnapper. The required forms of certification are included in the bid documents.
- 1.03 LICENSE REQUIREMENTS
- A. The bidder shall include on the bid Form his current Business License number and expiration date from the State of Alaska authorizing him to engage in business to operate as a Business, Specialty or General Contractor, as well as his Federal Tax Identification number.
- B. The bidder shall provide a copy of his current State of Alaska Business License and Specialty or General Contractor license when requested in writing by the Purchasing Department.
- 1.04 BIDS
- A. The bidder shall review all of the proposed contract documents to ascertain all of the requirements of the work.
- 1.05 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE WORK
- A. The bidder shall examine carefully the site of the proposed work, the proposal, plans, specifications and contract forms before submitting a proposal. The submission of a bid shall be an admission that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirement and accuracy of the plans, specifications, special provisions and terms of the contract.
- B. All documents furnished to any person, under any condition, remain the property of the Anchorage School District and shall be returned immediately upon request.
- C. Documents may be obtained upon the conditions set forth in the Invitation to Bid.
- 1.06 METHOD FOR CLARIFICATION

- A. Any bidder in doubt as to the meaning of any part of the plans, specifications or other documents may submit a written request for an interpretation. The bidder submitting the request will be responsible for its prompt delivery not less than seven (7) working days prior to the date set for opening of bids. Questions can be delivered as follows:

1. Fax: (907) 243-6293
2. Email: purchasing@asdk12.org
3. Mail: Purchasing Department
4919 Van Buren Street
Anchorage, Alaska 99517
4. Hours: 7:30 a.m. – 4:00 p.m.

- B. A written request for an interpretation, which in the opinion of the Purchasing Department requires a reply, will be answered by issuing an addendum to all plan holders prior to the bid opening. The Owner will not be responsible for any other explanation or interpretation of the plans, specifications or other documents made or given prior to the bid opening.

1.07 PREPARATION OF BIDS

- A. Preparation and Submission:

Bids must be submitted on the forms furnished or copies thereof, and must be manually signed. In order to secure consideration, the bid must be submitted and sealed in an envelope on which contract identification is plainly marked on the outside. The bid form is included in the bidding documents. The envelope shall be addressed as indicated in the Invitation to Bid.

- B. Form:

The bid may provide for a quotation of a price, or prices, for one or more items which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction, or a combination thereof. Where required on the bid form, bidders must quote on all items and they are warned that failure to do so shall disqualify the bid.

If erasures or other changes appear on the forms, each such erasure or change must be initialed by the person signing the bid.

- C. Alternate Bids and Qualified Bids:

Bids may be rejected if they show any omissions, alteration of the forms, additions not called for, conditional or alternate bids not called for or irregularities of any kind.

1.08 BID GUARANTEE

- A. Each bid shall be accompanied by a bid bond with good and sufficient surety or sureties acceptable to the Owner. The Anchorage School District will require five percent (5%) of the total amount of the base bid as a guarantee (**cash, personal, or business checks are not acceptable**). Bid guarantees for the three (3) low bidders will be held until the contract is executed.
- B. All other bid guarantees will be returned within seven (7) days of the bid opening. Power of Attorney for the official signing of the bond for the surety company must be submitted with the bond.

1.09 ALTERNATES

- A. The bidder shall include in the spaces provided on the "Bid Form" a bid for each alternate, if applicable.
- B. The Owner may accept alternates in any order or number and include them in the contract award price.

1.10 UNIT PRICES

- A. The bidder shall include in the spaces provided on the "Bid Form" a bid for each unit price, if applicable.
- B. The Owner may accept any or all of these unit prices and include them in the contract award price.
- C. In the case of discrepancy in the extended price calculation(s), the unit price(s) will prevail.

1.11 BIDDER QUALIFICATIONS (TO BE INCLUDED IF THERE IS NO 2-STEP QUALIFICATION PROCESS)

- A. Before the bid is considered for award, the Owner reserves the right to request the bidder to complete within seventy-two (72) hours a bidder qualification form and/or a current financial statement prepared by a Certified Public Accountant. Bidder qualifications to be listed upon the qualification form will include, as a minimum, a listing of bidder's previous contracts of a nature similar to that being bid upon; a listing of bidder's staff, to include managerial, technical and laboring positions; summary of bidder's plan and equipment available for use in the execution of the contract; and a listing of the projects to which the bidder is obligated in the near future. The Owner reserves the right to reject the bid of any bidder who fails to furnish promptly and properly all the information required in this paragraph.
- B. A bidder will be deemed to be unqualified to perform the contract if, after review and verification of the representations included on the qualification form submitted by the bidder, the following conditions appear:
 - 1. Bidder does not have sufficient prior experience (or an acceptable substitute thereof, as described below) with projects of a similar nature in technical, managerial and financial requirements to that in the present contract being bid.
 - a. Experience does not necessarily mean that the bidder is an established Contractor in the exact technical area for which the bid is submitted. In addition to such established contractors, newly established contractors will be considered qualified if they have shown on the bid qualification sheet form that they are staffed with sufficient technical, managerial and financial personnel with prior experience in the nature of construction for which the bids are invited, that bidder may adequately foresee and appreciate problems of such construction.
 - 2. Bidder does not have sufficient capability to undertake the obligations of the contract. A determination in this respect will be made when the Owner, upon review of the probable cash flow needs of the Contractor for this particular contract (to include payroll, cost of material and supplies, equipment rental costs

and any other direct or incidental costs of the contract), determines that the Contractor does not have sufficient financial resources to enable him to satisfy his financial obligations under the contract. The Owner will consider all other pertinent financial data required by this clause and submitted by the Contractor. A determination that the bidder is unqualified will not be made under this paragraph unless the Owner has determined that the bidder cannot meet his financial obligations under the contract after having considered all sources of income available to the bidder.

3. The bidder does not have sufficient staff, equipment or plant available to perform the contract. The Owner's determination in this matter will be based upon that represented by the bidder in his completion of the Bidder Qualification documents discussed above.
4. The bidder has a consistent history of unsatisfactory performance of contracts of this or similar nature, regardless of whether such contracts existed between the Owner and the Contractor, or other parties and the Contractor.
 - a. A determination of this nature will not be made unless the Owner, after review and verification of the contractor's previous work experience, determines that the contractor's consistent, unsatisfactory performance has resulted from the contractor's failure rather than a failure to perform by the other party. The Owner will give the Contractor an opportunity to explain such nonperformance(s) before any final determination is reached. Contract disputes which are pending resolution before any duly authorized judicial or administrative body will not be considered in reaching this determination.
 - b. A determination of a "consistent failure to perform" will not be made unless the Owner is satisfied after review of the bidder's prior experience that the Contractor has repeatedly failed to satisfy his obligations under past contracts. For purposes of this clause, "consistent" will not be construed to mean in every contract, nor will it be construed to include "isolated instances" of failure to perform.
 - c. In reaching any determination of this nature, the Owner may consider statements of other parties to the prior unperformed contracts, as well as the representations of the Contractor on his "Bidder Qualification" form. However, in each instance, the Owner will advise the Contractor of such other statements considered before a determination that the bidder is not qualified, as made by the Owner.
- C. The bidder's representations concerning his qualifications will be construed as a covenant under the contract. Should it appear that the bidder has made a material misrepresentation on his "Bidder Qualification" form, the Owner shall have the right to terminate the contract for the Contractor's breach, and the Owner may then pursue such remedies as exist elsewhere under this contract, or as otherwise are provided at law or equity.
- D. A determination that a bidder is unqualified will be made by the Owner. Such determination will be made in writing and include a thorough discussion of why the bidder is deemed unqualified. A letter will be sent to the bidder deemed unqualified, stating the reasons for such determination, and the bidder's right to request a review of this determination by appeal to the Anchorage School District Board.

- E. Any bidder who is deemed to be unqualified may, as provided under existing Anchorage School District policy, appeal such determination to the Anchorage School District Board prior to contract award to another bidder.

1.12 RECEIPT AND OPENING OF BIDS

- A. Time of Opening:

Bids shall be submitted prior to the time specified in the Invitation to Bid, and the exact date and time of receipt of bids will be recorded. Late bids will not be considered, but will be held unopened until the time of award and then returned to the bidder, unless other disposition is requested or agreed to by the bidder. Time of bid receipt will be determined by the time stamp at the Purchasing Department, 4919 Van Buren Street, Anchorage, Alaska 99517.

- B. FAX/Telegraph/Telephonic/E-Mail Bids:

FAX/telegraphic/telephonic/e-mail bids will not be considered. Modification by FAX or telegraph of bids already submitted will be considered if received prior to the time fixed in the Invitation to Bid. FAX/telegraphic modifications shall not reveal the amount of the original or revised bid.

- C. Officer's Responsibility:

No responsibility will attach to any officer or agent of the Owner for the premature opening of, or the failure to open a bid not properly addressed and identified.

1.13 WITHDRAWAL OF BIDS

- A. Bids may be withdrawn on written request received from the bidders prior to the time specified for opening.
- B. No bid shall be withdrawn for a period of ninety (90) days subsequent to the bid opening without the written consent of the Owner.

1.14 BIDDERS INTERESTED IN MORE THAN ONE BID

- A. If more than one bid is offered by any party, by or in the name of his clerk, partner, or other person, all such bids will be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or from submitting a bid directly for the work.

1.15 BIDDERS PRESENT

- A. At the time and place specified for the opening of bids, contents of the bids will be made public for the information of bidders and other parties.

1.16 REJECTION OF BIDS

- A. The Owner reserves the right to reject any or all bids, and to waive any informalities or irregularities in bidding or award of the contract.

1.17 AWARD OF CONTRACT

A. Acceptance of Bid:

Following the opening and evaluation of bids, the Owner will determine the apparent low responsive bidder and, subject to its right under Paragraph 1.15 to reject all bids, decide whether to accept the apparent low responsive bid. The Owner's acceptance of the apparent low responsive bid will be through a written notice from a duly authorized representative of the Owner, and no other act of the Owner or its representative will constitute an acceptance of a bid. The notice shall be titled "Notice of Intent to Award Contract," and shall set forth pre-award procedures and requirements, if any, including procedures for approval and award of contract by the School Board.

B. Basis of Award

1. It is the Owner's intention to award a contract to the lowest responsive and responsible bidder, including alternates, base bid, and quantified unit prices accepted by the Owner at the time of award, if applicable.
2. Unit prices which are not quantified will not be included in the determination of the award.
3. The Owner reserves the right to award the alternates in any combination with the base bid and include them in the total award.
4. The District reserves the right to request the lowest bidder(s) whose bids are determined to be reasonably susceptible to award to review their previous bids with consideration of any additions, clarifications or modifications, submit revised bids for Best and Final Offers (bids). If Best and Final Offers are requested, selected offerors must submit revised bids on the forms provided by the District to be considered for evaluation and award. Bidders who do not submit a Best and Final Offers (revised bids), when requested, will not be considered for evaluation and award and their bids will be rejected and considered non-responsive.
 - a. For purposes of this ITB, bids that are "reasonably susceptible to award" means the three (3) lowest responsive and responsible bidders, unless, in the sole discretion of the District's Purchasing Director, one or more of the three lowest responsive and responsible bidder(s) was not within the competitive range and to remain under consideration for award when evaluated with other bids or the District received one or more additional bids that are within the competitive range of the three lowest responsive and responsible bids such that the additional bid(s) may remain under consideration when evaluated with the other bids. This is a strict mathematical evaluation and may not be challenged on that basis except in the case of obvious arithmetic errors.

C. Notification of Award to Bidders:

Following opening of bids and determination of the apparent low responsive bidder, the Administration will make public in the Purchasing Contracting Office each Notice of Intent to Award ten (10) calendar days prior to the scheduled award by the Board, except for purchases under \$100,000 which is three (3) business days. Bidders may, upon request to the Purchasing Office and/or Purchasing Contracting Office, review the bid tabulation summary prior to the scheduled Board award date.

D. Amount of Contract

The amount of the contract shall be understood to be the lump sum as given in the bid form. Where prices are given on alternative items, only the amounts of

the alternates accepted by the Owner will be included in the total.

E. Execution of Contract:

By the Contractor: The bidder whose bid is accepted shall execute the contract and furnish the required bonding and insurance within five (5) days after presentation of the contract for signature. The contract shall be deemed to be executed by the successful bidder when two (2) originals of the contract, signed by an authorized officer of the corporation or company, and with each separately signed the bonds and insurances required herein, are received by the Owner. Failure or neglect to execute the contract, within the time specified or such extended period, if any, that the Owner may, in its sole discretion, authorize, shall constitute a breach of the agreement affecting the acceptance of the bid. The damages to the Owner for such a breach shall include loss from interference with the general Capital Improvements Program of the Owner, and other items whose accurate amount would be difficult or impossible to compute.

The amount of the bid guarantee of the successful bidder who fails or neglects to execute the contract after proper notification of the acceptance of the bid shall be retained by the Owner as liquidated damages for such breach.

By the Owner: Upon receipt of the above-referenced two (2) Contracts executed by the Contractor, including all required bonds and insurance certificates, the properly authorized Owner representatives will execute the documents within ten (10) days. The contract shall be deemed to be completely executed when two (2) copies thereof, accompanied by the required bond, liability and other necessary insurance and signed by the Contractor, are executed by the Owner. All awards shall comply with the Anchorage School District Purchasing and Contracting Policy 3311. Awards of \$500,000 or more shall be presented to the School Board for their approval.

1.18 PERFORMANCE BOND AND PAYMENT BOND

- A. The successful bidder will furnish a Performance Bond and a Payment Bond in accordance with Section 00700, Paragraph 7.5.

1.19 INSURANCE

- A. The successful bidder will furnish complete Certificates of Insurance, as required by the General Conditions and Supplementary Conditions, in a form acceptable to the Owner.

1.20 NOTICE TO PROCEED

- A. The Owner will issue a Notice to Proceed with the work within ten (10) days following the Owner's execution of the contract. The date of commencement of the work shall be the date established in the Notice to Proceed. The Owner will not be responsible for any costs incurred by the Contractor prior to the Notice to Proceed.

1.21 AGGRIEVED BIDDERS

- A. Protest:

1. An interested party may protest a solicitation or a proposed award of a contract.

- a. A protest as to the specifications and/or terms and conditions of a solicitation must be received by the Purchasing Director at least five (5) calendar days prior to the due date of the bid or proposal; failure to protest as provided herein constitutes a waiver of any objection to the solicitation.
 - b. For construction projects and architectural/engineering design services, the protest of a proposed award of a contract must be received by the Purchasing Director within ten (10) calendar days after issuance of the notice of intent to award, except that for purchases under \$100,000, the protest must be received within three (3) business days.
 - c. For goods or services, the protest of a proposed award of a contract must be received by the Purchasing Director within seven (7) calendar days after issuance of the notice of intent to award, except that for purchases under \$100,000, the protest must be received within three (3) business days.
 - d. The protest must include the name of the person submitting the protest, the name of the bidder/proposer represented by that person, the specific action or bid/request for proposal contract award which is being protested, a detailed explanation of the reasons for the protest, and the relief requested.
 - e. The aggrieved person must serve all other interested parties with its protest.
2. The Purchasing Director shall stay the intended award of a contract unless the Purchasing Director determines the award of the contract without further delay is necessary to protect the District's best interest.
 3. The Purchasing Director may, in his/her sole discretion, hold a hearing.
 4. The rights and remedies granted by this section are not available for informal small purchases with an actual or potential value of less than twenty-five thousand dollars (\$25,000).
 5. Failure to protest as provided herein constitutes a waiver of any objection to the solicitation and contract award.
- B. Appeal:
1. A decision by the Purchasing Director may be appealed to the Anchorage School Board.
 2. Any appeal shall be filed with the Superintendent within five (5) days after the decision is received by the protester and must include the name of the person submitting the appeal, the name of the bidder/proposer represented by that person, and a detailed explanation of the basis for the appeal.
 3. The aggrieved bidder/proposer must serve all other interested parties with its appeal.

4. The Superintendent may obtain an independent review of the appeal issues if the Superintendent determines such review will assist consideration of the appeal.
5. The independent review shall be conducted by a not directly involved District employee or an experienced but disinterested third party from outside the District.
6. Failure to appeal to the Anchorage School Board as provided herein constitutes a waiver of any objections to the solicitation and the contract award.

C. Consideration of Appeal:

1. The decision being appealed and the findings from the independent review, if any, will be reported to the Board.
2. Upon consideration of the appeal and allowing interested parties an opportunity to address the issues on appeal, the Board may:
 - a. Award the contract as recommended, if applicable, indicating its reasons for rejecting the appeal;
 - b. Grant the appeal, indicating its reasons for granting the appeal, and determine an appropriate remedy consistent with 3311.1(c).1 of Board Policy. The Board may award the contract at that meeting to some other bidder/proposer if it finds that a delay in making the award would adversely affect the District;
 - c. Stay any award of the contract to permit further consideration of the appeal, with action to be scheduled as soon as practicable, but in no event more than twenty (20) days after the stay as initiated;
 - d. Reject all bids/proposals.
 - e. Take such other action as appears appropriate and in the best interest of the District under the circumstances.

D. Frivolous Protests:

1. Signature on Protest Constitutes Certificate
The signature of an attorney or party on a request for review, protest, motion, or other document constitutes a certificate by the signer that the signer has read the document, to the best of his/her knowledge, information, and belief formed after reasonable inquiry it is well grounded in fact and is warranted by existing law or a good faith argument for the extension, modification, or reversal of existing law, and that it is not interposed for an improper purpose, such as to harass, limit competition, or to cause unnecessary delay or needless increase in the cost of the procurement or of the litigation.
2. Sanctions for Violation
If a request for review, protest, pleading, motion, or other document is filed with the Purchasing Director is signed in violation of Board Policy 3311.1(c).1, the Board, may impose upon the person who signed it, a represented party, or both,

an appropriate sanction, that may include an order to pay to the other party or parties the amount of the reasonable expenses incurred because of the filing of the protest, pleading, motion, or other paper, including a reasonable attorney's fee.

1.22 GUARANTEE SECTION

- A. Whether or not there appears here or elsewhere herein specific reference to guarantees of all items of material, equipment or workmanship, they nevertheless shall be so guaranteed against defects for which the Contractor is responsible that may develop or become evident within a period of one (1) year from and after final acceptance of the work by the Owner. This guarantee shall be understood to imply prompt attention to any remedy of such defects as those mentioned above if and as they occur after the Contractor shall have written notice of their existence. If the defect, in the opinion of the Owner, is of such nature as to demand immediate repair, the Owner shall have the right to make them and the cost thereof shall be borne by the Contractor.

1.23 SUBCONTRACTORS

- A. All subcontractors proposed for the work must be acceptable to the Owner.
- B. The Owner reserves the right to request the proposed subcontractors to complete qualification forms and/or current financial statements prepared by a Certified Public Accountant.

1.24 MINIMUM WAGE RATES

- A. Labor required for the construction of this project is subject to the minimum wage rates as provided in the General Requirements.

1.25 NON DISCRIMINATION

- A. No bidder/offeror on any District contract may illegally discriminate on the basis of race; color; gender; national origin; age; marital status; political or religious beliefs; physical or mental disabilities; family, social, or cultural background; or sexual orientation in employment, provision of services, or otherwise.
- B. Any bidder/offeror submitting a bid or proposal of one hundred thousand (\$100,000) or more must certify that if awarded a contract on the basis of that bid or proposal, he/she as the contractor will not illegally discriminate against any member or applicant for employment because of race; color; gender; national origin; age; marital status; political or religious beliefs; physical or mental disabilities; family, social, or cultural background; or sexual orientation in employment, provision of service, or otherwise.

1. Notice of Compliance

- a. All successful bidders/offerors shall insure such non-discrimination.
- b. All successful bidders/offerors must agree to post in conspicuous places, available to employees and applicants for employment, notice setting forth the provisions of this non-discrimination section and this section shall be deemed to be a part of every contract entered into by the District under these policies.

2. Minority Business Enterprises

- a. The District requires adherence to the Anchorage Municipal Code, relating to Minority Business Enterprises and will monitor and implement these policies through the District's Equal Employment Opportunity Director (EEO).
- b. It is the policy of the District that socially and economically disadvantaged minority businesses located within the Municipality of Anchorage be afforded an equitable opportunity to participate in District contracts.
- c. Any appeal from a decision of the Equal Employment Opportunity Director shall be to the Superintendent and, if not satisfied, to the Board.

1.26 ASBESTOS FREE MATERIALS

- A. The bidder, by submitting a bid on this project, thereby certifies and guarantees to the Anchorage School District that any products or materials sold, used or installed under the terms of this contract will not contain any asbestos. In the event the product sold does not conform to the above standards, the buyer may return the product for correction or replacement at the seller's option and at the seller's expense. Services performed by the seller which do not conform to the above standards must be corrected by the seller at the seller's expense or make the appropriate correction within a reasonable time.

1.27 CONFLICT OF INTEREST

- A. The Contractor agrees to certify that Anchorage School District employees, School Board members, or a member of their household are not in conflict of interest with the contract and Board Policy as follows (3311.1(e).1 Disclosure and Waiver of Conflict of Interest):
 1. No Board member, employee, or a member of their household, shall acquire, directly or indirectly, an economic interest in a District or Municipal contract, or engage in business with the District or the municipality, unless the contract is competitively solicited and other requirements of Section 3311 of Board Policy and section 1.15 of the Anchorage Municipal Code are met.
 2. The following acts and circumstances shall not be deemed to be in conflict with the performance of official duties if, at the earliest opportunity after having acquired such knowledge, the Board member or employee files a disclosure pursuant to 3311.1(e).1 or requests and obtains a waiver pursuant to Board Policy 3311.1(e).2:
 - a. Such person owns a sole proprietorship, or is a partner in a partnership, or is an officer, director, major shareholder (five percent (5%) or more of the outstanding shares) or has management control in a corporation that submits a bid, proposal or quotation to the District or attempts to enter or enters into a contract with the District;
 - b. Such person has any significant (five percent (5%) or more) financial interest in any sale, lease or rental to the District of any service or property and such person has knowledge that the District intends to purchase, lease or rent the property or service;

- c. Such person wishes to sell or receive royalties on books or materials sold to the District for use in the school system for which the employee is the author;
 - d. Such person is an employee who has been providing private services to a child who transfers to a new school or class or advances to a higher grade and the child becomes a student in the class being taught/aided by his/her provider.
- B. Board Members, District employees, and their household and/or immediate family members are required to comply with Board Policies and the Municipal Ethics Code by disclosing conflicts of interest.
 - 1. When a board member, employee, or their household and/or immediate family member intends to do business with the District, the appropriate District and Municipal forms must be filed by the Board Member or District employee with the Municipal Clerk's Office and the Purchasing Department.

Note: *Notice of Intent To Respond To Public Solicitation* shall be filed with the Municipal Clerk's office in advance to allow a minimum of **7 calendar days to elapse between electronic publication by the clerk and the final date** for submitting a response to the solicitation. The form may be obtained from the Municipality of Anchorage website, www.muni.org.

District *Disclosure* and *Request for Waiver* forms and instructions may be obtained from the Purchasing Bid Information link under Quick Links on the ASD website, www.asdk12.org.

- 2. The responsibility for complete and timely filing rests solely with the Board Member or District employee.
 - C. Copies of all conflict of interest and ethics code documents should be submitted with your quote.
- 1.28 CONTRACT INDUCEMENTS

- A. No payment, gratuity or offer of employment shall be made in connection with any contract, by or on behalf of the subcontractor to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

1.29 GOVERNANCE

- A. This solicitation is an Invitation to Bid ("ITB") governed by applicable Anchorage School Board Policies, including Section 3311 of such Policies. Anchorage School Board Policies are available at <https://www.boarddocs.com/ak/asdk12/Board.nsf/goto?open&id=8Y9PVN662123>. Offerors should read this ITB carefully and review all instructions contained herein. Incomplete or incorrect bids may be rejected as not conforming to the essential requirements of the ITB. Bids submitted on other than the prescribed forms contained in this ITB will be rejected. Bidders may copy the forms contained in the ITB for use in their bids, but substitute forms or formats are unacceptable. Electronic copies of the forms which bidders must submit as part of any bid, if any—if not provided with this ITB—may

INSTRUCTIONS TO BIDDERS

Division 0

Section 00100

be obtained by contacting the Anchorage School District Purchasing Department. Forms shall not be altered except to supply requested bidder information.

END OF SECTION

PROJECT SCHEDULE MILESTONE DATES

On-Site Visit	April 17, 2018
Pre-Bid Conference.....	April 18, 2018
Bid Opening	May 2, 2018
Notice to Proceed (anticipated).....	May 15, 2018
Site Available to Contractor.....	May 29, 2018
Substantial Completion – Building	July 27, 2018
Final Completion	August 10, 2018

Dates of Interest:

School Ends for Students.....	May 23, 2018
School Ends for Teachers.....	May 24, 2018
Memorial Day	May 28, 2018
Teachers First Day.....	August 15, 2018
Students First Day.....	August 20, 2018
Labor Day	September 3, 2018
Parent Teacher Conferences	October 24 – 25, 2018
Thanksgiving Holiday	November 22 – 23, 2018
Winter Vacation.....	December 24, 2018 – January 4, 2019

The Contractor shall be required to plan, schedule, execute and complete all work under the contract in accordance with the Project Schedule Milestone Dates set forth under this Section 00200. The above listed Project Schedule Milestone Dates for Substantial Completion and Final Completion may not be altered by the Contractor, either to schedule or to achieve early completion of the project, without the express written consent of the Owner.

The bidder's attention is drawn to the requirements of Division 1, Section 01311 of the General Requirements entitled Project Schedule and to the Phasing Drawings for associated phasing information.

END OF SECTION

Time: Prior to 2:00 p.m., Local Time
Date: May 2, 2018

FROM: _____ BIDDER
 _____ ADDRESS
 _____ CITY/STATE
 _____ PHONE/FAX
 _____ EMAIL

Operating as (strike out conditions that do not apply) an individual, a company, a corporation, organized and existing under the laws of the State of _____, or a proprietorship, a partnership, or joint venture consisting of _____

1. BASE BID:

Having become completely familiar with the local conditions affecting the cost of the work at the place where work is to be executed, and having carefully examined the site and building conditions as they currently exist, and having carefully examined the proposed contract documents, together with any addenda to such contract documents as listed hereinafter, the undersigned hereby proposes and agrees to provide all labor, materials, equipment, transportation, supervision and other facilities as necessary and/or required to execute all of the work described by the aforesaid contract documents for the lump sum consideration of:

\$ _____ (In Numbers)

Said amount being hereinafter referred to as the base bid, base bid proposed, or lump sum.

2. ALTERNATES:

The undersigned proposes to perform alternates for the stated resulting additions or deductions from the base bid. Additions and deductions shall include any modifications of work or additional work that the undersigned may deem to be required to perform by reason of the acceptance or rejection of any alternate, including allowances for overhead and profit, and in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof. The Owner reserves the right to award the alternates in any order or number and include them in the contract award price.

A. None

3. UNIT PRICES:

The following unit prices will be used at the discretion of the Owner for the addition or deletion of work not reasonably implied or not included in the Contract Documents. Unit prices must include all labor, material, overhead, and profit for each unit of work. All unit price work will be processed by Request for Proposal followed by a Change Order to the Contract when quantities are verified and agreed upon.

A. None

4. ALLOWANCES / ASSIGNMENTS:

A. None

5. ADDENDA ACKNOWLEDGMENT:

The undersigned acknowledges receipt of the following addenda: (List by number and date appearing on addenda.)

6. TIME OF COMPLETION:

The undersigned agrees to complete all work under this contract in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof.

7. BID SECURITY:

A bid bond in the amount of five percent (5%) of the total amount of the base bid is attached in the sum of:

\$ _____ (In Numbers)

which is to become the property of the Owner in the event the Performance Bond and Payment, Bond are not executed within the time set forth in paragraph 9 of this section, as liquidated damages for the delay and additional work caused the Owner.

8. The undersigned agrees that upon receipt of the notice of acceptance of his bid, he will execute the formal contract, and will deliver all proper bonds and proof of insurance coverage as may be required by the contract documents.

9. The undersigned agrees to accept the Assignment of the Bid Allowance as set forth in Section 01031, Bid Allowances.

10. The undersigned further agrees to execute the formal contract within ten (10) days from the date of the notice of acceptance of this bid, and in case the undersigned fails or neglects to appear within the specified time to execute the contract, the undersigned will be considered as having abandoned the contract, and the bid bond accompanying this bid will be forfeited to the Owner by reason of such failure on the part of the undersigned.
11. The undersigned further agrees to commence with the work under the contract in accordance with the date of commencement of the Work established in the Notice to Proceed.
12. The undersigned further agrees that the bid security may be retained by the Owner and that said bid guarantee shall remain with the Owner until the contract has been executed by the Owner.
13. The undersigned has checked all of the above figures, and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in preparing this bid.
14. In submitting this bid, it is understood that the right is reserved by the Owner to reject any or all bids and waive any informalities and irregularities in connection therewith. It is agreed that this bid may not be withdrawn for a period of forty-five (45) days from the date and time of opening.
15. The undersigned declares that the person or persons signing this Bid Form is/are fully authorized to sign on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.
16. It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated has any interest whatsoever in this bid or the contract that may be entered into as a result of the bid and that in all respects the proposal is legal and firm, submitted in good faith without collusion for fraud.
17. It is agreed that the undersigned has complied or will comply with all requirements of local, state and national laws, and that no legal requirement has been or will be violated in making or accepting this bid in awarding the contract to him and/or in the prosecution of the work required.
18. **CONFLICT OF INTEREST:**

I certify no member of the School Board or District employee, or spouse or other member of his/her household shall have any undisclosed interest as noted in paragraph entitled Conflict Of Interest (Section 00100). By and for the bidder:

Signature: _____

19. LICENSE NUMBER(S):

Alaska Business License Number: _____

Alaska General or Specialty Contracting License Number: _____

Respectfully Submitted, this _____ day of _____, 20__.

Firm Name: _____

Federal Tax ID: _____

Address: _____

Signature: _____

Name (Typed): _____

Title: _____

CORPORATE SEAL

ENCLOSURES:

1. Bid Guarantee (in the form and amount specified or required, include Power of Attorney For Surety)

END OF SECTION

OWNER – CONTRACT AGREEMENT FORM

REFERENCE:

1. The form of agreement between the Owner and the Contractor shall be the form bound herein.
2. The Agreement shall be executed in duplicate.

CONTRACT NO. **XXCXXXX**
SCHOOL PROJECT TITLE
ITB 201X-8XX
ASD PROJECT NO. **XXXXXX**

Board Memo No.: N/A or Number
Date of Contract: Date of Contract

Company
Address
Anchorage, AK 995

☐ Sole Proprietorship
☐ Partnership
☐ Incorporated in the
State of Alaska

OWNER: ANCHORAGE SCHOOL DISTRICT, ANCHORAGE ALASKA

CONTRACT FOR: **SCHOOL PROJECT TITLE**

Amount of Contract: Amount of Contract in words Dollars and No Cents

Base Bid:	<u>\$xxx,xxx.xx</u>
Additive Alternate 1:	<u>\$xxx,xxx.xx</u>
Siemens Allowance:	<u>\$xxx,xxx.xx</u>
Total:	<u>\$xxx,xxx.xx</u>

Statement of Work: The Contractor shall furnish all labor, equipment and materials and perform the work above described for the amount stated in strict accordance with Contract Documents, all of which are made a part of this Contract and designated as follows:

CONTRACT DOCUMENTS

- I. This Contract, consisting of **two (2) pages**.
- II. Section 00620 Performance Bond and Payment Bond, consisting of **nine (9) pages**, dated **(date of contract)** and attached Power of Attorney for Surety.
- III. Contractor signed Bid Form, Section 00300 and signed Addendum/a consisting of **four (4) or five (5) pages**.
- IV. Alaska Sex Offender/Child Kidnapper Registry Contractor Certification consisting of **one (1) page**.
- V. Certificates of Insurance.
- VI. Invitation to Bid **(number)** Project Manual dated **(date)** and all Drawings are hereby incorporated by reference as if in full text.

In the event of a conflict between any of the Contract Documents and the provisions of any purchase order of materials or service request issued in connection with this Contract, the provisions of the Contract Documents shall prevail.

Work shall be started in accordance with the Notice to Proceed. Time being of the essence, work shall be completed in accordance with the Project Schedule Milestone Dates set forth under Section 00200 thereof.

The ASD Project Manager for this Contract is: **Insert Name of Project Manager Cell (907) XXX-XXXX, Office (907) XXX-XXXX and insert email address.**

The attached performance and payment bond is in due form according to law, and is hereby approved.

Anchorage School District Attorney

Date: _____

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of this date entered on the first page hereof.

ANCHORAGE SCHOOL DISTRICT

CONTRACTOR BUSINESS NAME

David Whiting, Date
Senior Director of Purchasing/Warehouse

Contractor Signature _____ Date _____

Contractor Print Name and Title

Corporate Seal

Account Code(s):

END OF CONTRACT

BID BOND FORM

REFERENCE:

1. If the Bid Guarantee is submitted on Bond Form, the Bid Bond shall be the form as bound herein.

BID BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____, a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount of 5% of the Base Bid Amount for payment whereof PRINCIPAL and SURETY bind
ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these present.

WHEREAS, the PRINCIPAL is herewith submitting its proposal for _____

The condition of this obligation is such that if the PRINCIPAL will, within the time required, enter into a
formal contract and give a good and sufficient bond to secure the performance of the terms and
conditions of the contract, then this Obligation to be void; otherwise, the PRINCIPAL and SURETY will
pay unto the OBLIGEE the amount stated above.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____

Location: _____

CONTRACTOR

Name: _____

Address: _____

City/State: _____

SURETY

Name: _____

Address: _____

City/State: _____

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution of this bond on the _____
day of _____, 20____.

PRINCIPAL

SURETY

Contractor Name

Corporate Surety Name (Seal)

By _____
Signature

By _____
Signature

Typed Name and Title

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

END OF SECTION

PERFORMANCE BOND AND PAYMENT BOND

REFERENCE:

1. The Performance Bond and Payment Bond shall be the forms as bound herein.

CONSTRUCTION PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____, a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount

of _____
_____ Dollars

(\$ _____), for payment whereof PRINCIPAL and SURETY bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these present.

This Construction Performance Bond ("Bond") is entered into by and between the undersigned parties to
ensure the faithful performance of the Construction Contract listed below.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____
Location: _____

BOND

Number: _____
Date: _____
Amount: _____

CONSTRUCTION CONTRACT

Number: _____
Date: _____
Amount: _____

CONTRACTOR

Name: _____
Address: _____
City/State: _____

SURETY

Name: _____
Address: _____
City/State: _____

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution hereof of two (2) original counterparts as the ____ day of _____, 20____.

PRINCIPAL

SURETY

Contractor Name

Corporate Surety Name (Seal)

By _____
Signature

By _____
Signature

Typed Name and Title

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

CONSTRUCTION PERFORMANCE BOND TERMS AND CONDITIONS

1. The CONTRACTOR and the SURETY, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.
2. If the CONTRACTOR completely and properly performs all of its obligations under the Construction Contract, the SURETY and the CONTRACTOR shall have no obligation under this Bond.
3. If there is no OWNER Default, the SURETY's obligation under this Bond shall arise after:
 - a. OWNER has declared a CONTRACTOR Default under the Construction Contract pursuant to the terms of the Construction Contract; and
 - b. The OWNER has agreed to pay the Balance of the Contract Sum to:
 - i. The SURETY in accordance with the terms of this Bond and the Construction Contract; or
 - ii. A contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.
4. When the OWNER has satisfied the conditions of Paragraph 3, the SURETY shall promptly (within thirty (30) days) and at the SURETY's expense elect to take one of the following actions:
 - a. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Construction Contract (but OWNER may withhold consent, in which case the SURETY must election option 4b, 4c or 4d, below); or
 - b. Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or
 - c. Obtain bids from qualified contractors acceptable to OWNER for a contract for performance and completion of the Construction Contract, and, upon determination by OWNER of the lowest responsive and responsible bidder, arrange for a contract to be prepared for execution by OWNER and the contractor selected with OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified SURETY equivalent to the bonds issued on the Construction Contract; and, if the SURETY's obligations defined in Paragraph 6 exceed the Balance of the Contract Sum, then the SURETY shall pay to OWNER the amount of such excess; or
 - d. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and, with reasonable promptness under the circumstances and after investigation and consultation with OWNER, determine in good faith the amount for which it may then be liable to OWNER under Paragraph 6 for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefore to OWNER with full explanation of the payment's calculation. If OWNER accepts the

SURETY's tender under this paragraph 4.d, OWNER may still hold SURETY liable for future damages then unknown or unliquidated resulting from the CONTRACTOR Default. If OWNER disputes the amount of the SURETY's tender under this paragraph 4.d, OWNER may exercise all remedies available to it at law to enforce the SURETY's liability under paragraph 6.

5. If the SURETY does not proceed as provided in Paragraph 4, then the SURETY shall be deemed to be in default on this Bond ten (10) days after receipt of an additional written notice from OWNER to the SURETY demanding that the SURETY perform its obligations under this Bond. At all times OWNER shall be entitled to enforce any remedy available to OWNER at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, or coordinate work with other consultants or contractors.
6. The SURETY's monetary obligation under this Bond is limited by the amount of this Bond. Subject to these limits, the SURETY's obligations under this Bond are commensurate with the obligations of the CONTRACTOR under the Construction Contract. The SURETY's obligations shall include but are not limited to:
 - a. The responsibilities of the CONTRACTOR under the Construction Contract for completion of the Construction Contract and correction of defective work;
 - b. The responsibilities of the CONTRACTOR under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction Contract, including but not limited to, all valid and proper back charges, offsets, payments, indemnities or other damages;
 - c. Additional legal, design professional and delay costs resulting from the CONTRACTOR Default or resulting from the actions or failure to act of the SURETY under Paragraph 4.
7. No right of action shall accrue on this Bond to any person or entity other than OWNER or its heirs, executors, administrators, or successors.
8. The SURETY hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. The SURETY consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate SURETY on this Bond or in any way affect the obligations of SURETY on this Bond.
9. Any proceeding, legal or equitable, under the Bond shall be instituted in the Superior Court for the State of Alaska, Third Judicial District.
10. Notice to the SURETY, OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the front page.
11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.
12. Definitions.

PERFORMANCE BOND AND PAYMENT BOND

Division 0

Section 00620

- a. Balance of the Contract Sum: The total amount payable by OWNER to the CONTRACTOR pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved modifications to the Construction Contract.
- b. Construction Contract: The agreement between OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
- c. CONTRACTOR Default: Material failure of the CONTRACTOR which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract, including but not limited to, the provisions of Article 14 of the General Conditions of the Construction Contract.
- d. OWNER Default: Material failure of OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted CONTRACTOR Default and is sufficient to justify CONTRACTOR termination of the Construction Contract.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____ a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount

of _____
_____ Dollars

(\$ _____), for payment whereof PRINCIPAL and SURETY bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these present.
This Payment Bond ("Bond") is entered into by and between the undersigned parties to ensure the faithful
performance of the Construction Contract listed below.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____
Location: _____

BOND

Number: _____
Date: _____
Amount: _____

CONSTRUCTION CONTRACT

Number: _____
Date: _____
Amount: _____

CONTRACTOR

Name: _____
Address: _____
City/State: _____

SURETY

Name: _____
Address: _____
City/State: _____

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution hereof of two (2)
original counterparts as the ____ day of _____, 20____.

PRINCIPAL

SURETY

Contractor Name

Corporate Surety Name (Seal)

By _____
Signature

By _____
Signature

Typed Name and Title

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

PAYMENT BOND TERMS AND CONDITIONS

The condition of this obligation is such that if the PRINCIPAL shall promptly make payment to all Claimants who furnish labor or materials in the prosecution of the Work provided for in the Construction Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect.

This Bond has been furnished to comply with Alaska Statute 36.25.010, and to allow enforcement rights pursuant to Alaska Statute 36.25.020. Any provisions in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory requirements shall be deemed incorporated herein.

The SURETY hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. The SURETY consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate SURETY on this Bond or in any way affect the obligations of SURETY on this Bond.

END OF SECTION

SAMPLE FORMS AND CERTIFICATES

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Comply with the contract conditions requirements and specified administrative procedures in closing-out work.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01700: Project Close-out
- B. General and Supplementary General Conditions

1.03 APPLICATION AND CERTIFICATE FOR PAYMENT

- A. Use Anchorage School District Form 100, 100A, 100B, and 100C attached herein.

1.04 CERTIFICATION OF SUBSTANTIAL COMPLETION

- A. Use Anchorage School District Form 101 attached herein.

1.05 CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

- A. Use Anchorage School District Form 102 attached herein.

1.06 RELEASE ON CONTRACTS

- A. Use Anchorage School District Form 103 attached herein.

1.07 CONSENT OF SURETY COMPANY TO FINAL PAYMENT

- A. Use Anchorage School District Form 104 attached herein.

1.08 CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE

- A. Use Anchorage School District Form 105 attached herein.

1.09 CERTIFICATES OF INSURANCE

- A. The contractor's Certificate of Insurance shall be on an industry standard form with, as a minimum, the categories and clauses on the Accord form with contractual clauses for contract number and description, subrogation waiver, additional insured and cancellation notification.

1.10 REQUEST FOR INFORMATION

- A. Contractor's requests for information shall be on Anchorage School District request for information forms.

1.11 REQUEST FOR PROPOSALS

- A. Proposals will be executed on Anchorage School District Request for proposal forms.

1.12 CERTIFICATE OF COMPLIANCE

- A. The Contractor shall submit a notarized Certificate of Compliance, contained in this section, with his application for Final Payment.

1.13 WARRANTY OF WORK

- A. The Contractor shall furnish to the Owner a notarized Warranty of Work after Final Payment, contained in this section, with his application for Final Payment.

1.14 AHERA EXCLUSION DOCUMENT

- A. The Contractor shall furnish to the Owner a signed AHERA Exclusion Document, contained in this section, with his application for Final Payment.

1.15 CONSTRUCTION CHANGE ORDER

- A. Change Orders will be executed on Anchorage School District Change Order forms.

1.16 CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

- A. The Contractor shall complete the CQC Report in accordance with Section 01400.

1.17 DEPARTMENT OF LABOR NOTICE OF WORK

- A. The Contractor shall furnish to the Department of Labor a Notice of Work prior to start of construction.

1.18 DEPARTMENT OF REVENUE TAX CLEARANCE REQUEST FORM

- A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Revenue, contained in this section, with his application for Final Payment.

1.19 DEPARTMENT OF LABOR TAX CLEARANCE REQUEST FORM

- A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Labor, contained in this section, with his application for Final Payment.

1.20 SUBMITTAL CONTROL FORM

- A. Submittals will be executed on Anchorage School District Submittal Control Forms.

1.21 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY CONTRACTOR CERTIFICATION

- A. Contractor certifies contractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of contractor who will be on district

property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to contractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

1.22 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY SUBCONTRACTOR CERTIFICATION

- A. Subcontractor certifies subcontractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of subcontractor who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to subcontractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

1.23 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY SUB-SUBCONTRACTOR CERTIFICATION

- A. Sub-subcontractor certifies sub-subcontractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of sub-subcontractor who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to sub-subcontractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

ANCHORAGE SCHOOL DISTRICT APPLICATION FOR PAYMENT	
Project Name: _____ ITB/RFP No.: _____ Name of Contractor: _____ Address: _____	Contract #: _____ Application #: _____ Application date: _____ Period to: _____
COMPUTATION OF PAYMENT DUE	
(a) Original contract amount (ASD 100A)	\$ -
(b) Net Change by Change Orders (ASD 100B)	\$0.00
(c) Adjusted contract amount to date (a+b)	\$ -
(d) Work Completed to Date (ASD 100B)	\$ -
(e) Materials Stored (ASD 100B)	\$ -
(f) Total Completed and Stored To Date (d+e)	\$ -
(g) Less: amount retained in accordance with contract terms	\$ -
(h) Net amount earned on contract work to date (f-g)	\$ -
(i) Less: amount of previous payments (ASD 100B)	\$0.00
(j) CURRENT PAYMENT DUE (h-i)	\$ -
(k) Balance to Finish (c-h)	\$ -
CERTIFICATION OF CONTRACTOR According to the best of my knowledge and belief, I certify that all items and amounts shown on the face of this Application for Payment are correct; that all work has been performed and/or material supplied in full accordance with the requirements of the referenced Contract, and/or duly authorized deviations, substitutions, alterations, and/or additions; that payment has been made for all materials received and work performed for which previous pay applications were approved; that no part of the "Balance Due This Payment" has been received and that it is currently due.	
_____ (Contractor)	By _____ (Signature of Authorized Representative)
_____ Date	_____ Title:
CERTIFICATION OF ARCHITECT According to the best of my knowledge and belief, and based on on-site observations, I certify that the work completed as shown on ASD 100B has progressed as indicated, the quality of work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the Current Payment Due shown above.	
_____ Date	_____ (Signature of Architect)
APPROVED FOR PAYMENT	
_____ Date	_____ (ASD Project Manager)

ASD 100 (1/15)

[illegible]ASD# 100B (1/15) Continuation
Sch. of Values/
Work CompletedPage 1
of Detail Schedule

[illegible]ASD# 100B (1/15) Continuation
Sch. of Values/
Work CompletedPage 2
of Detail Schedule

ANCHORAGE SCHOOL DISTRICT			
APPLICATION FOR PAYMENT			
Schedule of Stored Materials			
Project Name: ITB/RFP No.: Name of Contractor:	INVOICE #	VENDOR	DESCRIPTION
Contract #: Application #: Application date: Period to:			AMOUNT STORED AT END OF THIS PERIOD
			\$ -
TOTAL STORED MATERIALS			\$ -

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: _____ Contract Number: _____

Contractor: _____ Contract Date: _____

Architect: _____ Date of Issuance: _____

Owner: ANCHORAGE SCHOOL DISTRICT
1301 Labar Street
Anchorage, Alaska 99515

Project Description:

The work performed under this contract has been reviewed and found to be substantially complete. The date of Substantial Completion is hereby established as: _____

Definition of Date of Substantial Completion:

The date of substantial completion of the project is the date certified by the Owner when the work is substantially complete in accordance with, and defined in the Contract Documents.

A list of items to be completed or corrected, prepared by the Owner and verified and amended by the Architect is appended hereto. The failure to include any items or such list does not alter the responsibility of the Contractor to complete the project in accordance with the Contract Documents.

The Contractor will complete or correct the work on the list of items appended hereto within 30 days from the date of substantial completion.

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as follows: _____

In reliance upon the certification of the Contractor and the Architect, the Owner hereby accepts the project as substantially complete. In accordance with the Contract Documents, the Owner hereby elects to assume occupancy of _____

_____ at _____ a.m./p.m. on _____ .

Owner: **ANCHORAGE SCHOOL DISTRICT**

By: _____ Title: _____ Date: _____

Architect: _____

By: _____ Title: _____ Date: _____

Contractor: _____

By: _____ Title: _____ Date: _____

ASD 101 (01/03)

**CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____ entered into by the
Anchorage School District, and _____ for the construction of _____

The undersigned, pursuant to the General Conditions of the Contract for the construction,
_____, hereby certifies that, except as listed below, he has paid
in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services
performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in
connection with the performance of the Contract referenced above for which the District or his property might in any way
be held responsible.

EXCEPTIONS:

IN WITNESS WHEREOF, the seal of the undersigned Contractor have been hereunto set this
_____ day of _____

, at _____

By _____

being first duly sworn, say that I am the agent for and executed
the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the
matters set forth therein are as I truly believe.

By _____

Subscribed and sworn to before me this _____ day of _____

, at _____

Notary Public in and for _____

My Commission Expires _____

ASDF Form 102

RELEASE ON CONTRACT
ANCHORAGE SCHOOL DISTRICT

WHEREAS, by the terms of a contract dated _____ entered into by the Anchorage School District, and _____ for the construction of _____,

it is provided that:

"Neither the final payment nor the remaining retained percentage shall become due until the Contractor shall provide the Owner (1) with a waiver and release of liens, on the forms provided by the Owner, executed by the Contractor..."

NOW THEREFORE, in consideration of the premises and the payment by the Anchorage School District to the undersigned Contractor of the amounts due under the contract and any changes or modifications thereto, to wit, the sum

of \$ _____ Dollars,
(Numbers) (In Words)

the undersigned Contractor hereby releases and forever discharges the Anchorage School District including its property, particularly that real property known as the _____

of the Anchorage School District, of and from all manner of debts, dues and sum or sums of money, accounts, claims, and demands whatsoever, in Law and in equity, under or by virtue of said contract, and warrants good title to all material, supplies and equipment installed or incorporated in the project and all work delivered to the premises, together with all improvements and appurtenances constructed thereon by:

_____ to the Anchorage School District free of any claims, liens or encumbrances. Neither the undersigned nor any person, firm or corporation furnishing material or labor for any work covered by this Contract has any right to a lien upon the premises nor improvement thereon, except:

IN WITNESS WHEREOF, the signature of the undersigned Contractor has been hereunto set this

_____ day of _____, 20____, at _____, Alaska.

Signature: _____

Printed Name: _____

I, _____, being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20__, at _____, Alaska.

Notary Public in and for _____

My Commission Expires: _____.

ASD Form 103

CONSENT OF SURETY COMPANY
TO FINAL PAYMENT

PROJECT: _____

PROJECT NUMBER: _____

CONTRACTOR: _____

CONTRACT DATE: _____

TO: Anchorage School District

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above:

_____ (Surety Company)

on bond of

_____ (Contractor)

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to Anchorage School District, Owner as set forth in said Surety Company's bond. Surety expressly agrees that any and all valid claims of sub-Contractors and all persons supplying labor or materials to the project will be satisfied by Contractor or Surety in a timely manner

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this

_____ day of _____, 20____.

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASD 104

**CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE
ANCHORAGE SCHOOL DISTRICT**

PROJECT:

PROJECT NUMBER:

TO: Anchorage School District

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above,
the:

_____ (Surety Company)

on bond of

_____ (Contractor)

HEREBY APPROVES OF THE REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE to the Contractor
as follows:

The surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the
Surety of any of its obligations to **ANCHORAGE SCHOOL DISTRICT, OWNER**

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this
day of .

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASDF Form 105

CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY)																																											
PRODUCER 		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.																																											
INSURED 		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">INSURERS AFFORDING COVERAGE</th> <th style="text-align: left;">NAIC #</th> </tr> <tr> <td>INSURER A:</td> <td></td> </tr> <tr> <td>INSURER B:</td> <td></td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> </table>	INSURERS AFFORDING COVERAGE	NAIC #	INSURER A:		INSURER B:		INSURER C:		INSURER D:		INSURER E:																																
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THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.																																													
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DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS																																													
CERTIFICATE HOLDER 		CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE																																											

ACORD 25 (2009/01)

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IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

ACORD 25 (2009/01)

Anchorage School District

Facilities Maintenance

1301 Labar Street

Anchorage, Alaska 99515

Phone: (907) 348-5215

Fax: (907) 348-5227

REQUEST FOR INFORMATION

No.

TITLE:

DATE:

PROJECT:

Project No.:

TO:

REQUEST:

ANSWER:

Answered By:

Printed Name

Signature

Date

This is not an authorization to proceed with any work involving additional cost and / or time.

Notification must be given in accordance with Contract Documents if any clarification, variation or Architects/Engineers responses cause any change to the Contract Documents.

ANCHORAGE SCHOOL DISTRICT USE ONLY:

Is this Request for Information associated with an Request for Proposal?

Reviewed By:

Yes ____ No ____

Signed:

Date:

Request for Proposal #

Project Manager

Anchorage School DistrictFacilities Maintenance
1301 Labar
Anchorage, AK 99515Phone: (907) 348-5213
Fax: (907) 348-5227**REQUEST FOR PROPOSAL
No.****TITLE:****DATE:****PROJECT:****PROJECT NO:****TO:****CONTRACT NO:****ATTN:****DESCRIPTION TO CONTRACTOR****Within seven (7) days, submit an itemized proposal.**

Provide labor, material, equipment and supervision as necessary to complete changes to the project as represented by the documents indicated below. The quoted price shall include all costs (additive and deductive) associated with and resulting from this work, per The General Conditions of the Contract. Provide a Lump Sum proposal properly itemized and supported by sufficient substantiating data to permit evaluation. The quoted price shall include all delay, impact, and actual costs associated with the resulting changes from this extra work.

DESCRIPTION OF PROPOSED CHANGE:**Lump Sum:** _____
Total: _____**REASON FOR CHANGE:**

- ☐ A Hidden Condition
☐ B Corrective Action
☐ C Owner Requested Change Within Scope If contract time will change, indicate number of days.

CHANGE ORDER APPROVED:**By:** _____**By:** _____**Date:** _____**Date:** __________
Construction Manager_____
Director of Facilities**Date:** _____**Date:** _____Required if amount exceeds \$10,000Required if amount exceeds \$50,000

CERTIFICATE OF COMPLIANCE

No final payment shall be made until the Contractor shall file with the Owner, prior to acceptance of the work, a notarized Certification of Compliance in the following form:

The Contractor does hereby certify that all work has been performed and materials supplied in accordance with the Drawings, Specifications and Contract Documents for the above work, and that:

No less than the prevailing rates of wages as ascertained by the governing body of the Contracting Agency has been paid to laborers, workmen and mechanics employed on this work;

There have been no unauthorized substitutions of Subcontractors; nor have any subcontracts been entered into without prior notice having been submitted to the Owner prior to the start of such subcontracted work;

No subcontract was assigned or transferred or performed by any Subcontractor other than the original Subcontractor, without prior notice having been submitted to the Owner together with the names of all Subcontractors;

All claims for material and labor and other paid service performed in connection with these specifications have been paid;

All monies due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund, the State Tax Commission, Hospital Associations and/or others have been paid.

In WITNESS WHEREOF, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

As determined necessary, evidence of compliance may be required to be submitted with and made a part of this Certificate of Compliance.

WARRANTY OF WORK

Prior to Final Payment, the Contractor shall furnish to the Owner a Warranty of Work in the following form:

The Contractor does hereby warrant all work and materials to be in full and complete accordance with the Contract Documents and Agreement between Owner and Contractor, and requirements appertaining thereto; that all work and materials are free from any and all defects and imperfections, and fully suitable for the use and purposes for which each and every part is intended. The Contractor also agrees that, should any defect develop or appear which the Project Manager or Owner's Representative finds was Not caused by improper use, the Contractor shall promptly, upon demand, fully correct, substitute and make good any such defective material without any cost to the Owner and will save the Owner harmless against any claim, demand, loss or damage by reason of any breach of this warranty.

The period of this warranty shall commence on the date of Substantial Completion.

The warranty shall continue to be in full force and effect for the period of one (1) year, except for those items for which a longer period of warranty is specifically stated in the Warranties for work in Technical Sections of the Specifications.

Warranties for work stated in Technical Section shall continue in full force and effect for the respective periods expressly stated.

In WITNESS WHERE, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

AHERA Exclusion Document

Contractor's Verification of Asbestos-Free Construction

Project: _____ Project Number: _____

Contractor: _____ Date: _____

To: Anchorage School District
Facilities Coordinator,
AHERA LEA Designated Person

To the best of our knowledge, no asbestos-containing building materials were installed in this project.

Attest: _____
Signature of Authorized Representative

Title

Anchorage School District

Facilities Maintenance
1301 Labar
Anchorage, AK 99515

**Summary Change Order
No.**

Phone: (907) 348-5215
Fax: (907) 348-5227

Project:

Date:

To:

Project No:

Contract No.

Attn:

DESCRIPTION OF CHANGE

See Attached:

The Original Contract Sum was	
Net Changes by Previously Authorized Request and Changes	
The Contract Sum Prior to This Change Order was	\$0.00
The Contract Sum will be Unchanged	\$0.00
The New Contract Sum Including This Change Order	\$0.00

The Contract Time will

APPROVALS:

Contractor _____	Date _____	Construction Manager _____	Date _____
Project Manager _____	Date _____	Director of Facilities _____	Date _____
Contracting Office _____	Date _____	Assistant Superintendent _____	Date _____
		Support Services	
Funds Available Accounting _____	Date _____	Superintendent _____	Date _____
Chief Financial Officer, ASD _____	Date _____		

For Office Use Only	
PR # _____	Account Number(s) _____
ASD Board Action:	_____
☐ Yes ☐ No	_____
Board Memo # _____	_____

Anchorage School DistrictFacilities Maintenance
1301 Labar
Anchorage, AK 99515Phone: (907) 348-5215
Fax: (907) 348-5227**Summary Change Order
No.****Project:****Date:****To:****Project No:****Contract No.****Attn:****DESCRIPTION OF CHANGE**

<u>Number</u>	<u>Type</u>	<u>Title</u>	<u>Cost</u>

Total Cost this Change Order	\$0.00

Type Assignments: A - Hidden Conditions B - Corrective Action Required C - Owner Requested Changes Within Scope D - Changes of Scope

SAMPLE FORMS AND CERTIFICATES

Division 0

Section 00630

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)		DATE	REPORT NO.
CONTRACT NO. AND NAME OF CONTRACTOR		DESCRIPTION AND LOCATION OF THE WORK:	
WEATHER CLASSIFICATION:			CLASSIFICATION:
CLASS A	No interruption of any kind from weather conditions occurring on this or previous shifts.	CLASS _____	
CLASS B	Weather occurred during this shift that caused a complete stoppage of all work.	TEMPERATURE:	
		MAX _____ MIN _____	
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.	PRECIPITATION:	
CLASS D	Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.		
CLASS E	Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.		
OTHER	Explain.	INCHES _____	
CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: (Attach list of items of equipment either idle or working as appropriate.)			
a. _____			
b. _____			
c. _____			
d. _____			
e. _____			
f. _____			
g. _____			
h. _____			
1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above.)			
2. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)			

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:
4. QUALITY CONTROL REPORTS (items requiring special inspections):
5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Owner on construction deficiencies, retesting required, etc., with action to be taken.)
6. REMARKS: (Cover any conflicts in plans, specification or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)
CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above. _____ CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
www.labor.state.ak.us/lss/lss.htm

- This form must be typed or printed in ink.
- Fill in all blanks or form will be returned for correction (see back).
- Please allow a minimum of 10 working days for processing.

ENTER YOUR FAX # _____
AND LIST YOUR MAILING ADDRESS BELOW

Contractor, company or agency name, address, city, state & ZIP + 4

NOTICE OF WORK

Filing Fee Required

Project name	
Specific site description	
Contract awarding agency	
Address	
City	State ZIP + 4
Contract awarding agency contact person Phone #	
Location and city where work is to be performed	
Date work to begin (m/d/y)	Do you intend to use subcontractors? ☐ Yes ☐ No
Final Bid Date	Contract #

Primary contractor (has contract with the public agency)			
List all contractors & subcontractors (Attach extra sheet if necessary)		Type of work	Amount of subcontract
CERTIFICATION: I hereby certify that the above information is correct. Enclosed is the filing fee computed at 1% of the total amount of all my subcontractors on this project. This amount includes the contract value for the primary contractor. I understand that the maximum fee I am required to pay is \$5,000. I further certify that all contractors shall be made aware of the requirements of AS 36.05.010 - .110 and AS 36.10.007 - .990 before working.		Total value of subcontracts	\$
			+
		Value of work performed by primary contractor	\$
		Amount subject to fee	\$
			Multiply by .01
		Total fee enclosed =	\$
		ROUND FEES TO NEAREST DOLLAR	
Signature _____ Date _____ Title _____ Fax # _____ Phone # _____		For Dept. Use Only Amount: _____ Check Number: _____ Cash _____ Received By: _____ Date: _____ Credit Card Confirmation _____ Visa _____ MC _____ Project Name _____ DOLWD Project # _____	
For Dept. Use Only Accepted: By _____ Department of Labor and Workforce Development		Wage & Hour date-stamped copy of this form will serve as temporary receipt.	

How to expedite the processing of your form:

Acceptance of this notice will be based on the information provided by the primary contractor.

ERRORS THAT CAUSE REJECTION

No fee included or incorrect amount. If total contract amount is less than \$25,000 no filing fee is required. Contract amounts paid to owner/operators with no employees are exempt from the fee. **The maximum total filing fee for any one project is \$5,000.00.**

Missing – Enter the “time and materials” if applicable. The exact dollar amount will be required on the Notice of Completion to be filed when the project is done.

Missing – The name of each subcontractor and the amount or estimated amount of the subcontract is required. Enter the “time and materials” if applicable. The exact dollar amount will be required on the Notice of Completion to be filed when the project is done.

Missing – Notice of Work must be signed by an authorized representative.

FILING INSTRUCTIONS

If there is not enough space to list all contractor/subcontractor information, attach additional sheets.

A Wage and Hour Administration (WH) date-stamped copy of this form will serve as a temporary receipt, while the acceptance of fees is processed. WH will mail or fax the accepted copy of this notice to the organization provided on the front of this form. Make a copy for your records. This will serve as your notice that the fees paid have been accepted by WH.

For questions call the nearest WH office:

Juneau: (907) 465-4842

Anchorage: (907) 269-4900

Fairbanks: (907) 451-2886

For more forms, see www.labor.state.ak.us/lss/lssforms.htm

Submit the notice and the appropriate filing fee to:

Alaska Department of Labor and Workforce Development
Wage and Hour Administration
P.O. Box 107021
Anchorage, AK 99510-0721

If no fee is required, you may fax the notice to (907) 269-4915

Alaska Department of Revenue
TAX CLEARANCE REQUEST FORM

Contractor Name: _____

Project Name and Number: _____

EIN/SSN: _____

Mailing Address: _____

City/State/Zip Code: _____

I hereby authorize the Alaska Department of Revenue to release to

(Name of Department or Agency)

whose facsimile number is _____,

confirmation that all taxes, penalties and interest due the Department of Revenue have been paid
and that there are no outstanding amounts due.

Contractor Signature: _____

Printed Name: _____

Title*: _____

*If tax clearance is being requested on behalf of a corporation/LLC/partnership, must be signed by an officer/member/partner.

Send completed form by facsimile to the Department of Revenue at (907)465-2375

DEPARTMENT USE ONLY

- ☐ The above applicant is current on all taxes, penalties and interest due and is in good standing with the Alaska Department of Revenue.
- ☐ The above applicant is not current on all taxes, penalties and interest due and is not in good standing with the Alaska Department of Revenue.

Department of Revenue Representative

Date

TaxClearanceRequestForm (Rev09/10) JG DOT



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Labor and Workforce
Development

Employment Security Division
Employment Security Tax

1111 W. 8th St. Room 205
P.O. Box 115509
Juneau, AK 99811-5509
Relay Alaska (in state): (800) 770-8973 or 7.1.1
Relay Alaska (out of state): (800) 770-8255
Toll free: (888) 448-3527
Phone: (907) 465-2757
Fax: (907) 465-2374

Tax Clearance Request Form for Contractors

Date of Request _____

Business name of the contractor a Tax Clearance is being requested for: _____

Business Address: _____

Business Contact Phone No.: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for (*i.e. beginning and ending date of a subcontract agreement*): _____

Subcontract Project Name: _____

Name and address of the person this Tax Clearance is to be returned to: _____

Comments or additional information: _____

For Agency Use Only

- ☐ Tax Clearance is granted
- ☐ Tax Clearance is not granted (*please have employer contact the department*)
- ☐ No account on file, liability unknown (*please have employer contact the department*)
- ☐ Employer has stated no employees, Tax Clearance not required.

Agency Representative Signature: _____ Date: _____

Agency Representative Title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. www.labor.alaska.gov/estax

Rev. 12/16/2014

Submittal Control Form

Project Title: _____

Project No: _____

Contract No: _____

Contractor: _____

Submittal No. _____

Address: _____

____ New Submittal

Contact: _____

____ Resubmittal

Telephone: _____

Fax: _____

Submittal is as Specified?

Yes

No

2. Revision Number: _____

3. Submittal Control No.: _____

4. Description: _____

5. Spec. Section/Dwg Ref.: _____

Number of Copies: _____

Remarks:

Review is for general design or arrangement only. Not for quality, dimension or fit.

Submitted By _____

Date _____

Forwarded for Design Review: _____

Date

ASD Reviewed / Forwarded By _____

Review Stamp

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
CONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.

2. that I have required all subcontractors and any of their sub-subcontractors to certify, or will require all subcontractors and any of their sub-subcontractors to certify, that they researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter district property in connection with the contract is listed in the Registry. I will provide all such certifications to the district on request.

3. To my knowledge, no employee or agent of bidder, or any sub-contractor or sub-sub-contractor of bidder, who may enter district property in connection with the contract is: (a) listed in the sex offender/child kidnapper registry of any other state; or, (b) is a convicted sex offender or child kidnapper.

4. I have read district Board Policy 3515.5 and certify that the bidder will comply with Board Policy 3515.5. The bidder will not send any employee or agent who is a sex offender or child kidnapper to district property, as that term is defined in Board Policy 3515.5.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 4, 2018

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
SUBCONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.

2. that I have required all subcontractors and any of their sub-subcontractors to certify, or will require all subcontractors and any of their sub-subcontractors to certify, that they researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter district property in connection with the contract is listed in the Registry. I will provide all such certifications to the district on request.

3. that if my company enters into an agreement to perform work as a Subcontractor for _____ the General Contractor for the district under Solicitation No. _____, my company will not allow any worker whose name appears on the State of Alaska Sex Offender/Child Kidnapper Registry to perform work on or at the Project site.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 21, 2015

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
SUB-SUBCONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.

2. that if my company enters into an agreement to perform work as a Sub-subcontractor for _____ a Subcontractor for the General Contractor for the district under Solicitation No. _____, my company will not allow any worker whose name appears on the State of Alaska Sex Offender/Child Kidnapper Registry to perform work on or at the Project site.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 21, 2015

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

REFERENCE:

The General Conditions shall be GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA, bound herein.

SUPPLEMENTS:

Supplements may modify, change, delete, or add to these General Conditions. Where any article of the General Conditions is modified or any paragraph deleted, or any subparagraph or clause thereof is modified, or deleted by supplements, the unaltered provisions of such article, paragraph, subparagraph or clause shall remain in effect. The General Conditions and the Supplementary General Conditions are applicable to all of the Work under this Contract and shall apply to the Contractor and all Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors.

TABLE OF ARTICLES

ARTICLE	PAGE
1. THE CONTRACT DOCUMENTS	00700-3
2. ARCHITECT	00700-7
3. OWNER	00700-10
4. CONTRACTOR	00700-14
5. SUBCONTRACTORS.....	00700-25
6. WORK BY OWNER OR BY SEPARATE CONTRACTORS	00700-28
7. MISCELLANEOUS PROVISIONS.....	00700-30
8. TIME	00700-34
9. PAYMENTS AND COMPLETION	00700-38
10. PROTECTION OF PERSONS AND PROPERTY	00700-46
11. INSURANCE.....	00700-48
12. CHANGES IN THE WORK	00700-52
13. UNCOVERING AND CORRECTION OF THE WORK.....	00700-60
14. TERMINATION OF THE CONTRACT	00700-62

ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 The following terms as used in this Contract are defined as follows:

"Architect / Engineer or A/E": The design consultant of the Owner.

"Construction Manager": Supervises the construction phase of construction projects for the Anchorage School District Facilities Department.

"Contract": The Agreement between Owner and Contractor and the referenced Contract Documents stated therein.

"Contractor": The person, firm, or corporation contractually responsible to the Owner to provide the services called for by this Contract. Such entity may also be referred to as Managing General Contractor, General Contractor, or Prime Contractor.

"Days": Calendar days unless otherwise noted.

"Direct Cost": A direct cost is any cost that can be identified specifically with a particular final cost objective, i.e., with this contract, or an item of extra work, or change order under the contract.

"Director of Facilities": Manages the Operations of the Anchorage School District Facilities Department.

"Furnish": Supply and deliver to the project including the cost to supply and deliver.

"Indirect Cost": An indirect cost, collectively called overhead, is any cost not directly identified with a single, final cost objective, but identified with two or more final cost objectives or an intermediate cost objective.

"Install": Build into the Work, ready to use in a complete, finished, and operable system, including the cost to install.

"Owner": The Anchorage School District, its Anchorage School Board of Education, the Superintendent of the Anchorage School District, and its employees.

"Project Manager": The person designated by the Director of Facilities as the Owner's representative for this Contract, responsible for the day-to-day coordination between the Owner and the Contractor.

"Provide": Furnish and install for a complete, finished, and operable system.

"Reasonable Cost": A cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred in a competitive market.

"Shop Drawings, Setting Drawings, Manufacturer's Printed Information and Submittal (collectively known as "Submittals")": The Contractor's information consisting of drawings, catalogs, illustrations, calculations, and other data delivered to the Owner for the purpose of assuring the Owner, prior to execution of that part of the Work, that the prescriptive element, component, subsystem, or service to be provided generally conforms with the Contract. The Contractor is responsible to the Owner for the accuracy and completeness of the Submittals.

"Subcontractor": A person, firm, or entity who has a direct contract with the Contractor to perform any of the work.

"Work" or "Project": The finished product required by the Contract Documents together with the means and methods as determined, by the Contractor, to achieve the finished product.

1.1.2 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Owner-Contractor Agreement, the Drawings, the Project Manual, and all Addenda issued prior to and all Modifications issued after execution of the Contract. A Modification is (1) a directive for change in the work pursuant to Section 12.1.2 or (2) a change order pursuant to Section 12.2.6.

1.1.3 THE CONTRACT

The Contract is the sum of all the Contract Documents. This Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.2.

1.1.4 THE WORK

The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

1.1.5 THE PROJECT

The Project is the total construction, of which the Work performed under the Contract documents may be the whole or a part.

1.1.6 SCHOOL BOARD

Board of Education of the Anchorage School District, Anchorage, Alaska.

1.1.7 BIDDER

Any individual, firm, partnership, corporation or combination thereof, formally submitting a bid for the work contemplated, or any portion thereof, acting directly or through an authorized representative.

1.1.8 MUNICIPALITY

Municipality of Anchorage, Alaska.

1.1.9 PROPOSAL

1.1.9.1 BID PROPOSAL

The written proposal of the Bidder on the form furnished by the Owner for the Work contemplated, and which is required to be signed by the Bidder.

1.1.9.2 REQUEST FOR PROPOSAL (RFP)

The offer of the Contractor submitted on the prescribed form from the Project Manager to perform the work and furnish labor, material and all other costs at the prices quoted by the Contractor for proposed changes in the work.

1.1. 10 SPECIFICATIONS

The products, directions, requirements, explanations, terms and provisions pertaining to the various features of the Work to be done and the manner and method of performance. The specifications include such directions, requirements and explanations as appear on the drawings and as may otherwise be defined.

1.1. 11 PROJECT SITE

The geographic location of the Project as indicated on the Drawings.

1.1. 12 PROJECT MANUAL

The Project Manual includes the Bidding and Contract Requirements, Project Schedule Milestone Dates, General and Supplementary Conditions, Wage Rates, the Specifications and project drawings incorporated by reference.

1.1. 13 REQUEST FOR INFORMATION

Request for Information. Written interpretations necessary for the proper execution or progress of the Work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Project Manager. The Contractor may make written request to the Project Manager for such interpretations. Such interpretations will be consistent with and reasonably inferable from the Contract Documents.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract shall be signed in doubles by the Owner and Contractor, each of which shall be deemed an original, but all or which shall constitute one and the same instrument.

1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. Except as otherwise specifically provided, the Contractor shall furnish all labor, tools, implements, machinery, supplies, materials, and incidentals, and shall do all things necessary to perform and to complete the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonable inferable therefrom as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings unless otherwise specifically defined herein.

1.2.4 The organization of the Specifications into division, sections and articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by a trade.

- 1.2.5 If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence:

- 1.2.5.1 The Owner-Contractor Agreement;
- 1.2.5.2 Modifications;
- 1.2.5.3 Addenda;
- 1.2.5.4 Section 00800 - Supplementary General Conditions;
- 1.2.5.5 Section 00700 - General Conditions of the Contract for Construction;
- 1.2.5.6 Specifications - embodying all other sections in the Project Manual;
- 1.2.5.7 Drawings: as between schedules and information given on Drawings, the schedules shall govern; as between written dimensions given on Drawings and scaled measurements, the written dimensions shall govern;
- 1.2.5.8 as between large-scale Drawings and small-scale Drawings, the larger scale shall govern;
- 1.2.5.9 Performance Bond, Labor and Material Payment Bond;
- 1.2.5.10 Bid/Proposal Form;
- 1.2.5.11 Instructions to Bidders/Proposers;
- 1.2.5.12 Invitation to Bid/Request for Proposal;

All such conflicts shall be reported, in writing, to the Project Manager. Schedules, lists, indexes, tables, inventories, written instruction, written descriptions, summaries, statements, classifications, specifications, written selections, or written designations, although appearing on the Drawings, are deemed to be and are "Specifications" as defined by this Subparagraph 1.2.5. The principles as set forth herein shall not alter the provisions of Subparagraph 1.2.3.

In the event there is a conflict between or among any provisions within one of the component parts of the Contract Documents, the higher standard or more stringent requirement shall govern.

- 1.2.6 The Contractor agrees that nothing contained in the Contract Documents or any contract between the Owner and the Architect shall create any contractual relationship between the Architect and the Contractor, any Subcontractors, Sub-subcontractors, Material Suppliers or Vendors. The Contractor acknowledges and agrees that this Contract is not intended to create, nor shall any provision be interpreted as creating, any contractual relationship between the Owner or Contractor or any third parties.

- 1.2.7 Any material or operation specified by reference to published specifications of a manufacturer, a society, an association, a code, or other published standard, shall comply with requirements of the listed document and project specifications; or as between referenced documents, the more stringent code or performance requirements shall govern. The Contractor, if requested, shall furnish an affidavit from the manufacturer certifying that the materials or products delivered to the Project meet the requirement specified.

1.3 OWNERSHIP AND USE OF DOCUMENTS

- 1.3.1 All Drawings, Specifications and copies thereof furnished by the Owner are and shall remain its property. They are to be used only with respect to this Project and are not to be used on any other project.
- 1.3.2 The Owner will provide conformed drawings and specifications incorporating Addenda items into the Contract Documents. A reasonable number of reproduced sets will be provided to the contractor without charge.

END OF ARTICLE 1

ARTICLE 2

ARCHITECT

2.1 DEFINITION

- 2.1.1 The Architect is the person or organization lawfully licensed to practice architecture, or an entity lawfully practicing architecture identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Architect means the Architect and his engineers, whether under contract or within his own organization, or his authorized representative.
- 2.1.2 The term Architect is interchangeable with the term Project Architect, and is exclusive of the services of the Asbestos Abatement Architect.
- 2.1.3 The Asbestos Abatement Architect is not a part of the Architect's organization.

2.2 SERVICES OF THE ARCHITECT

- 2.2.1 The Architect will provide certain services as hereinafter described.
- 2.2.2 Should errors, omissions, or conflicts in the Drawings, Specifications, or other Contract Documents provided by the Architect be discovered, the Architect will prepare such amendments or supplementary documents and provide consultation as may be required.
- 2.2.3 The Architect and his consulting engineers (including but not limited to the structural, mechanical, and electrical disciplines) will visit the site at intervals appropriate to the stage of construction to familiarize themselves generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. Unless otherwise provided in the Owner-Architect Agreement, the Architect and his consulting engineers will not be required to make exhaustive or continuous on-site inspection or observations to check the quality or quantity of the Work, but they shall make as many on-site inspections and observations as may reasonably be required to fulfill their obligations to the Owner. On the basis of such on-site observation, the Architect and his consulting engineers shall endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.
- 2.2.4 The Architect will render written field reports to the Project Manager in the form required by the Project Manager relating to the periodic visits and inspections of the Project required by Subparagraph 2.2.3.
- 2.2.5 The Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the work.
- 2.2.6 The Architect shall at all times have access to the Work wherever it is in preparation or progress. The Contractor shall provide safe facilities for such access so the Architect may perform his functions under the Contract Documents.
- 2.2.7 The Project Manager will consult with the Architect regarding the Contractor's Applications for Payment and both shall sign the Applications for Payment as provided in Subparagraph 9.4.

- 2.2.8 As required, the Architect will render to the Project Manager interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon.
- 2.2.9 All communications, correspondence, submittals, and documents exchanged between the Architect and the Contractor in connection with the Project shall be through or in the manner prescribed by the Project Manager.
- 2.2.10 All interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents.
- 2.2.11 The Architect's decision in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents and approved by the Project Manager.
- 2.2.12 If the Architect observes any Work that does not conform to the Contract Documents, the Architect shall promptly report in writing this observation to the Project Manager. The Architect will prepare and submit to the Project Manager punchlists of the Contractor's Work which is not in conformance with the Contract Documents. The Project Manager will transmit such punchlists to the Contractor.
- 2.2.13 The Architect will review and take appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and for general compliance with the Contract Documents. Such action shall be taken in no more than twenty-one (21) days of receipt unless otherwise authorized by the Project Manager.
- 2.2.14 The Project Manager will establish with the Architect procedures to be followed for review and processing of all Shop Drawings, catalog submittals, project reports, test reports, maintenance manuals, and other necessary documentation, as well as requests for changes and applications for extensions of time.
- 2.2.15 The Architect will prepare technical documentation for Change Orders when directed by the Project Manager.
- 2.2.16 The Architect and the Project Manager will conduct inspections to determine the dates of Substantial Completion and Final Completion, and will issue a final Certificate of Substantial Completion.
- 2.2.17 Unless otherwise provided in the Contract Documents, or the Owner-Architect Agreement, the Architect will prepare a set of reproducible record prints of Drawings showing significant changes in the Work made during the construction process, based on neatly and clearly marked-up prints, Drawings, and other data furnished by the Contractor.
- 2.2.18 In case of the termination of the employment of the Architect, the Owner may appoint an architect against whom the Contractor makes no reasonable objection whose status under the Contract Documents shall be that of the former architect, or the Owner may have the Project Manager assume all of the services of the Architect thereafter.

2.3 ASBESTOS ABATEMENT ARCHITECT

- 2.3.1 Solely with regards to asbestos abatement, the Asbestos Abatement Architect shall be afforded the same rights and authority as hereinbefore allowed the Architect.
- 2.3.2 The Architect is not a part of the Asbestos Abatement Architect's organization.

2.4 SEPARATE ARCHITECT, ENGINEER OR ARCHITECT/ENGINEER

- 2.4.1 Unless otherwise noted in the Contract Documents, the Separate Architect, Engineer or Architect/Engineer, as defined by the Supplementary General Conditions, Document 00800, shall be afforded the same rights and authority as hereinbefore allowed the Architect.
- 2.4.2 The Contract Documents, when applicable, shall define the portion of the Work relating to the services of the Separate Architect, Engineer or Architect/Engineer.

END OF ARTICLE 2

ARTICLE 3

OWNER

3.1 DEFINITIONS

- 3.1.1 The Owner is the Anchorage School District acting through its legally constituted officials, officers, employees, or agents and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or its authorized representative or agent.
- 3.1.2 The Asbestos Abatement Consultant is under separate Agreement with the Owner. Communications protocol between the Contractor and the Asbestos Abatement Architect shall be as established by the Project Manager.

3.2 PROJECT MANAGER

- 3.2.1 The Project Manager will be the Owner's representative and agent to the Contractor with respect to the Project during construction and until the issuance of the final Certificate for Payment. The term Project Manager is referred to throughout the Contract Documents as if singular in number and masculine in gender. The Owner's communications with the Contractor and the Architect will be through the Project Manager, who will have full authority to act on behalf of the Owner with regard to all aspects of the Project except that the Owner must approve all Change Orders and payments to the Contractor. The Project Manager's actions with regard to this project will be as an agent and representative of the Owner.
- 3.2.2 The Project Manager is not authorized to revoke, alter, change, relax, or release any requirements of the Contract, nor to approve or accept any portion of the Work not executed in accordance with, nor to issue instructions contrary to, the Contract Documents.
- 3.2.3 Nothing contained within the Contract Documents shall create any contractual relationship between the Project Manager and the Contractor.

3.3 INFORMATION, SERVICES AND RIGHTS OF THE OWNER

- 3.3.1 The Owner, through the Project Manager, will provide administration of the Contract as hereinafter described.
- 3.3.2 The Owner and the Project Manager shall at all times have access to the Work whenever it is in preparation or progress. The Contractor shall provide safe facilities for such access.
- 3.3.3 The Owner and the Project Manager shall not be responsible for or have control or charge of the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work and will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Project Manager will not be responsible for the acts or omissions of the Contractor, any Subcontractors, or any of their agents or employees, or any other persons performing any of the Work.
- 3.3.4 The Project Manager shall have authority on behalf of the Owner to condemn or reject Work when, in the Project Manager's opinion the Work does not conform to the Contract Documents. Whenever, in the Project Manager's reasonable opinion, it is considered necessary or advisable to insure the proper implementation of the intent of the Contract Documents, the Project Manager shall have the authority to require special inspection or testing of any Work in accordance with the provisions of the Contracts Documents, whether or not such Work be then fabricated, installed, or completed.

- 3.3.5 The Project Manager will have authority to require additional inspection or testing of the Work in accordance with Subparagraph 7.7.3, whether or not such Work be then fabricated, installed, or completed. However, neither the Project Manager's authority to act under Subparagraphs 3.3.4 and 3.3.5, nor any decision made by the Project Manager in good faith either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Project Manager to the Contractor, any Subcontractor, any of their agents or employees, or any other persons performing any of the work.
- 3.3.6 The Project Manager shall have the authority and discretion to call, schedule, and conduct job meetings to be attended by the Contractor, and representatives of his Subcontractors, and Material Suppliers, and Vendors and the Architect, to discuss such matters as procedures, progress, changes, problems, claims and scheduling.
- 3.3.7 The Project Manager will establish procedures to be followed for processing all Shop Drawings, catalogs, and other project reports, and other documentation, test reports, and maintenance manuals.
- 3.3.8 The Project Manager will review all requests for changes and shall implement the processing of Change Orders, including applications for extension of the Contract time.
- 3.3.9 Project scheduling shall occur as set forth in Division 1, Section 01311 of the General Requirements, entitled "Schedules and Reports". The Owner and the Project Manager will not be responsible for the failure of the Contractor to plan, schedule, and execute the Work in accordance with the Contractor's accepted schedule or the failure of the Contractor to meet the Project Schedule Milestone Dates as set forth under Section 00200 hereof or the failure of the Contractor to schedule and coordinate the Work of his own trades and Subcontractors, and Material Suppliers and Vendors, or the failure of the Contractor to coordinate and cooperate with other separate contractors.
- 3.3.10 The Project Manager, in consultation with the Architect, will review and process all Applications for Payment by the Contractor, including the final Application for Payment.
- 3.3.11 The Owner and the Project Manager will not be responsible for the acts or omissions of the Contractor, or any Subcontractor, or Material Supplier and Vendor, or any contractor's, subcontractor's or Material Supplier's and Vendor's agents or employees, or any other persons performing any of the Work.
- 3.3.12 The Owner shall, if requested by the Contractor, furnish all existing and available surveys describing the physical characteristics, legal limitations and utility locations for the site of the Project.
- 3.3.13 Except as otherwise provided in the Contract Documents, the Owner shall pay for necessary easements required for permanent structures or for permanent changes in existing facilities. The Contractor shall be responsible for obtaining all necessary permits and coordinating the securing of easements, inspections and approvals for permanent structures and all associated work.
- 3.3.14 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.
- 3.3.15 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of Drawings and Specifications, and such supplemental documents as are reasonably necessary for the execution of the Work.

- 3.3.16 The foregoing rights are in addition to other rights of the Owner enumerated herein and those provided by law.

3.4 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 3.4.1 The Owner reserves the right to perform other work at the project site(s) with his own forces, and to award separate contracts in connection with portions of other work on the site.
- 3.4.2 The Contractor shall afford the Owner and separate Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their Work, and shall coordinate his Work with theirs as required by the Contract Documents.
- 3.4.3 A pre-construction conference will be held with the Contractor, Project Manager, and other contractors performing work at the project site, for the purpose of coordinating work in areas where more than one contractor may be working. The time of the meeting will be established by the Owner's Representative prior to the Contractor commencing his work.
- 3.4.4 The Contractor shall attend additional coordination meetings, as requested by the Owner's Representative.

3.5 OWNER'S RIGHT TO STOP OR TO SUSPEND THE WORK

- 3.5.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2 or fails to carry out the Work or supply labor and materials in accordance with the Contract Documents, the Owner, through the Project Manager, by a written order may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Project Manager to stop the Work on behalf of the Owner shall not give rise to any duty on the part of the Project Manager to exercise this right for the benefit of the Contractor or any other person or entity.
- 3.5.2 The Project Manager may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the Owner.
- 3.5.3 Upon receipt of any such suspension order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize incurring costs allocated to the Work covered by the order during the period of Work suspension.
- 3.5.4 If the performance of all or any part of the Work is suspended, or delayed, or interrupted by the Owner or the Project Manager pursuant to Subparagraph 3.5.2, the Contractor may make application for an adjustment in contract time and contract sum pursuant to Paragraph 12.2, and Division 1, Section 01311, Paragraph 2.05, respectively. No such adjustment shall be made if the performance of the Work is suspended by the Owner pursuant to Subparagraph 3.5.1.

3.6 OWNER'S RIGHT TO CARRY OUT THE WORK

- 3.6.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven (7) days after receipt of written notice from the Project Manager to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, after seven (7) days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy he may have, make good such deficiencies and may further elect to complete all Work thereafter through such means as the Owner may select, including the use of a new Contractor. In such a case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including additional Owner

administrative and legal costs, and compensation for the Architect's and the Project Manager's additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

3.7 AUDIT

- 3.7.1 The Owner shall have access to the Contractor's books, accounts, records, invoices and other records and documents pertaining to the Project at all reasonable times for the purpose of inspecting and auditing such. The Contractor shall provide to the Owner his daily manpower and equipment reports for all Subcontractors and any and all information requested or required by the Owner to validate or verify an Application for Payment, claim for cost or a requisition. The Contractor shall have no right to additional compensation or time in the event a requisition is delayed due to the inability of the Owner to validate or verify an Application for Payment due to the failure or refusal of the Contractor to allow such inspection or audit or to provide such requested information.
- 3.7.2 The Contractor shall maintain all data and records pertinent to the Work performed under this Contract in accordance with generally accepted accounting principles, and shall preserve and make available all data and records until the expiration of three (3) years from the date of final payment under this Contract, or for such longer period, if any, as is required by applicable statute, pending litigation, or by other articles of this Contract. The Owner and its authorized representatives shall have access to all such data and records for such time period to inspect, audit and make copies thereof during normal business hours.
- 3.7.3 The Contractor covenants and agrees that it shall require that any Subcontractor and any Sub-Subcontractor utilized in the performance of this Contract shall permit the authorized representatives of the Owner to similarly inspect and audit all data and records of said Subcontractors and Sub-Subcontractors relating to the performance of said Subcontractors and Sub-Subcontractors under this Contract for the same time period specified above.

END OF ARTICLE 3

ARTICLE 4

CONTRACTOR

4.1 DEFINITION

- 4.1.1 The Contractor is the person or organization identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative, who shall have the authority to bind the Contractor in all matters pertinent to this Contract.

4.2 REVIEW OF CONTRACT DOCUMENTS

- 4.2.1 Before placing his proposal to the Owner, and continuously after execution of the Contract, the Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner, through the Project Manager, any error, inconsistency or omission he may discover, including any requirement which may be contrary to any law, ordinance, rule, regulation or order of any public authority bearing on the performance of the Work. By submitting his proposal or bid for the Contract and the Work under it, the Contractor agrees that the Contract Documents appear accurate, consistent, and complete insofar as can reasonably be determined. If the Contractor has reported in writing an error, inconsistency or omission, has promptly stopped the affected work until otherwise instructed, and has otherwise followed the instructions of the Owner, the Contractor shall not be liable to the Owner for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents. The Contractor shall perform no portion of the Work at any time without Contract Documents and, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- 4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for and have control over all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.
- 4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors, and Material Suppliers and Vendors, and their agents and employees, and other persons performing any of the work.
- 4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect or the Project Manager in their administration of the Contract, or by inspections, tests or approvals (or the lack thereof) required or performed under Paragraph 7.7 by persons other than the Contractor.
- 4.3.4 Independent of this Contract, the Owner has undertaken a long term asbestos abatement program by which the Owner intends to properly document the existence of asbestos-contained materials and the lawful removal of ACM by qualified asbestos abatement contractors or subcontractors in accordance with the Asbestos Hazard Emergency Response Act (AHERA) and the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). As part of this asbestos abatement program, the Owner has employed a private consultant to locate asbestos-containing materials present in the Owner's facilities. A copy of the AHERA report as it relates to the facility which is involved in this Contract can be obtained from the Owner by contacting the Project Manager.

- 4.3.4.1 Before starting the Work or any Section of the Work, the Contractor shall inspect or, if using a Subcontractor for a Section of the Work, shall cause his Subcontractor to inspect all preparatory work, including that performed prior to the commencement of the Work under this Contract, for the presence of suspected asbestos-containing materials.
- 4.3.4.2 If the Contractor or his Subcontractor encounters any asbestos-containing material or suspected asbestos-containing material -- whether such material is identified in the AHERA report or the private consultant's report or not -- the Contractor shall bring it to the immediate attention of the Project Manager by timely written notice. Such notification shall be considered timely if received by the Project Manager within two (2) days after the discovery of the asbestos-containing material or suspected asbestos-containing material by the Contractor or by a Subcontractor if the Contractor uses a Subcontractor to perform that Section of the Work. If the Contractor does not give timely notice of the presence of asbestos-containing material or suspected asbestos-containing material, the Contractor will not receive additional compensation for delay caused by the necessity of the Owner to stop work and abate asbestos-containing material during the course of the Work. Failure of a Subcontractor to report the presence of asbestos-containing material or suspected asbestos-containing material to the Contractor shall not relieve the Contractor of his responsibilities hereunder.
- 4.3.4.3 If the Contractor, or his employees, agents or subcontractors intentionally or negligently disturbs or removes, or causes to be disturbed or removed, all or a portion of asbestos-containing material, the Contractor shall indemnify, hold harmless and defend the School District and the Project Manager from and against any claims, damages, losses and expenses, and alleged claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from any cleanup/decontamination work, medical treatment, or legal action arising or resulting from said intentional or negligent disturbance or removal of asbestos-containing material.
- 4.3.5 The Contractor shall make all necessary arrangements and so conduct the Work that all parts of the same will be carried out simultaneously and harmoniously and that the work of installing the various sections or items of same shall not interfere with or retard the progress of other Work.
- 4.3.6 If it becomes necessary at any time during the progress of the Work to move materials and/or equipment which have been temporarily located or stored, the Contractor shall move them or cause them to be moved, at his expense. Care shall be taken that no part of the Work shall be overloaded at any time.
- 4.3.7 The Contractor shall furnish all required information to ensure continuity between various sections of the Work and to avoid delay and obviate defects on any part of the whole Work, all as approved by the Owner.
- 4.3.8 Any damage caused by the handling or installation of materials or equipment, or the carrying out of any portion of the Work must also be made good by the Contractor to the satisfaction of the Project Manager.
- 4.3.9 The Contractor shall compare all the various drawings, and shall install Work in a manner to provide for all clearances and finishes indicated thereon. Work under each trade shall be arranged to clear piping, equipment, etc., of all other trades.

- 4.3.10 The Contractor shall inform himself fully regarding any peculiarities and limitations of the space available for the installation of the material. He shall see that all equipment, such as valves, or other appliances necessary to be reached from time to time for operations and maintenance are made readily accessible.
- 4.3.11 The construction of the Work may develop conditions that render impracticable the location of equipment as shown or noted. In such cases, before installing his Work, the Contractor shall call the condition to the attention of the Project Manager for resolution.
- 4.3.12 It shall be the Contractor's sole responsibility to so coordinate the Work that chases or other recesses in walls shall be provided where required, and that reasonable clearance between the work of various trades shall be maintained. The layout for openings and chases through walls, floors, and partitions, etc., shall be arranged in advance of the actual construction and the work carried out without unnecessary and superfluous cutting, etc., after the Work has been completed.
- 4.3.13 Dimensions shall be verified by the measurements of the buildings and the property, and the Contractor shall be responsible for all of his work fitting in place in a satisfactory and workmanlike manner.
- 4.3.14 The Contractor has carefully examined, in detail, all of the Drawings and Specifications and the time established for completion of the Work, and he accepts them as adequate to meet the requirements specified.
- 4.3.15 The Contractor shall be responsible for coordinating the work performed by any artist in connection with the project's ornamentation with the construction of this project, so that there shall be no unnecessary delay or interference in connection with said construction.
- 4.3.16 The Contractor shall coordinate and generally supervise the Work of this Contract and shall coordinate his Work with Work performed under Separate Contracts by mutual arrangement and agreement with the Contractors for those Contracts and the Project Manager. Unresolved disputes will be finally resolved by the Project Manager, subject to approval of the Owner, and the dispute resolution provisions of Subparagraph 12.5.

4.4 LABOR AND MATERIALS

- 4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents, and any applicable building permit, conditional and final certificate(s) of occupancy, code or statute, whether specifically required by the Contract Documents or whether their provision may reasonably be inferred as necessary to produce the intended results, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- 4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him. The Project Manager may, by notice in writing, require the Contractor to promptly remove from the site of the Work any employee or worker the Project Manager deems incompetent, careless or otherwise objectionable including violation of District Policies relating to alcohol, illegal drugs, or firearms on District property.
- 4.4.3 The Contractor shall be responsible for ensuring that the Work is completed in a skillful and workmanlike manner.

4.5 WARRANTY

- 4.5.1 The Contractor warrants to the Owner and the Architect that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, is defective. If required by the Project Manager or the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 13.2.
- 4.5.2 The warranties set forth in this Paragraph 4.5 and elsewhere in the Contract Documents shall survive final acceptance under Paragraph 9.9.

4.6 TAXES

- 4.6.1 The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.7 PERMITS, FEES AND NOTICES

- 4.7.1 Except as specifically provided in Subparagraph 3.3.13 the Contractor shall secure and pay for (1) all permits and governmental fees, licenses and inspections necessary for the proper execution of the Work which are legally required at the time the bids are received, and (2) all permits and governmental fees, licenses and inspections from any agency or department of the Municipality of Anchorage that would be necessary for the proper execution of the Work or legally required at the time bids are received just as if the Work were performed and the Project located within the Municipality of Anchorage. The Municipality of Anchorage shall be considered a "public authority bearing on the performance of the Work" and a "public authority having jurisdiction" for purposes of this Contract.

4.7.1.1 The Anchorage School District has paid for the Municipality of Anchorage's Building Plan Review and Building Fee Permit. Contractor shall obtain permit upon notice from Project Manager.

- 4.7.2 The Contractor shall give all notices and comply with all such laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work.
- 4.7.3 If the Contractor performs any Work knowing it to be contrary to any such laws, ordinances, rules, regulations or orders of any public authority bearing on the performance of the Work, and does so without reasonable notice to the Project Manager, the Contractor shall assume full responsibility therefore and shall bear all costs attributable thereto.
- 4.7.4 Notification, coordination and completion of the installation of all required utilities, whether temporary or permanent, is the sole responsibility of the Contractor. The Owner shall not be responsible for any damage or delay caused by any party's inability to perform installations in the time frame desired by the Contractor.

4.8 ALLOWANCES

- 4.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom he makes a reasonable objection.

4.8.2 Unless otherwise provided in the Contract Documents:

- 4.8.2.1 These allowances shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes;
- 4.8.2.2 The Contractor's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowances;
- 4.8.2.3 Whenever the cost is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

4.9 SUPERINTENDENT

- 4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance full-time at the Project Site during the progress of the Work. The superintendent shall represent the Contractor, and all communications given to the superintendent shall be as binding as if given to the Contractor. If requested by the Project Manager, the Contractor shall provide a management chart and a list of personnel in a number stipulated by the Project Manager which shall comprise the superintending staff. In such event, all references to the superintendent elsewhere in the Contract Documents shall mean the superintending staff.
- 4.9.2 The superintendent shall be in attendance at the Project Site not less than eight (8) hours per day, five (5) days per week, unless the job is closed down due to a general strike or conditions beyond the control of the Contractor or until termination of the Contract in accordance with the Contract Documents. The superintendent shall not be employed on any other project during the course of the Work.
- 4.9.3 In the event any of the following conditions shall exist, the Contractor shall require that his superintendent be at the Project Site not less than ten (10) hours per day, six (6) days per week:
 - 4.9.3.1 Should Substantial Completion not be accomplished on schedule.
 - 4.9.3.2 Should Final Completion not be accomplished on schedule.
 - 4.9.3.3 Should the Contractor's progress schedule indicate the Contractor to be fourteen (14) or more days behind schedule at any time during construction up until thirty (30) days prior to scheduled Substantial Completion.
 - 4.9.3.4 Should the Contractor's progress schedule indicate the Contractor to be seven (7) or more days behind schedule at any time during the last thirty (30) days prior to scheduled Substantial Completion.

4.10 CONSTRUCTION SCHEDULE

- 4.10.1 The Contractor shall prepare and submit to the Project Manager for the Owner's review and acceptance a construction schedule pursuant to and in accordance with Division 1, Section 01311 of the General Requirements entitled "Project Schedule."

4.11 DOCUMENTS AND SAMPLES AT THE SITE

- 4.11.1 The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Project Manager and the Architect and shall be delivered to the Project Manager upon substantial completion of the Work.

4.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 4.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- 4.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, diagrams, and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.
- 4.12.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- 4.12.4 The Contractor shall review, approve and submit using the ASD Procore Construction Management Program, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents, or subsequently by the Project Manager. The Contractor's Shop Drawings, Product Data, and Samples submissions shall be coordinated and consistent with the Contractor's Project Scheduling obligations under Division 1, Section 01311 of the Contract Documents. Shop Drawings and Samples shall be properly identified as specified, or as the Project Manager may require. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the Shop Drawings or Samples from the requirements of the Contract Documents.
- 4.12.5 By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instruction pertaining to Shop Drawings which may be issued by the Project Manager.
- 4.12.6 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval and Project Manager's review of Shop Drawings, Product Data or Samples under Subparagraph 2.2.14 unless the Contractor has specifically informed the Architect and Project Manager in writing of such deviation at the time of submission and the Architect and Project Manager have given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omission in the Shop Drawings, Product Data or Samples by the Architect's approval of or Project Manager's review thereof.
- 4.12.7 The Contractor shall promptly make corrections required by the Architect and shall resubmit the required number of corrected copies of Shop Drawings or new Product Data or Samples. The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Architect on previous submittals. Resubmittals necessitated by required corrections due to Contractor's errors or omissions, or less than complete submittals as required by the

- specifications, shall not be cause for extension of Contract Time.
- 4.12.8 The Contractor shall keep on the job at all times copies of approved Shop Drawings, Product Data or Samples which bear the review stamp of the Architect/Engineer.
- 4.12.9 The review of Shop Drawings, Product Data or Samples by the Architect and Project Manager shall not relieve the Contractor from his responsibility to coordinate the work of the Subcontractors.
- 4.12.10 The review of Shop Drawings, Product Data or Samples by the Architect and the Project Manager shall not relieve the Contractor of his responsibilities to construct the work in accordance with the Contract Documents.
- 4.12.11 The review of Shop Drawings, Product Data or Samples by the Architect shall not be construed as an approval of the quantities of materials or confirmation of dimensions.
- 4.12.12 In preparing a schedule for delivery of materials the Contractor shall allow reasonable time for the approval, including resubmissions due to Contractor's errors and omissions, of Shop Drawings, Product Data or Samples.
- 4.12.13 When Shop Drawings, Cuts, or Brochures are forwarded to the Architect by the Contractor for approval, a copy of the Contractor's letter of transmittal with project name, Contractor's name, number of drawings, title and other pertinent data covering each transaction is to be mailed to the Project Manager. The Architect and his consulting Engineers shall follow the same procedure when it is necessary for them to return or transfer Shop Drawings, Cuts or Brochures either between themselves or to the Contractor for changes, corrections or resubmittal, so that the Project Manager can record and follow procedure for each transaction to finality.
- 4.12.13.1 Pursuant to and consistent with the Contractor's Project Schedule development obligations under Division 1, Section 01311 of the Contract Documents, the Contractor shall submit Shop Drawings, Product Data and Sample submission schedule information to the Architect and Project Manager. The Contractor shall submit, and the Architect and Project Manager will review, the Contractor's submittals in accordance with the Contractor's accepted Preliminary and Detailed Project Schedules, as required under Division 1, Section 01311 of the Contract Documents. The Contractor shall submit no Shop Drawings, Product Data or Samples which do not comply with the Contract Documents.
- 4.12.13.2 No portion of the Work requiring a Shop Drawing, Product Data or Sample submission shall be commenced until such submission has been reviewed, and approved, by the Architect in accordance with Subparagraph 2.2.13. All such portions of the Work shall be in accordance with approved submittals.
- 4.12.13.3 No claim for delay shall be allowed the Contractor on account of failure of the Architect to furnish drawings or approval of Shop Drawings and Samples until at least twenty-one (21) days after submission to the Architect.
- 4.12.14 Shop Drawings, Product Data, and Samples shall be dated and shall bear the name of the Project; a description or the names of equipment, materials and items; and complete identification of locations at which materials or equipment are to be installed.
- 4.12.15 In submitting for approval the use of any material or device as the equal of some other material or device specified by name, the Contractor shall submit a sample of the material specified and also a sample of the material proposed to be submitted as the equal thereof, together with any supporting data necessary to reasonably allow the Architect and the

Project Manager to review the material.

- 4.12.16 In case of devices, samples of which cannot readily be submitted, catalogs and other data, shall be submitted.
- 4.12.17 Any material or device proposed to be substituted shall not be deemed acceptable except by written communication from the Architect and Project Manager.
- 4.12.18 All Work for which samples are required to be submitted and approved shall be executed and performed in conformity with the said approved samples.

4.13 USE OF SITE

- 4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the building or site with any materials or equipment.
- 4.13.2 The Contractor shall coordinate all of his operations with and secure approval from the Project Manager before using any portion of the site.
- 4.13.3 All Work or materials of every description subject to injury during the course of the Work shall be fully protected from damage from any source. In any event, should any Work or materials under this Contract, become damaged in any way or manner the Contractor shall repair and perfect the same at his own expense, and when the entire Contract is completed, the building and premises shall be delivered to the Owner without defects. Any damage which may be caused by the installation of any portion of the Work covered by these specifications and conditions, or by the Contractor shall be satisfactorily made good and repaired by the Contractor without cost to the Owner.
- 4.13.4 The Contractor shall provide and maintain all lights, footways, guards, fences, gates, etc., for the proper protection of the public, and shall comply with all municipal rules, regulations, ordinances and laws, relating to the prosecution of his work.
- 4.13.5 The Contractor shall properly and carefully shore up or otherwise support all live water, sewer and gas pipes, electric wires, free-standing walls, conduit, etc., which may be encountered.
- 4.13.6 The Contractor shall furnish for his use, throughout the entire construction all scaffolding, ladders, decking or runways as needed to perform the Work under this Contract.
- 4.13.7 The Contractor shall construct elevators, cranes and other rigging, concrete lifts, etc., as required for his Work.
- 4.13.8 All such construction shall be carried out as required by the code or authority having jurisdiction. No cranes or other heavy equipment shall be located or moved in such manner as to damage or strain the framework or any part(s) of the proposed building and/or existing building.
- 4.13.9 As construction proceeds, the Project Manager may deem it necessary to have the Contractor move trailers, fences, stored materials, etc., to facilitate the construction. Upon written notice from the Project Manager, this will be done without additional cost to the Owner.
- 4.13.10 When school is in session the Contractor will be restricted to the areas which do not interfere with school operations. These areas shall be safety and security fenced to not impact school operations. Additional areas may be utilized upon concurrence of the

Project Manager. The Contractor shall minimize his impact on the educational program while his work is in progress. Workers must stay out of school while school is in session. All work in the existing school can only take place during the hours approved by the Project Manager

- 4.13.11 The Contractor must maintain interior building fire exits through the construction areas and maintain these exits during all school operation hours, to the satisfaction of the Authorities having Jurisdiction. These exit routes may not be modified without concurrence of the Project Manager and the School Principal.
- 4.13.12 The Contractor must maintain fire equipment access routes open to site and buildings. According to UFC 10.502 fire equipment access and water supplies shall be installed and made serviceable prior to and during the time of construction. This is the Contractor's responsibility to coordinate.
- 4.13.13 The Contractor shall keep the boilers operational while the average outside temperature is below 60° F while the school program is in operation or at any time temperature is below 40° F, to protect facility utility systems.

4.14 CUTTING AND PATCHING OF WORK

- 4.14.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly.
- 4.14.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate Contractor except with the written consent of the Owner and of such separate Contractor. The Contractor shall not unreasonably withhold, from the Owner, or any separate contractor his consent to cutting or otherwise altering the Work.
- 4.14.3 Existing structures and facilities including but not limited to building, utilities, topography, streets, curbs, walks, etc., that are damaged or removed due to required excavations or other construction work, shall be patched, repaired or replaced by the Contractor to the satisfaction of the Project Manager, the owner of such structures and facilities, and authorities having jurisdiction. In event the local jurisdictional authorities require that such repairing and patching be done with their own labor and materials, the Contractor shall abide by such regulations and pay for such work.
- 4.14.4 Whenever, for the convenience of work, an oversized opening has been provided, it shall be the responsibility of the Contractor requesting and requiring such opening to eventually fill unused portions of such openings with the appropriate material and with special attention to penetrations of firewalls. Such repair shall be in accordance with Paragraph 4.14.1.

4.15 CLEANING UP

- 4.15.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials.
- 4.15.2 If the Contractor fails to clean up during or at the substantial or final completion of his Work, the Owner may do so as provided in Paragraph 6.3 and the costs thereof shall be charged to the Contractor.

4.16 COMMUNICATIONS

- 4.16.1 The Contractor shall forward all communications to the Architect or the Owner through the Project Manager, except as described under Paragraph 4.12.13.

4.17 ROYALTIES AND PATENTS

- 4.17.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Project Manager.

4.18 INDEMNIFICATION

- 4.18.1 To the fullest extent permitted by law, the Contractor shall, at his sole cost and expense, indemnify, hold harmless and defend the Owner, the Municipality of Anchorage and their Board or Assembly members, administrators, representatives, and employees, and the Project Architect and its agents, representatives, and employees from and against all claims, actions, judgments, costs, liabilities, penalties, damages, losses and expenses, including but not limited to attorneys' fees, which arise out of or result from the performance of the Work, and which are:

- 4.18.1.1 Attributable to bodily injury, sickness, disease or death, or to injury to, pollution of, or destruction of property (other than the Work itself) including the loss of use resulting therefrom; and
- 4.18.1.2 Caused by the default of the Contractor, or by any act, whether negligent or wrongful, or omission of the Contractor, any Subcontractor, Material Supplier or Vendor, anyone directly or indirectly employed by any of them or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

- 4.18.2 In any and all claims against the Owner or the Municipality of Anchorage or their Board or Assembly members, administrators, representatives or employees, and the Project Architect and its agents, representatives, and employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.18 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor and Subcontractor under worker's compensation acts, disability benefit acts or other employee benefit acts.

4.19 PERSONS AUTHORIZED TO SIGN DOCUMENTS

- 4.19.1 The Contractor, within five (5) days after the Notice to Proceed shall file with the Project Manager a list of all persons who are authorized to sign documents such as contracts, modifications, schedules, certificates, and affidavits on behalf of the Contractor and to fully bind the Contractor to all the Conditions and provisions of such documents, except that in the case of a corporation he shall file with the Project Manager a certified copy of a resolution of the Board of Directors of the corporation in which are listed the names and titles of corporation personnel who are authorized to sign documents on behalf of the corporation and to fully bind the corporation to all the conditions and provisions of such documents. This person, or at least one of these persons, shall be available to meet in

Anchorage, Alaska, with the Owner or his representative(s) to discuss, negotiate and/or resolve any Change Order or other Modification to the Contract or any other matter needing resolution by the parties as determined at the sole discretion of the Owner within forty-eight (48) hours after receipt of written notice, at no additional cost to the Owner.

4.20 CONDITIONS AFFECTING THE WORK

- 4.20.1 The Contractor shall be responsible for taking all steps necessary to ascertain the nature and location of the Work and the general and local conditions which can affect the Work or the cost thereof. Failure by the Contractor to fully acquaint himself with conditions which may affect the Work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of labor, water, roads, weather, topographic and subsurface conditions, multi-prime contract conditions, applicable provisions of law, and the character and availability of equipment and facilities needed prior to and during the execution of the Work, shall not relieve the Contractor of his responsibilities under the Contract Documents and shall not constitute a basis for an adjustment in the Contract Sum or the Contract Time under any circumstances. The Owner assumes no responsibility for any understanding or representation about conditions affecting the Work made by any of his officers, employees, representatives, or agents prior to the execution of the Contract, unless such understandings or representations are expressly stated in the Contract Documents.
- 4.20.2 Until final acceptance by the Owner, the Contractor shall be in complete control of and fully responsible for the Work.
- 4.20.3 The Contractor shall give to the proper authorities all required notices relating to the Work in his charge, and shall be responsible for all acts and events which are violations of the law or which would be violations of the law had the Work been performed or the Project located within the Municipality of Anchorage.
- 4.20.4 Wherever herein mention is made of any article, material or workmanship to be in accordance with the laws, ordinances, building code, Underwriter's Code, and A.S.T.M. Specifications or similar expressions, the requirement of these laws, ordinances, etc., shall be construed as the minimum requirements of these Specifications, and all articles, materials and workmanship required by these laws, ordinances, etc., shall be provided by the Contractor without any additional cost to the Owner.
- 4.20.5 Where the requirements of the laws, ordinances, etc., are mandatory, they shall govern.
- 4.20.6 Where the requirements of the Specifications call for higher grade or are not in conflict with the laws, ordinances, etc., the Specifications shall govern.
- 4.20.7 In case of any apparent conflict between the Specifications and such laws, ordinances, etc., the Contractor shall immediately call the attention of the Project Manager (in writing) to such conflict for decision, before proceeding with any work which may involve such conflict.

END OF ARTICLE 4

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITION

- 5.1.1 A Subcontractor is a person, organization or entity who has a direct contract with the Contractor to perform any of the Work. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractors.
- 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the Work. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.
- 5.1.3 Nothing contained in the Contract Documents is intended to, nor shall it create, any contractual relationship between the Owner, the Project Manager, the Architect, or any of their agents, employees, or representatives and any Subcontractor or Sub-subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 The Contractor, in compliance with the requirements of the Contract Documents, shall furnish to the Project Manager in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Project Manager will within ten (10) days of receipt of such information reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Project Manager to reply within a reasonable time shall constitute notice of no reasonable objection. The Contractor understands and agrees that no contractual agreement exists for any part of the Work under this Contract between the Owner and any of the Contractor's Subcontractors or Sub-subcontractors. Further, the Contractor understands and agrees that he alone is responsible to the Owner for all of the Work under this Contract and that any review of Subcontractors or Sub-subcontractors by the Owner or Project Manager will not in any way make the Owner responsible to any Subcontractor or Sub-subcontractor, nor responsible for the actions or failures of any Subcontractor or Sub-subcontractor.
 - 5.2.1.1 Within ten (10) days after the Notice to Proceed, the Contractor shall furnish to the Project Manager, in writing, for acceptance by the Owner, a list of names of the Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors, proposed for the principal portions of the Work.
 - 5.2.1.2 Within thirty-five (35) days after Notice to Proceed, the Contractor shall submit to the Project Manager, copies of Purchase Orders or other satisfactory evidence of purchase for all major materials.
- 5.2.2 The Contractor shall not contract with any such proposed person or entity to whom the Project Manager has made reasonable objection under the provisions of this Subparagraph.
 - 5.2.2.1 The Contractor shall not be required to contract with anyone to whom he has a reasonable objection. There shall be no entitlement to additional compensation based upon the Project Manager's reasonable objection made under this Section.

- 5.2.3 If the Project Manager has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Project Manager has no reasonable objection.
- 5.2.4 The Contractor shall make no substitution for any Subcontractor, person or entity previously selected if the Project Manager makes reasonable objection to such substitution.
- 5.2.5 During the course of the Project the Contractor must notify the Project Manager in writing regarding any changes in any Work by any Subcontractor, Sub-subcontractor, Material Supplier or Vendor.

5.3 SUBCONTRACTUAL RELATIONS

- 5.3.1 By an appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to his Sub-subcontractors, Material Suppliers or Vendors.
- 5.3.2 In addition to Sub-Contractual agreement in Paragraph 5.3.1, the Contractor shall allow the Subcontractor, Sub-subcontractor, Material Supplier or Vendor to notify the Project Manager due to failure of payment, unwarranted retainage or deductions of payment or unwarranted lateness of payment.
- 5.3.3 As a condition precedent to the acceptance of the Contractor's proposed Preliminary and Detailed Project Schedules by the Project Manager, each major Subcontractor shall in writing, with the submission of said schedules by the Contractor, confirm that they have reviewed the Contractor's proposed Project Schedules, and that each concurs with the activity breakdowns, durations, cost loading, and logic as relates to each major Subcontractor's scope of the Work and the incorporation of said Work into the Contractor's proposed Preliminary and Detailed Project Schedules, as prescribed under Division 1, Section 01311 of the General Requirements of the contract documents.

5.4 PREPARATORY WORK

- 5.4.1 Before starting work, the responsible Subcontractor shall carefully examine all preparatory Work that has been executed to receive his Work. He shall check carefully, by whatever means are required, to ensure that his work and adjacent related Work will finish to proper contours, planes, and levels. He shall promptly notify the Contractor and the Project Manager of any defects or imperfections in preparatory Work which will, in any way, affect satisfactory completion of his Work. Absence of such notification will be construed as an acceptance of preparatory work and later claims of defects therein will not be recognized.

- 5.4.2 Each Subcontractor is required to follow the provisions of 4.3.4 relating to asbestos abatement.

5.5 PAYMENTS TO SUBCONTRACTORS, SUB-SUBCONTRACTORS, AND MATERIAL SUPPLIERS AND VENDORS

- 5.5.1 If the Project Manager withholds a Certificate for Payment for any cause which is the fault of the Contractor and not the fault of a particular Subcontractor, Sub-subcontractor, and Material Supplier and Vendor, the Contractor shall pay that Subcontractor, Sub-subcontractor, Material Supplier and Vendor on demand, made at any time after the Certificate for Payment should otherwise have been issued, for his work to the extent completed, less any retained percentage.
- 5.5.2 The Contractor shall pay each Subcontractor, Sub-subcontractor, and Material Supplier and Vendor a just share of any insurance monies received by the Contractor, and he shall require each Subcontractor to make similar payments.

END OF ARTICLE 5

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract.
- 6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.
- 6.1.3 Upon transfer of such separate contracts to a General Contractor, if the Owner so desires to transfer such contracts, the Contractor shall be obligated to the conditions as outlined by Paragraph 6.3. of these Conditions.

6.2 MUTUAL RESPONSIBILITY

- 6.2.1 The Contractor shall afford the Owner and separate Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their Work, and shall connect and coordinate his Work with theirs as required by the Contract Documents.
- 6.2.2 If any part of the Contractor's Work depends for proper execution or results upon the Work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Owner any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report in writing to the Owner shall constitute an acceptance of the Owner's or separate contractors' work as fit and proper to receive his Work, except as to defects which may subsequently become apparent in such work by others.
 - 6.2.2.1 In addition to inspection as to defect, the Contractor, if so deemed necessary by the Contractor, shall measure or inventory work already in place or stored and shall at once report, in writing, to the Project Manager any conflicts between the executed Work and the Contract Documents the Contractor has signed his name thereto.
 - 6.2.2.2 Upon notification from the Owner that a part of the Work furnished under this Contract is not in accordance with the Contract Documents, the Contractor shall immediately initiate action to correct the Work.
 - 6.2.2.3 If the Contractor fails to install his Work in a timely manner, the Owner through the Project Manager may authorize other Contractor(s) to perform their Work out of proper sequence. All extra Work necessary to properly interface with the other Contractor(s)' Work will be accomplished by this Contractor at no additional cost to the Owner.
- 6.2.3 Any costs caused by defective or ill-timed work shall be borne by the Contractor.
- 6.2.4 Should the Contractor wrongfully cause damage to the Work or property of the Owner, or to other Work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

- 6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other Contractor by agreement; or otherwise to resolve the dispute. If such separate Contractor sues or initiates a proceeding against the Owner, the Project Manager and/or the Architect on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at his own expense, and if any judgment or award against the Owner, the Project Manager, and/or the Architect arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner, the Project Manager and/or the Architect for all attorneys' fees and court or other costs which the Owner, the Project Manager and/or the Architect have incurred.
- 6.2.6 In the event there is more than one contractor engaged on the Project, each such contractor shall be responsible to the other for damages to work, injury to any person or persons, or for any loss, cost, claims, or damages arising out of or in connection with the Work required by this Contract or any loss, cost, expense, or damage caused by the Contractor's neglect or failure to finish or satisfactorily complete his part of the Work within the time prescribed. In all events, the provisions of Paragraph 4.18 shall be applicable.
- 6.2.7 Whenever the Contractor receives items from another Contractor or from the Owner for storage, erection or installation, the Contractor receiving such items shall give receipt for items delivered, and thereafter will be held responsible for care, storage and any necessary replacing of item or items received.
- 6.2.8 The separate contractors shall establish and maintain communication throughout the course of their Work to assure maximum coordination of the Work performed by each. This includes the approvals of the Work of each as required by proper coordination.

6.3 OWNER'S RIGHT TO PERFORM DISPUTED WORK

- 6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.15 or for accomplishing coordination or doing required cutting, filling, excavating or patching as required by Paragraph 4.14, the Owner may carry out such Work and charge the cost thereof to the contractors responsible therefor as the Owner shall determine to be just.

6.4 EQUIPMENT OR WORK NOT IN CONTRACT (NIC)

- 6.4.1 When certain items of equipment and other work are indicated as "NIC" (Not In Contract), or to be furnished and installed under other contracts, any requirements for preparation of openings, provision of backing, etc., for receipt of such "NIC" work, information will be furnished upon written request of the Contractor who shall properly form and otherwise prepare his Work in a satisfactory manner to receive such "NIC" work.

6.5 CUTTING AND PATCHING UNDER SEPARATE CONTRACTS

- 6.5.1 Each Contractor shall be responsible for any cutting, fitting and patching that may be required to complete his Work except as otherwise provided in the Contract Documents. The Contractor shall not endanger any human life or portion of the Work performing any cutting, excavating or otherwise altering the Work or any part thereof.

END OF ARTICLE 6

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

- 7.1.1 Unless otherwise provided in the Contract Documents, the Contract shall be governed by the law of the place where the Project is located.

7.2 SUCCESSORS AND ASSIGNS

- 7.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the Owner.

7.3 WRITTEN NOTICE

- 7.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice.

7.4 CLAIMS FOR DAMAGES

- 7.4.1 Should the Contractor suffer injury or damage to person or property because of any act or omission of the Owner or of any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to the Owner, through the Project Manager, within twenty (20) days after the first observance of such injury or damage; otherwise, the Contractor shall have waived any and all rights he may have against the Owner, the Project Manager, the Architect, or their employees, representatives or agents.
- 7.4.2 Decisions of the Project Manager shall be rendered as provided for under the Contract Documents, but no decision of the Project Manager shall deprive the Owner or the Contractor of any form of redress which may be available under the laws of the State. Any decision of the Project Manager shall be final and binding on the Contractor in the absence of written notice of protest from the Contractor received by the Owner by registered mail, within fifteen (15) days of the date of the decision of the Project Manager. The Owner shall have sixty (60) days from the date of receipt of a formal protest within which to investigate and make reply.

7.5 PERFORMANCE BOND AND PAYMENT BOND

- 7.5.1 Prior to the execution of the Contract, the Contractor shall furnish to the Owner, on forms acceptable to the Owner, surety bonds in the amounts and for the purposes provided in this Paragraph 7.5. Each bond must be signed by both the Contractor and the Surety. The current power of attorney for the person who signs for the surety company, indicating the monetary limit of such powers, must be attached to the bonds. The Contractor shall pay all premiums and cost thereof and incidental thereto. Such bonds shall be made payable to the Owner. The surety (or sureties) shall be corporate surety(ies) licensed to transact business in Alaska and acceptable to the Owner. Each bond shall be in an amount equal to the Contract Sum. The effective date of the bond shall be on the execution date of the contract.

- 7.5.2 The "Performance Bond" shall be so conditioned as to assure the faithful performance by the Contractor of all Work under said Contract, within the time limits prescribed, including any maintenance provisions, in a manner that is satisfactory and acceptable to the Owner; that all materials and workmanship supplied by him will be free from original or developed defects; and that should original or developed defects or failures appear within a period of one year from the date of final acceptance of the Work by the Owner, the Contractor shall, at his own expense, make good such defects and failures and make all replacements and adjustments required, within a reasonable time after being notified by the Owner to do so. This bond shall be maintained by the Contractor in full force and effect during the performance of the Work of the Contractor and for a period of two (2) years after the date of final acceptance of the Work by the Owner.
- 7.5.3 The "Payment Bond" shall be so conditioned as to inure to the benefit of persons furnishing materials for or performing labor upon the Work. This bond shall be maintained by the Contractor in full force and effect until the Work is completed and finally accepted by the Owner, and until all claims for materials, labor and subcontracts are paid.
- 7.5.4 Should any surety or sureties upon said bonds become insufficient or be disqualified from doing business in Alaska, the Contractor shall renew said bond or bonds with good and sufficient sureties, acceptable to the Owner, within ten (10) work days after receiving notice that the surety or sureties are insufficient and/or disqualified. Should any surety or sureties be deemed unsatisfactory at any time by the Owner, notice will be given the Contractor to that effect, and he shall forthwith substitute a new surety or sureties satisfactory to the Owner. No further payment shall be deemed due or will be made under this Contract until the new sureties shall qualify and be accepted by the Owner.
- 7.5.5 In the event of any change order resulting in the performance of additional work in connection with the Work, the amounts of such bonds shall be increased by the cost of such additional work or materials or fixtures to be incorporated into the Project.

7.6 RIGHTS AND REMEDIES

- 7.6.1 The Contractor's duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 7.6.2 Except as may be specifically agreed in writing, the failure of the Owner, the Project Manager, or the Architect to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract, or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s), and the rights shall continue unchanged and remain in full force and effect.
- 7.6.3 The Contractor agrees that he can be adequately compensated by money damages for any breach of this Contract which may be committed by the Owner and hereby agrees that no default, act, or omission of the Owner, the Project Manager or the Architect, except for unauthorized failure to make payments as required by the Contract Documents, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of this Contract or (unless the Owner shall so consent or direct in writing) to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which he might otherwise be or become entitled, save only his right to money damages.

7.7 TESTS

- 7.7.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Architect and Project Manager timely notice, but not less than seventy-two (72) hours, of its readiness so the Architect and the Project Manager may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, tests or approvals except as provided in subparagraph 7.7.2. Notification, coordination and execution of all inspections and tests required by the Contract Documents or by the governing building department shall be the sole responsibility of the Contractor. The Owner shall not be responsible for any damage or delay caused by any Party's inability to make required inspections in the time frame desired by the Contractor.
- 7.7.2 Special Inspection and testing as required in accordance with IBC section 1704 shall be coordinated by the Contractor and the Owner shall bear all costs of Special Inspections or approvals. The Special Inspector, designated by the Owner, shall observe the Work assigned for conformance with the approved design drawings and specifications. The Project Manager may order additional Special Inspections, testing, or approval, as required by the authority having jurisdiction by providing notice to the Contractor. The Contractor shall provide notification and coordination for additional Special Inspections as provided in subparagraph 7.7.1. If such special inspection or testing reveals a failure of the Work to comply (1) with the requirements of the Contract Documents, or (2) with respect to the performance of the Work, with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof, including compensation of the Owner's administrative and legal expenses, and for the Architect's, the Project Manager's, and the Special Inspector's additional services made necessary by such failure.
- 7.7.3 Inspections and Tests required to establish compliance with the Contract Documents, as provided for in the Contract Documents, will be made by a qualified, independent testing agency approved by the Owner. The cost of the services of such agency will be paid by the Contractor, unless otherwise provided in the Contract Documents. When the initial tests indicate non-compliance with the Contract Documents, any subsequent retesting occasioned by non-compliance shall be performed by the same agency and the costs thereof borne by the Contractor. The Contractor shall provide facilities for such access to the Work in order that the agency may properly perform its functions. Representatives of the testing agency shall have access to the Architect, Project Manager, or Owner at all times.
- 7.7.4 Inspections or testing performed exclusively for the Contractor's convenience shall be the sole cost and responsibility of the Contractor.
- 7.7.5 The independent testing agency, employed as specified in the Technical portion of these specifications, shall prepare the test reports, logs, and certificates applicable to the specific inspections and tests and shall deliver, immediately or within forty-eight (48) hours, as applicable, the specified number of copies of same to the designated parties. Other required certificates of inspection, testing or approval shall be secured by the Contractor and delivered by him to the Project Manager and the Architect, in such time as to not delay progress of the Work or final payment therefor.
- 7.7.6 If the Architect, the Project Manager or the Special Inspector is to observe the inspections, tests or approvals required by the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction or that are required to establish compliance with the Contract Documents, he will do so promptly and, where practicable, at the normal place of testing.

7.7.7 Unless otherwise stipulated in the Contract Documents, the Contractor shall pay for all utilities required for testing of installed equipment of all of his Work and work of each Subcontractor furnishing equipment. Labor and supervision required for making such tests shall be provided at no additional cost to the Owner.

7.7.8 Owner may provide Quality Assurance testing. Contractor shall provide knowledgeable support personnel and cooperate fully with Owner's designated representative in conducting all Quality Assurance tests. If project fails tests, Contractor shall make all necessary corrections to meet test criteria and pay the Owner for all costs associated with additional tests.

7.8 ALTERNATES

7.8.1 Alternates may be either additive or deductive.

7.8.2 Alternates, if taken, may be taken in any sequence.

7.8.3 The Contractor shall include in his bid, or bid proposal, a bid for all alternates listed in the Bid Form. These alternates shall include the Contractor's net cost of the labor, materials, overhead and profit, and equipment necessary to perform or delete, the Work as outlined by such alternates.

7.9 UNENFORCEABILITY OF ANY PROVISION

7.9.1 If any provision of the Contract is held as a matter of law to be unenforceable, the remainder of the Contract shall be enforceable without such provision.

7.10 NO WAIVER BY OWNER

7.10.1 The failure of the Owner in any one or more instances to insist upon the strict performance of any of the terms of this Contract or to exercise any option herein conferred, shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon such terms or option on any future occasion.

7.11 ASSIGNMENT OF CONTRACT

7.11.1 The Contractor shall not assign the responsibilities of this Contract, either as a whole or in part, nor assign any monies due or to become due to it hereunder, without previous written consent of the Owner.

END OF ARTICLE 7

ARTICLE 8

TIME

8.1 DEFINITIONS

- 8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial and Final Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.
- 8.1.2 The date of execution of the Contract Agreement between the Owner and Contractor shall be subsequent to School Board Approval and the Contractor's satisfactory submittals to the Owner of the Certificate of Insurance, the Performance Bond and the Payment Bond as noted in the Invitation to Bidders. The Owner will issue a Notice to Proceed no later than ten (10) days from execution of the Owner-Contractor Agreement by both Owner and Contractor. The date of commencement of the Work shall be the date established by the Notice to Proceed. The Owner shall not be responsible for any costs incurred by the Contractor prior to the Notice to Proceed.
- 8.1.3 The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Project Manager and Architect when the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract Documents, so the Owner can fully occupy and utilize the Work or designated portion thereof for the use for which it is intended, with all of the Project's parts and systems cleaned and operable as required by the Contract Documents. Only incidental corrective work and any final cleaning beyond that needed for the Owner's full use may remain for Final Completion.
- 8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated. All dates shall mean 12:01 a.m. of the indicated day unless otherwise stipulated.
- 8.1.5 The term "working day" as may be used in the Contract Documents shall mean any day not otherwise defined herein as a non-working day.
- 8.1.6 The term non-working day as may be used in the Contract Documents shall mean Sunday, a recognized holiday, a day on which the Contractor is specifically required to suspend construction operations or a day on which a suspension order is in effect. Recognized holidays shall be: New Year's Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Eve (half day), and Christmas Day. When any of the above days fall on a Saturday, the preceding Friday shall be counted as a holiday. When any of the above days fall on a Sunday, the following Monday shall be counted as a holiday.
- 8.1.7 The term "Beneficial Occupancy" is interchangeable with the term Substantial Completion.

8.2 PROGRESS AND COMPLETION

- 8.2.1 All times stated in the Contract Documents are of the essence of the Contract.
- 8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion and Final Completion in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof.
- 8.2.3 Attention is directed to the fact that the Work is urgently needed by the Owner and that time is of the essence; for this reason, it shall be agreed that the Contractor shall substantially complete all Work under the Contract in accordance with the Project Schedule Milestone

Dates set forth under Section 00200 hereof and, that he will complete the contract in all its details for final acceptance as specified after Substantial Completion.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 The Contractor shall be entitled to extensions in the time required for performance of the Work as specifically provided in the Contract. Except as otherwise specifically provided under Paragraph 3.4., 12.1, or 8.3.5, the Contractor shall not be entitled to payment or compensation of any kind from the Owner for direct, indirect, impact or consequential damages, including but not limited to costs of acceleration because of hindrance or delay or loss of labor or equipment efficiency or productivity arising out of any hindrance, interference, obstruction, disruption or delay from any source or cause whatsoever, whether such hindrance, interference, obstruction, disruption or delays be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable.

8.3.2 The Contract Time may be adjusted only for changes pursuant to Paragraph 12.1, suspension of Work pursuant to Paragraph 3.4. and delays pursuant to Subparagraph 8.3.3.

8.3.3 Types of delay shall be defined as follows:

8.3.3.1 Actions or inactions of the Owner, or events for which the Owner has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current contractually established date of Substantial Completion shall be designated as Compensable delays.

8.3.3.2 Events which are outside the control of, and without the fault or negligence of either the Owner or the Contractor, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Excusable delays, as follows:

8.3.3.2.1 Labor disputes and strikes (including strikes affecting transportation), that do, directly and critically affect the progress of the Work; however, any extension of Contract Time on account of an individual labor strike shall not exceed the number of days of said strike.

8.3.3.2.2 Acts of God, tornado, fire, hurricane, blizzard, earthquake, typhoon, or flood that damage completed work or stored materials.

8.3.3.2.3 The Contract Time will not be extended due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Owner that the weather actually encountered by the Contractor was unusually severe considering the full term of the Contract Time using a ten (10) year average of accumulated record mean values from climatological data compiled by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration for the locale of the Project and that such alleged substantially greater than normal inclement weather actually delayed the Work or portions thereof which had an effect upon the Contract Time, the Contractor shall not be entitled to an extension of time.

8.3.3.2.4 Acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, and acts of another contractor in the performance of a contract with the Owner relating to the Project.

- 8.3.3.3 Actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Non-excusable delays.
- 8.3.3.4 Concurrent delay is any combination of the above three types of delay occurring on a calendar date, except in cases where the combination consists of two or more instances of the same type of delay occurring on a calendar date.
- A delay to the Contractor caused by the acts of another contractor under contract to the Owner will be classified as a compensable delay to the extent said delay meets the requirements of compensable delay as set forth under Subparagraph 8.3.3.1. Also, it is the Owner's belief that the definitions of delay as included in this paragraph comply with all applicable law in the State of Alaska.
- 8.3.4 Any claim for extension of time shall be made in writing to the Project Manager not more than seven (7) calendar days after commencement of the delay; otherwise it shall be waived. The Contractor shall also provide an estimate of the probable effect of such delay on the progress of the Work. In the case of a continuing delay only one claim is necessary. Any event, action, inaction, or other cause which may give rise to a delay shall constitute a basis for adjustment in:
- 8.3.4.1 Contract Time, only if it can be demonstrated that the date of Substantial Completion will be delayed beyond the current Contract Completion Date and that the delay is classified as only a Compensable, Excusable, or Concurrent Delay. The Contract Time shall be adjusted by Change Order pursuant to the requirements of Paragraph 8.3 and Division 1, Section 01311; or
- 8.3.4.2 Contract Amount, only if it can be demonstrated that the Contractor's time-related costs to complete the Work will be increased and the delay is classified as only a Compensable Delay. The Contract Sum shall be adjusted by Change Order pursuant to the requirements of Subparagraphs 8.3, 8.4.9 and 12.3.
- 8.3.5 All time limits stated in the Contract Documents are of the essence of this Contract. The failure of the Contractor to complete the Work in conformance with the Contract shall result in damages suffered by the Owner due to delays in completion of the Work.
- 8.3.5.1 If the Contractor fails to substantially complete the Work in conformance with the Contract Documents and the Owner nevertheless permits the Contractor to continue performance of the Work, such permission shall neither modify nor waive the Owner's right to assess and collect, and the Contractor's obligation to pay liquidated damages.
- 8.3.5.2 The Owner shall be entitled to claim against the Contractor for any liquidated damages incurred. The Owner cannot anticipate at this time what liquidated damages may occur or what the per diem cost of these damages might be. Determination of liquidated damage details will be a matter of proof should the issue arise.
- 8.3.5.3 The Owner shall recover said liquidated damages by deducting the amount thereof from any monies due or that may become due the Contractor. In the event the remaining balance due the Contractor is insufficient to cover the

full amount of assessed damages, then the Contractor or his Surety shall pay the amount due and the Owner shall be entitled to any and all rights and remedies available to it in law or equity to recover same.

8.4 RESPONSIBILITY FOR COMPLETION

8.4.1 The Contractor shall furnish such manpower, materials, facilities and equipment and shall work such hours, including night shifts, overtime operations and Sundays and holidays, as may be necessary to insure the progress and completion of the Work in accordance with the accepted and currently updated progress schedule. If Work actually in place falls behind the currently updated and accepted progress schedule and it becomes apparent from the current schedule that the Work will not be completed in accordance with the Contract Time, the Contractor agrees that he will, as necessary, take some or all of the following actions at no additional cost to the Owner, as required to substantially eliminate the schedule slippage deficiency:

8.4.1.1 Increase manpower in such quantities and crafts as will substantially eliminate in the opinion of the Project Manager the schedule slippage deficiency;

8.4.1.2 Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment, or any combination of the foregoing sufficiently to substantially eliminate, in the opinion of the Project Manager the schedule slippage deficiency; and,

8.4.1.3 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

8.4.2 The Project Manager may require the Contractor to submit a recovery schedule in accordance with Section 01311 of the Specifications, demonstrating his program and proposed plan to make up the slippage in scheduled progress and to ensure completion of the Work in accordance with the requirements of the Contract. If the Project Manager finds the proposed plan not acceptable, he may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are not satisfactory, the Project Manager may require the Contractor to take any of the actions set forth in this Paragraph 8.4 without additional cost to the Owner, to make up the slippage in scheduled progress.

8.4.3 Failure of the Contractor to substantially comply with the requirements of this Paragraph 8.4 may be considered grounds for a determination by the Owner, pursuant to Clause 14.1, that the Contractor is failing to prosecute the Work with sufficient diligence to ensure its in accordance with the Project Milestone Dates set forth under Section 00200 hereof.

END OF ARTICLE 8

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

- 9.1.1 The Contract Sum is stated in the Owner-Contractor Agreement and, including authorized adjustments thereto, is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

- 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Owner, through the Project Manager, a schedule of values allocated to the various portions of the Work, as set forth in Division 1, Section 01370 of the General Requirements entitled "Schedule of Values" and supported by such data to substantiate its accuracy as the Architect, Project Manager and the Owner may require. This schedule, unless objected to by the Architect, Owner, or Project Manager, may be used as a basis for the Contractor's Applications for Payment except as otherwise noted under Division 1, Section 01311. The Schedule of Values shall be prepared in such a manner that each major item of work and each subcontracted item of work is shown as a single item on the Application and Certificate of Payment.

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1 Prior to the date for each progress payment established in the Contract Documents, the Contractor, in accordance with Division 1, Section 01311 of the General Requirements entitled "Project Schedule," shall submit to the Project Manager an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the Project Manager and the Architect may require, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. The form of Application for Payment shall be Anchorage School District Forms 100, 100A, 100B and 100C and the computer-produced Cost Report updated in accordance with Division 1, Section 01311.
- 9.3.2 If the Project Manager finds that satisfactory progress is not being made, he may require retainage of up to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Project Manager finds that satisfactory progress is being made.
- 9.3.3 Payments may be authorized by the Project Manager at his discretion, on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site by the Contractor. Payments for materials or equipment stored on the site shall only be considered upon submission by the Contractor of satisfactory evidence that he has acquired title to such material, that it will be utilized on the Work under this Contract and that it is satisfactorily stored, protected, and insured or that other procedures satisfactory to the Project Manager that will protect the Owner's interests have been taken.
- 9.3.4 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

9.4 APPROVAL OF PAY APPLICATION

- 9.4.1 The Project Manager will, after receipt of the Contractor's Application for Payment, and within the time set forth in Division 1, Section 01311 of the General Requirements entitled "Project Schedule," either approve the Application for its full amount or notify the Contractor in writing of his reasons for withholding approval, in whole or in part, as provided in Subparagraph 9.6.1.
- 9.4.2 The submission and acceptance of the Contractor's Preliminary and Detailed Progress Schedules and monthly updates thereof as required by Division 1, Section 01311 of the General Requirements entitled "Project Schedule," shall be an integral part and basic element of the application upon which progress payments shall be made. If in the judgment of the Project Manager the Contractor fails or refuses to provide information required to accomplish a complete Project Schedule Update or revision thereto as specified under Division 1, Section 01311 of the General Requirements, the Contractor shall be deemed to have not provided the information necessary to enable the Project Manager and the Architect to properly evaluate the Contractor's progress, and shall not be entitled to progress payments until it has furnished the information necessary for a complete Project Schedule Update or revision thereto as specified herein to the satisfaction of the Project Manager.
- 9.4.3 The signing of an Application for Payment will constitute a representation by the Project Manager and the Architect, based on their observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated; that, to the best of their knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in their Certificate); and that the Contractor is entitled to payment in the amount certified. However, by approving an Application for Payment, the Project Manager and the Architect shall not thereby be deemed to represent that either has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work or that either has reviewed the construction means, methods, techniques, sequences or procedures, or that either has made an examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

- 9.5.1 After an Application for Payment has been approved, the Owner shall make payment within thirty (30) calendar days.
- 9.5.2 The Contractor shall promptly pay each Subcontractor (including suppliers, laborers, and material-men) performing labor or furnishing material for the Work, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, also require each Subcontractor to make payments to his Sub-subcontractors in similar manner.
- 9.5.3 The Owner may, on request and at his discretion, furnish to any Subcontractor, Sub-subcontractor, or Material Supplier and Vendor, if practicable information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Project Manager on account of Work done by such Subcontractor, Sub-subcontractor, or Material Supplier or Vendor.

- 9.5.4 Neither the Owner, the Project Manager, nor the Architect shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as may otherwise be required by law.
- 9.5.5 No approval for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the Project by the Owner, shall constitute an acceptance of any Work not in accordance with the Contract Documents.
- 9.5.6 The Contractor agrees to keep the Work and the site(s) on which Work is to be performed free and clear of all liens and claims of liens on materials furnished pursuant to the Contract Documents. Contractor hereby waives any right it may have in connection with the Work to file any liens, mechanics or otherwise. Notwithstanding anything to the contrary contained in the Contract Documents, if any such lien is filed or there is any reason to believe that any lien may be filed at any time during the progress of the Work or within the duration of this Contract, the Owner may refuse to make any payment otherwise due to Contractor or withhold from any payment due the Contractor a sum sufficient in the opinion of the Owner to pay all obligations and expenses necessary to satisfy such lien or claim and completely indemnify the Owner against any such lien or claim unless and until Contractor shall thereof, if any, has been satisfied, discharged and released of record or that the Contractor has caused such lien to be released or record if and as provided by law pending the resolution of any dispute between Contractor and the person filing such lien; and if such evidence is not furnished by Contractor to the Owner within a period of five (5) days after demand to do so, the Owner may discharge such indebtedness and deduct the amount required therefore, together with any and all losses, costs, damages and attorney's fees suffered or incurred by the Owner from any sum payable to Contractor under the Contract Documents. Final payment to Contractor may be withheld until the Work and the site(s) on which the Work is to be performed are free and clear of any and all liens for rights thereto arising because of Work performed or materials furnished under the Contract Documents. This Subparagraph 9.5.6 shall be specifically included in all subcontracts and purchase orders entered into by Contractor.
- 9.5.7 No reference to a claim or claims of lien or to the Owner's right to withhold payments to the Contractor or to discharge the Contractor's debts to Subcontractors, in Subparagraph 9.5.6, or elsewhere in the Contract Documents, shall be interpreted as a waiver of the Owner's right to exemption pursuant to AS 09.38.015(c) or any requirements with regard to the filing of claims of lien as set forth in AS 34.35.

9.6 PAYMENTS WITHHELD

- 9.6.1 The Architect and the Project Manager may decline to approve an Application for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in their opinion they are unable to make representations to the Owner as provided in Subparagraph 9.4.3. If the Project Manager and the Architect are unable to make representations to the Owner as provided in Subparagraph 9.4.3 and to certify payment in the amount of the Application, they will notify the Contractor as provided in Subparagraph 9.4.1.

If the Contractor, Project Manager and the Architect cannot agree on a revised amount, the Project Manager will promptly approve the Application for Payment for the amount for which he is able to make such representations to the Owner. The Project Manager may also decline to certify payment or, because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any approval of an Application for Payment previously issued to such extent as may be necessary in his opinion to protect the Owner from loss because of:

- 9.6.1.1 Defective work not remedied,
 - 9.6.1.2 Third-party claims filed or reasonable evidence indicating probable filing of such claims,
 - 9.6.1.3 Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment,
 - 9.6.1.4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum,
 - 9.6.1.5 Damage to the Owner or another contractor,
 - 9.6.1.6 Reasonable evidence that the Work will not be completed within the Contract Time,
 - 9.6.1.7 Failure or refusal of the Contractor to carry out the Work in accordance with the Contract Documents, including scheduling, project management, or coordination requirements,
 - 9.6.1.8 Liens filed for any portion of the Work, or
 - 9.6.1.9 Failure or refusal of the Contractor to fully comply with Division 1, Section 01311 of the General Requirements entitled "Schedules and Reports".
- 9.6.2 When the above grounds in Subparagraph 9.6.1 are removed, payment shall be made for amounts withheld because of them.

9.7 FAILURE OF PAYMENT

- 9.7.1 If the Owner does not pay the Contractor within seven (7) days after the date established in the Contract Documents any amount certified by the Architect and the Project Manager, then the Contractor may, upon seven (7) additional days' written notice to the Owner and the Architect, stop the Work until payment of the amount not in dispute has been received. The Contractor shall not refuse or fail to diligently proceed with the Work pending the resolution of any amount(s) in dispute unless agreed to by the Owner.

9.8 SUBSTANTIAL COMPLETION

- 9.8.1 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Subparagraph 8.1.3, the Contractor shall prepare for submission to the Project Manager a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect and the Project Manager on the basis of an inspection jointly determine that the Work or designated portion thereof is substantially complete, the Architect will then prepare a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, correction of punchlist items and damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion of the work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

- 9.8.2 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Project Manager and the Architect, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof, as provided in the Contract Documents.
- 9.8.3 The acceptance of Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the Application for Payment for Substantial Completion, and except for the retainage sums due at final acceptance if any.

9.9 FINAL COMPLETION AND FINAL PAYMENT

- 9.9.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect and the Project Manager will promptly make such inspection and, when they find the Work acceptable under the Contract Documents and the Contract fully performed, they will jointly issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, as noted in said final Certificate, is due and payable. The final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.8.2 have been fulfilled.
- 9.9.2 Neither the final payment nor the remaining retained percentage shall become due until the Work is free and clear of any and all liens and the Contractor submits to the Owner (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3), if required by the Project Manager, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Project Manager. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any loss. If any such lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien or claim, including all costs and reasonable attorney's fees. The Owner may withhold from the final payment any sum that the Owner has reason to believe may be needed to satisfy any lien, claim or threat of lien arising from the Work. The Owner may deduct from the final payment an amount equal to any costs, expenses and attorneys' fees incurred by the Owner in removing or discharging any liens arising from the Work.
- 9.9.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, or by the issuance of change orders affecting final completion, and the Owner so confirms, the Owner shall, upon application by the Contractor and certification by the Project Manager and the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as provided in Paragraph 7.5, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Project Manager prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

- 9.9.4 The making of final payment shall constitute a waiver of all claims by the Owner against the Contractor except those arising from:
- 9.9.4.1 Unsettled liens, and claims against the Owner, the Project Manager, or the Architect, or their employees, agents, or representatives,
 - 9.9.4.2 Faulty or defective Work appearing after Substantial Completion,
 - 9.9.4.3 Failure of the Work to comply with the requirements of the Contract Documents,
 - 9.9.4.4 Terms of any warranties contained in or required by the Contract Documents,
 - 9.9.4.5 Liquidated damages due the Owner for the Contractor's delay in completion, or
 - 9.9.4.6 Damages incurred by the Owner resulting from lawsuits brought against the Owner, the Project Manager, the Architect, or their agents, employees or representatives because of failures or actions on the part of the Contractor, his Subcontractors, Sub-subcontractors, Material Suppliers and Vendors, or any of their employees, agents or representatives.
- 9.9.5 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.
- 9.9.6 Final Completion includes, but is not limited to, the Contractor obtaining an unconditional Certificate of Occupancy from the governing building official.

9.10 OWNER'S RIGHT TO OCCUPY INCOMPLETE WORK

- 9.10.1 Should the Project, or any portion thereof, be incomplete for Beneficial Occupancy or Final Completion at the scheduled date or dates, the Owner shall have the right to occupy any portion of the Project. In such an event, the Contractor shall not be entitled to any extra compensation on account of said occupancy by the Owner or by the Owner's normal full use of the Project, nor shall the Contractor interfere in any way with said normal full use of the Project. Further, in such an event, the Contractor shall not be entitled to any extra compensation on account of the Owner's occupancy and use of the Project, nor shall the Contractor be relieved of any responsibilities of the Contract including the required times of completion. Such occupancy by the Owner would not, in itself, constitute Beneficial Occupancy nor Final Completion.
- 9.10.2 If the Owner exercises his rights under the foregoing and occupies the full project, then there shall be no liquidated damages due to delay on account of failure on the Contractor's part to provide Beneficial Occupancy from that date forward. This provision does not affect, however, any damages due to delay that would be assessed for any period of time between the scheduled date of Beneficial Occupancy and the date of any such actual occupancy. Further, this provision would have no effect on actual damages assessed on account of late Final Completion.

9.11 RETENTION AND INSPECTION OF RECORDS

9.11.1 Inspection.

The Anchorage School District, or any of its duty authorized representatives, shall have the right to examine all project records and documents, including without limitation, all books, correspondence, reports, analyses, instructions drawings, receipts, vouchers, memoranda, and all financial and accounting books, records, and data and all other documents of both the Contractor and the Contractors, Subcontractors and any Sub-subcontractors which are directly pertinent to this specific Contract for the purpose of making an audit, examination, reproduction, excerpts, or transcriptions. All required records shall be retained by the Contractor and its first tier Subcontractors for three (3) years after the Owner makes final payments and all other pending matters are closed.

9.11.2 Retention and Maintenance.

The Contractor shall keep and maintain in safe condition full and accurate records of all costs incurred and items billed and all other project records and documents relating to performance, communications, and correspondence in connection with the performance of the Work under this Contract, which records and documents shall be open to review, examination or audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after Final Payment and all other pending matters are closed.

9.11.3 Subcontractor Records.

The Contractor shall make it a condition of all subcontracts and sub-subcontracts relating to the Work under this Contract that any and all Subcontractors and sub-subcontractors will keep accurate records of costs incurred and items billed in connection with their work and that such records shall be open to review, examination, reproduction or audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after Final Payment under the subcontract and all other pending matters are closed.

9.11.4 Availability.

The Contractor shall make available at its business office upon request at all reasonable times the materials described in this Article including materials of both the Contractor and its first tier Subcontractors, for review, examination reproduction or audit for a period of three (3) years after Final Payment under this Contract and all other pending matters are closed.

9.11.5 Termination.

If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for three (3) years after any resulting final termination settlement.

9.11.6 Claims and Appeals.

Records pertaining to any settlement, mediation, arbitration, litigation or appeals of claim submitted pursuant to Paragraphs 12.4 or 12.5 or otherwise arising from or relating to the performance of Work under this Contract shall be made available until such settlement, mediation, arbitration, litigation, or appeals are finally concluded. Such documents or records shall be made available to the Anchorage School District or its duty authorized representatives within thirty (30) days of the Anchorage School District's request.

9.11.7 Subcontracts.

The Contractor shall include the provisions of this Article in all first tier Subcontracts so as to be binding on all first tier Subcontractors.

9.11.8 Cost or Pricing Data.

If the Contractor has submitted cost or pricing data in connection with the pricing of any change order or modification to this Contract - unless the pricing was based on—

- 9.11.8.1 adequate price competition, or
- 9.11.8.2 established catalog or market price of commercial items sold in substantial quantities to the general public; or
- 9.11.8.3 prices set by law or regulation -

the Anchorage School District or a representative who is an employee of the Anchorage School District, shall have the right to examine and audit all books, records, documents, and other data of the Contractor, including computations and projections, related to negotiating, pricing, or performing the change order or modification, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data.

END OF ARTICLE 9

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

- 10.1.1 The Owner, the Project Manager, the Architect, or their agents, employees or representatives are not responsible for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in accordance with the Work. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 SAFETY OF PERSONS AND PROPERTY

- 10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
- 10.2.1.1 All employees on the Work and all other persons who may be affected thereby;
 - 10.2.1.2 All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and
 - 10.2.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.
- 10.2.2.1 The Contractor shall contact the State Historic Preservation Office (276-2653) immediately, should cultural or paleontological resources be discovered as a result of performing the Work.
- 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.
- 10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.
- 10.2.5 The Contractor shall promptly remedy all damage or loss to any property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, any Material Supplier or Vendor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to the acts or omissions of the Owner, Project Manager or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 4.18.

- 10.2.6 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner through the Project Manager.
- 10.2.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.
- 10.2.8 Following the Notice to Proceed, the Contractor is required to obtain facility keys and the security system access code from ASD Operations Department and obtain the facility keys by contacting the Project Manager.
- 10.2.8.1 A unique security code will be assigned to the Contractor. The ASD Operations office, 1301 Labar, will assign the code and provide access training.
- 10.2.8.2 The Contractor's signature on the key receipt acknowledges liability for the Owner's loss or damage due to unauthorized access with the facility key(s) and/or access code issued to the Contractor. The Contractor's Superintendent is solely responsible for opening and closing of the facility.
- 10.2.8.3 Lost or stolen key(s) issued to the Contractor are to be reported immediately to the Project Manager. A written report shall be required for each incident.
- 10.2.8.4 Upon completion of the Project and prior to final payment, the Contractor will return all key(s) to the Project Manager. The following per facility charges will apply to any key not returned to the Project Manager.

	<u>Charge</u>
Elementary School	\$5,000
Junior High/Middle School	\$7,000
Senior High School	\$10,000
Other ASD Facilities	\$5,000

10.3 EMERGENCIES

- 10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 8 for Time, and Article 12 for Changes in the Work.

END OF ARTICLE 10

ARTICLE 11

INSURANCE

11.1 GENERAL

11.1.1 Before signing this Contract, or commencing work on any project or allowing any Subcontractor to commence work, the Contractor shall obtain all insurance required under this section. The Contractor shall maintain this insurance until Final Acceptance. Proof of Insurance will be required prior to performing work under the warranty. The Contractor shall file with Owner as verification of insurance, an original signed certificate of insurance showing the type and amounts of insurance, the policy number, and expiration date. The Contractor shall provide copies of each insurance policy if requested by the Owner. The Contractor shall purchase insurance from companies reasonably acceptable to the Owner and authorized to do business in the State of Alaska, possessing a Best's policyholder's rating of A- or better and a financial rating of not less than VII.

11.2 WORKERS' COMPENSATION INSURANCE

11.2.1 The Contractor shall purchase and maintain during the life of this Contract, Workers' Compensation Insurance for all employees who will work on this project and if any work is sublet, the Contractor shall require the Subcontractor to provide similar Workers' Compensation Insurance for employees. Such workers' compensation insurance shall meet the statutory requirements of the State of Alaska.

11.3 PUBLIC AND EMPLOYER LIABILITY INSURANCE

11.3.1 The Contractor and his Subcontractors, if any, shall purchase and maintain such Public and Employer Liability Insurance as will protect the Contractor against loss which may result from claims for damages from operations under this Contract, whether such operations be those of the Contractor, a Subcontractor, or any person directly or indirectly employed by them. Such liability insurance shall have a scope of coverage at least as broad as the current ISO form # CG 0001 (occurrence version) for General Liability and the current ISO form # CA 0001 for Automobile Liability, and in minimum limits specified in Paragraph 11.3.2.

11.3.2 Public and Employer Liability Insurance Requirements

11.3.2.1 Commercial General Liability

Combined Single Limit \$1,000,000

Annual Aggregate \$2,000,000

11.3.2.2 Comprehensive Auto Liability

Including all owned, hired and non-owned vehicles.

Combined Single Limit \$1,000,000 each accident

11.3.2.3 Employer's Liability Insurance

\$1,000,000 limit

11.3.3 Umbrella Liability

- 11.3.3.1 The Contractor shall maintain an umbrella liability policy according to the following:

Projects < \$10 million construction cost – \$5,000,000 per occurrence and annual aggregate.

Projects > \$10 million construction cost – \$10,000,000 per occurrence and annual aggregate.

This requirement does not apply to Subcontractors.

- 11.3.3.2 Umbrella liability insurance shall be maintained in effect until final acceptance by the Owner of the completed construction, and for products liability and completed operations liability, a minimum of two years thereafter.

11.4 BUILDERS RISK INSURANCE

- 11.4.1 The Contractor shall purchase and maintain an all risk Builder's Risk policy on all construction projects. The Builders Risk coverage shall be in an amount equal to the initial contract, plus any contract modifications, and the cost of materials supplied or installed by others. Perils insured must be all physical loss and will include earthquake, flood, testing and startup, resultant damage from errors in design, plans or specifications, and transit and offsite storage.
- 11.4.2 A loss insured under Subparagraph 11.4.1 shall be adjusted by the Insurer, or by the Contractor as Fiduciary, and made payable to the Contractor as Fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Subparagraph 11.4.5. The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor, and by appropriate agreement, written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.
- 11.4.3 The Owner and Contractor shall waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Paragraph 11.4 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Contractor as Fiduciary. The Contractor shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Owner and the Contractor by Subcontractors and Sub-subcontractors. With respect to the waiver of rights of recovery, the term Owner shall be deemed to include, to the extent covered by property insurance applicable thereto, his consultants, employees, agents and representatives, including the Project Manager. The Contractor waives as against any separate Contractor described in Article 6 all rights for damages caused by fire or other perils in the same manner as is provided above as against the Owner. The Owner shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Contractor by any separate Contractor and his Subcontractors and Sub-subcontractors.
- 11.4.4 If required in writing by any party in interest, the Contractor as Fiduciary shall, upon the occurrence of an insured loss, give bond for the proper performance of his duties. He shall deposit in a separate account any money so received, and he shall distribute it in accordance with a court order or award. If after such loss no other special agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.

- 11.4.5 The Contractor as Fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five (5) days after the occurrence of loss to the Owner's exercise of this power, and if such objection is made, the matter shall be decided by a court of competent jurisdiction or as parties in interest otherwise agree. The Contractor as Fiduciary shall, in that case, make settlement with the insurers accordingly.
- 11.4.6 If the Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion thereof, such occupancy shall not commence prior to a time mutually agreed to by the Owner and Contractor and to which the insurance company or companies providing the property insurance have consented by endorsement of the policy or policies. This insurance shall not be canceled or lapsed on account of such partial occupancy. Consent of the Contractor and of the insurance company or companies to such occupancy or use shall not be unreasonably withheld.

11.5 CERTIFICATE OF INSURANCE REQUIREMENTS

- 11.5.1 Each insurance policy required in this section will be evidenced by a certificate of insurance which contains the following:
- 11.5.1.1 Notice of cancellation to the Anchorage School District in accordance with Alaska Statutes 21.36.220 and .260.
 - 11.5.1.2 Contract number.
 - 11.5.1.3 Project location.
 - 11.5.1.4 Waiver of Subrogation. All policies, except where prohibited, will include a Waiver of Subrogation in favor of the District.
 - 11.5.1.5 Additional Insured. All policies except Workers Compensation and professional liability will note the District as an additional insured.

11.6 OWNER'S RIGHT TO INSURE

- 11.6.1 In the event Contractor neglects, refuses, or fails to provide the insurance required under the Contract Documents, or if such insurance is canceled for any reason, the Owner shall have the right, but not the duty to procure the same, and the costs thereof shall be deducted from monies then due or thereafter to become due the Contractor.

11.7 ADDITIONAL INSURANCE

- 11.7.1 If not covered by the above insurance, the Contractor must obtain additional Insurance for items stored off-site or in transit. Payments for materials stored off-site will not be made unless Contractor provides documentation of valid insurance coverage for same.

11.8 ASBESTOS ABATEMENT SUBCONTRACTOR'S CERTIFICATE OF INSURANCE

- 11.8.1 After the Intent to Award Notification, the low bidder shall submit an insurance binder of insurance certificate provided by the proposed asbestos abatement subcontractor's insurance company stating that upon execution of the Contract the types and amount of insurance required elsewhere in these specifications will immediately become effective.

The asbestos abatement subcontractor is required to carry a minimum of \$1,000,000 of General Public Liability Insurance with no exclusion for asbestos abatement.

11.8.2 Comprehensive General Liability Minimum Limits

Bodily Injury and Property Damage \$2,000,000 per occurrence
Premises Operations
Independent Contractors
Products - Completed Operations
Contractual Liability
Broad Form Property Damage - Lloyds Form
Explosion, Collapse, and Underground
Personal Injury

11.8.3 Comprehensive Auto Liability

Including all owned, hired, and non-owned vehicles
Combined single limit per accident \$1,000,000

END OF ARTICLE 11

ARTICLE 12

CHANGES IN THE WORK AND CONTRACT SUM AND TIME

12.1 CHANGES IN THE WORK

- 12.1.1 The Owner may, at any time, without notice to the sureties, make any change in the Work within the general scope of the Contract, including, but not limited to changes:
- 12.1.1.1 In the Specifications or Drawings;
 - 12.1.1.2 In the method or manner of performance of the Work;
 - 12.1.1.3 In the Owner-furnished facilities, equipment, materials, services or site; or
 - 12.1.1.4 Directing acceleration in the performance of the Work for reasons other than delays caused by the Contractor.
- 12.1.2 All such changes in the Work shall be performed under the applicable conditions of the Contract Documents and shall be authorized in one of the following manners:
- 12.1.2.1 Field Directive. The Project Manager may issue a written Field Directive to the Contractor that directs a change in the Work. If the Contractor believes that the requested change will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.
 - 12.1.2.2 Information Bulletin. The Architect may issue an Information Bulletin to the Contractor that clarifies or modifies the plans or specifications. If the Contractor believes that the clarification or modification of plans or specifications will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.
 - 12.1.2.3 Request for Information (RFI). The Contractor may submit a RFI to the Project Manager or Architect using the ASD Procore Construction Management Program to request clarification of plans or specifications or to point out areas of apparent conflict or other concerns relating to the Work. The response to the RFI by the Architect or Project Manager may clarify or modify the plans or specifications. If the Contractor believes that the clarification or modification of plans or specifications will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.
 - 12.1.2.4 Request for Proposal (RFP). The Owner may issue an RFP to the Contractor that directs a change in the Work and requests the Contractor's evaluation of the impact of the change on Contract Time or Contract Sum. If the Contractor believes that the Work required by the RFP will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the changes.
- 12.1.3 Except as provided in Subparagraph 12.1.2, no order, statement or conduct of the Owner, Project Manager or Architect shall be treated as a change or entitle the Contractor to an equitable adjustment hereunder. No oral agreement of any kind shall be construed as a Change Order.

12.2 AMENDING CONTRACT SUM OR TIME

12.2.1 If any change under Paragraph 12.1 causes an increase or decrease in the Contractor's cost or the time required for the performance of any part of the Work under the Contract, including Work not affected directly by the change, an equitable adjustment shall be processed and approved following the provisions of Division 1, Section 01311, Project Schedule for any adjustment to time. Adjustments to Contract Sum shall be determined in one or more of the following ways:

12.2.1.1 By mutual acceptance of a lump sum price properly itemized in accordance with Subparagraph 12.2.2 and supported by sufficient data to permit evaluation;

12.2.1.2 In the event that unit prices are included in the bid and accepted by the Owner, payment for the Work performed shall be at the unit price amount for each item of Work accepted by the Owner and conforming to the contract requirements. Such prices shall be additive and deductive and include all costs necessary to complete the Work, inclusive of overhead costs and profit.

12.2.1.3 If prior to the commencement of the Work the Contractor has not provided a lump sum price, or the Contractor and the Owner have not agreed on a lump sum price as described in Subparagraph 12.2.1.1 above, the price shall be established in one of the following ways, as determined by the Project Manager;

1. on a lump sum basis following completion of the Work. The lump sum price shall be properly itemized in accordance with Subparagraph 12.2.2. and supported by sufficient data to permit evaluation;

2. on a time and materials basis, with or without a maximum not-to-exceed price, at the discretion of the Project Manager. Costs will be accumulated on a time and materials basis as described in Subparagraph 12.2.3 and presented daily (the day after the Work is performed) for approval by the Owner on the forms provided by the Owner. The daily report will be signed by the Contractor and the Owner.

12.2.2 For Work proceeding on a lump sum basis. In accordance with Subparagraph 12.2.1.1 or 12.2.1.3.1, the Contractor shall provide a detailed breakdown of the costs as described herein and submit the costs and substantiating data in a proposal to the Owner:

12.2.2.1 Direct Costs: Direct costs shall be limited to the following: cost of materials, including sales tax and cost of delivery to the project; cost of labor (from apprentice level up through and including the general foreman classification) comprising of the base wage plus fringe benefits, including burden (Social Security, Worker's Compensation, and Unemployment Insurance, etc.); rental rate including fuel and maintenance for any power tools valued at over \$3,000 and equipment as described below, under "Equipment Rates;" bond premiums and additional cost of Builder's Risk Insurance, at rates equal to the amount billed for the base contract or the actual rate as supported by an invoice.

12.2.2.1.1 Equipment Rates: For any machinery or special equipment (other than small tools) which has been authorized by the Project Manager, the Contractor shall receive the rental rates in the current edition and appropriate volume of the

"Rental Rate Blue Book for Construction Equipment," published by K-III Directory Corp., 10 Lake Drive, Highstown, NJ 08520-5397.

Hourly rental rates shall be determined as follows. The established hourly rental rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor, plus the estimated hourly operating costs. The adjusted monthly rate is that resulting from application of the rate adjustment formula in order to eliminate replacement cost allowances in machine depreciation and contingency cost allowances. Attachments shall not be included unless required for the time and materials Work. For equipment not listed in the Blue Book, the Contractor shall receive a rental rate as agreed upon before such Work is begun. If agreement cannot be reached, the Owner reserves the right to establish a rate based on similar equipment in the Blue Book or prevailing commercial rates in the area. These rates shall apply for equipment used during the Contractor's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the Contractor's normal Work or on time and materials, and either on single or multiple shifts, an overtime rate, computed as follows, shall apply: The hourly overtime rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

12.2.2.1.2 Equipment which must be rented or leased specifically for Work required under this section shall be authorized in writing by the Project Manager.

12.2.2.1.3 When it is necessary to obtain equipment from sources beyond the project limits exclusively for time and materials Work, the actual cost of transferring the equipment to the site of the Work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the Contractor hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. In the event that the equipment is transferred under its own power, the moving allowance will be limited to one-half of the normal hourly rental rate plus operator's wages. In the event that the move-out is to a different location, payment will in no instance exceed the amount of the move-in. Move-in allowance shall not be made for equipment brought to the project for time and materials Work which is subsequently retained on the project and utilized for completion of contract items, camp maintenance, or related Work.

12.2.2.1.4 Equipment ordered to be on stand-by basis shall be paid for at the stand-by rental rate for the number of hours in the

Contractor's normal Work shift, but not to exceed 8 hours per day. The stand-by rental rate shall be computed as follows:

The hourly stand-by rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, all multiplied by the area adjustment factor.

Time will be recorded to the nearest one-half hour for purposes of computing compensation to the Contractor for equipment utilized under these rates.

The equipment Direct Cost determination covers all costs for providing required equipment and no additional compensation will be made for other costs such as, but not limited to, fuels, lubricants, replacement parts or maintenance costs. Cost of repairs, both major and minor as well as charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

12.2.2.2 Overhead: Overhead shall include the following: the Contractor's management staff; supervision; superintendence; wages of timekeepers; watchmen and clerks; small tools; incidentals; costs of preparing and responding to Request for Proposals, including estimating; schedule revisions and clerical expenses; general home and field office expenses; including any financial/financing costs; legal costs; and/or accounting costs; temporary facilities; temporary utilities (power, water, sewer, telephone, etc.) And any utilities used by the Contractor during the construction period; and all other expenses not specifically defined in Subparagraph 12.2.2.1 as direct costs. Unless specifically required or requested, any travel and associated costs from outside of the Municipality of Anchorage is considered as part of the Contractor's project overhead and will not be paid by the Owner.

12.2.2.3 The Contractor shall apply a combined percentage rate to the direct costs to compensate it for additional Overhead and Profit associated with the change. The combined rate to the Owner of any change shall not exceed the rates set forth in the following schedule:

For the Contractor, for Work performed by his own forces, up to fifteen percent (15%) of direct costs;

For each Subcontractor involved, for Work performed by the Subcontractor's forces, up to fifteen percent (15%) of direct costs;

For the Contractor, for Work performed by Subcontractors, up to ten percent.

(10%) of the Subcontractor's direct costs;

For the Subcontractor, for Work performed by the multiple-tier-contractors

Up to ten percent (10%) of direct costs;

The total Contractor and all-subcontractors overhead allowance shall not exceed twenty-five percent (25%) of direct costs.

- 12.2.3 For Work proceeding on a time and material basis in accordance with Subparagraph 12.2.1.3.2, the Contractor shall be compensated for its costs in accordance with the following:

12.2.3.1 Direct Costs: Direct Costs shall be as defined in Subparagraph 12.2.2.1.

12.2.3.2 Overhead: Overhead shall be as defined in Subparagraph 12.2.2.2.

12.2.3.3 Overhead and Profit combined included in the total costs to the Owner of any change shall not exceed the rates set forth in the following schedule:

For the Contractor, for Work performed by his own forces, up to ten percent

(10%) of direct costs;

For each Subcontractor involved, for Work performed by the Subcontractor's forces, up to ten percent (10%) of direct costs;

For the Contractor, for Work performed by Subcontractors, up to five percent (5%) of the Subcontractor's direct cost.

For the Subcontractor, for Work performed by multiple-tier-contractors up to five percent (5%) of direct costs;

The total Contractor and multiple-tier-contractor overhead allowances shall not exceed twenty percent (20%) of direct costs.

- 12.2.4 If the net value of a change results in a credit from the Contractor, Subcontractor, or Material Suppliers or Vendors, the credit given shall be the net cost without overhead or profit. The costs as used herein shall include all items of labor, materials, plant and equipment. Credit changes shall include a percentage of the direct costs for overhead and profit at fifty percent (50%) of the rates defined in Subparagraph 12.2.2.3.

- 12.2.5 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in the proposed Change Order that application of the agreed unit prices to the quantities of Work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted.

- 12.2.6 The Contract Sum, the Contract Time, and the date required for performance of any part of the Work may be changed only by a Change Order to the Contract. Each Change Order will be identified at the bottom of each approved RFP, with a heading of "Change Order Authorization." Change Orders executed pursuant to this article constitute full and final settlement of all aspects of cost and time related to and/or occasioned by the Work (or event) described therein. Costs are defined to include all direct labor costs; all direct materials and equipment expenses; any and all overhead, profit, and commission; any and all impact costs related to and/or occasioned by the Work described herein; as well as all taxes and insurance. All Change Orders shall be approved by the Project Manager and signed by the Owner and Contractor.

- 12.2.7 For accounting purposes, the Change Orders identified in Subparagraph 12.2.6 will be accumulated on a monthly basis or more frequently and summarized in a Summary Change Order. The Summary Change Order shall be approved by the Project Manager and signed by the Owner and Contractor. No claim by the Contractor for or on account of any Change Order shall be due nor shall any such claim appear on an Application for Payment or demand for final payment until the Summary Change Order has been fully executed by the Contractor and the Owner.
- 12.2.8 The Superintendent of Schools and/or the Senior Director of Capital Planning and Construction are authorized to make contract modifications or to execute orders up to one hundred thousand dollars (\$100,000) that are within the project's budget. The Superintendent is authorized to make contract modifications in excess of one hundred thousand dollars (\$100,000) but not-to-exceed two hundred fifty thousand dollars (\$250,000) that are within the project's budget. All contract modifications or change orders above two hundred fifty thousand dollars (\$250,000) shall be recommended by the Superintendent to the School Board for its approval.
- 12.2.9 No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment or more than six months after the date of substantial completion, whichever is earlier.
- 12.2.10 Nothing in this Article shall excuse the Contractor from proceeding with the Contract as changed.

12.3 DIFFERING CONDITIONS

- 12.3.1 The Contractor shall promptly, and before the conditions are disturbed, give written notice to the Owner of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this Contract, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.
- 12.3.2 The Owner shall investigate the site conditions promptly after receiving notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Owner has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the Work under this Contract, whether or not changed as a result of the conditions, an adjustment shall be made under this Article and the Contract modified in writing accordingly.
- 12.3.3 No request by the Contractor for an adjustment to the Contract under this Article shall be allowed unless the Contractor has given the written notice required.
- 12.3.4 No claim by the Contractor for an adjustment hereunder shall be allowed if asserted after final payment or more than six months after the date of substantial completion, whichever is earlier.

12.4 CLAIMS FOR ADDITIONAL COST OR TIME

- 12.4.1 If the Contractor claims that additional cost is involved because of, but not limited to (1) any written interpretation pursuant to Subparagraph 2.2.8; (2) any order by the Owner to stop the Work pursuant to Paragraph 3.4 where the Contractor was not at fault; or (3) any other impacts related to the Work, the Contractor shall make such claim as provided in Subparagraph 12.4.2.

12.4.2 If the Contractor wishes to make a claim for an increase in the Contract Sum, and such claim is not barred under Paragraph 8.3, he shall deliver to the Project Manager written notice thereof within fourteen (14) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.3. No such claim shall be valid unless so made. The written notice shall state:

- 12.4.2.1 the date, nature and circumstances of the conduct regarded as a change;
- 12.4.2.2 the name, function and activity of each Contractor official, agent or employee involved in or knowledgeable about such conduct;
- 12.4.2.3 the identification of any documents and the substance of any communication involved in such conduct;
- 12.4.2.4 in the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
- 12.4.2.5 the particular elements of Contract performance for which the Contractor may seek an equitable adjustment under this Paragraph, including:
 - 12.4.2.5.1 what Contract Drawings or Specification have been or may be affected by the alleged change;
 - 12.4.2.5.2 what labor or materials or both have been or may be added, deleted or wasted by the alleged change;
 - 12.4.2.5.3 to the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performances have been or may be caused by the alleged change in accordance with Division1, Section 01311, "Project Schedule;"
 - 12.4.2.5.4 what adjustments to the Contract Sum and other provisions of the Contract affected by the alleged change are estimated; and
- 12.4.2.6 the Contractor's estimate of the time by which the Project Manager and Architect must respond to the Contractor's notice to minimize cost, delay or disruption of performance in accordance with Division 1, Section 01311, "Project Schedule."

12.4.3. After receipt of a Contractor's claim, the Project Manager may visit the site, schedule an informal review hearing, or request additional information in order to fully evaluate the issues of the claim. The Project Manager has thirty (30) calendar days to review the claim and to send a written decision to the Contractor. If the Project Manager agrees with the Contractor that the issues presented in the Contractor's claim justify a change in the Contract Sum or the Contract Time, the Project Manager and the Contractor shall negotiate the amount of the adjustment in the Contract.

If the Project Manager determines that the claim does not justify a change in the Contract Sum or Contract Time, or if the Project Manager cannot reach agreement with the Contractor on the amount of the adjustment in the Contract Sum or Contract Time, the amount shall be determined in accordance with Paragraph 12.5

- 12.4.4 In no event shall the Contractor slow or stop the Work while such determination is pending and the Owner shall continue to make payment in accordance with the Contract Documents except as to the amount in dispute. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

12.5 RESOLUTION OF DISPUTED CLAIMS

- 12.5.1 All disputed claims arising from this contract shall be resolved according to the process identified in this section 12.5. This includes any interpretations of the contract documents, claims for increase in the Contract Sum or Contract Time, or any other issues of equitable adjustment.

- 12.5.2 Disputes between the Owner and the Contractor will be processed through the appeal process described in 12.5.3 and/or through the use of Alternative Dispute Resolution (ADR) procedures described in 12.5.4.

12.5.3 Appeal Process

- 12.5.3.1 If the Contractor does not agree with the decision of the Project Manager, the Contractor may, within ten (10) calendar days of receipt of the decision, file a notice of appeal with the Chief Operating Officer. The Chief Operating Officer will then have sixty (60) calendar days to review the appeal and send a written decision to the Contractor.

- 12.5.3.2 If the Contractor does not agree with the final decision rendered by the Chief Operating Officer, it may pursue litigation.

12.5.4 ADR Process

- 12.5.4.1 Either the Owner or the Contractor may request, prior to litigation, that a dispute be submitted to mandatory mediation.

- 12.5.4.2 The parties shall jointly select and compensate a third party mediator.

- 12.5.4.3 Both parties shall attend joint mediation sessions and make a good faith effort to reach agreement through this process.

- 12.5.4.4 There is no obligation for either of the parties to accept any agreement during the mediation process.

- 12.5.5 The Contractor shall diligently carry on the Work and maintain the progress schedule during any dispute resolution proceedings, unless otherwise agreed in writing.

END OF ARTICLE 12

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

- 13.1.1 If any portion of the Work should be covered contrary to the request of the Owner, Project Manager or the Architect or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Project Manager, be uncovered for his observation and shall be replaced at the Contractor's expense.
- 13.1.2 If any other portion of the Work has been covered which the Architect or the Project Manager has not specifically requested to observe prior to being covered, either may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor as provided in Article 6, in which event the Owner shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

- 13.2.1 The Contractor shall promptly correct all Work rejected by the Project Manager as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional Owner Administrative and legal expenses, and additional compensation for the Architect's and/or Project Manager's additional services made necessary thereby.
- 13.2.2 If, within one (1) year after the Date of Substantial Completion of the Work or designated portion thereof or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner through the Project Manager to do so unless the Owner through the Project Manager has previously given the Contractor a written acceptance of such condition. This obligation shall survive the provisions of Subparagraph 9.5.5 and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.
- 13.2.3 The Contractor, unless removal is waived by the Owner, shall remove from the site all portions of the Work which are defective or non-conforming, or if permitted or required, he shall correct such Work in place by and at the expense of the Contractor promptly after receipt of notice, and such rejected Work shall not thereafter be tendered for acceptance unless the former rejection or requirement for correction is disclosed.
- 13.2.4 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Owner, through the Project Manager, the Owner may either:
- 13.2.4.1 by separate contract or otherwise replace or correct such Work and charge the Contractor the cost occasioned the Owner thereby and remove and store the materials or equipment at the expense of the Contractor, or

13.2.4.2 terminate this Contract for default as provided in Paragraph 14.1. If the Contractor does not pay the cost of such replacement or correction and the removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days' written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Owner's administrative and legal expenses, and additional services of the Architect and the Project Manager made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.2.5 The Contractor shall bear the cost of making good all Work of the Owner or separate contractors destroyed or damaged by such correction or removal.

13.2.6 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5. thereof. The establishment of the time period of one (1) year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK

13.3.1 If the Owner prefers to accept defective or nonconforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable, or the Owner may elect to accept payment in materials or services, in lieu of a reduction in the Contract Sum. If the amount of a reduction is determined after final payment, it shall be paid to the Owner directly by the Contractor.

END OF ARTICLE 13

ARTICLE 14

TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE OWNER

14.1.1 If the Contractor:

- 14.1.1.1 is adjudged bankrupt; or
- 14.1.1.2 makes a general assignment for the benefit of his creditors; or
- 14.1.1.3 has a receiver appointed on account of his insolvency; or
- 14.1.1.4 if he refuses or fails to commence the Work within the time required by this Contract; or
- 14.1.1.5 refuses or fails to prosecute the Work or any separable part with the diligence that will ensure its completion within the time specified in this Contract, including any extension; or
- 14.1.1.6 refuses or fails to provide sufficient and properly skilled workmen or proper materials or equipment to complete the Work in an acceptable manner and without delay; or
- 14.1.1.7 refuses or fails to complete the Work in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof; or
- 14.1.1.8 fails to make prompt payment to Subcontractors or for materials or labor, or
- 14.1.1.9 persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
- 14.1.1.10 fails or refuses to comply with the requirements of Division 1, Section 01311, "Project Schedule" of the Contract Documents; or
- 14.1.1.11 otherwise is guilty of a substantial violation of a provision of the Contract Documents,

then the Owner, may, without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven (7) days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. Such an event of termination shall at the option of the Owner result in the automatic assignment to the Owner of all of the Contractor's subcontracts, and the Owner may thereafter enforce such subcontracts in the prosecution of the Work in the same manner and to the same extent as the Contractor.

- 14.1.2 If the cost of finishing the Work exceeds the unpaid portion of the Contract Sum, the Contractor or his assigns, heirs or sureties shall pay the difference to the Owner. This obligation shall survive the termination of the Contract.

14.1.3 Nothing contained in this Article 14 shall impair any of the obligations of the surety.

14.2 TERMINATION FOR CONVENIENCE

14.2.1 The performance of the Work under this Contract may be terminated by the Owner in whole, or from time to time in part, whenever the Owner shall determine that such termination is in the best interest of the Owner. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective.

14.2.2 After receipt of a Notice of Termination, and except as otherwise directed by the Owner, the Contractor shall:

14.2.2.1 stop Work under the Contract on the date and to the extent specified in the Notice of Termination;

14.2.2.2 place no further orders or subcontracts for materials, services or equipment, except as may be necessary for completion of such portion of this Work under the Contract as is not terminated;

14.2.2.3 terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;

14.2.2.4 assign to the Owner, in the manner, at the times, and to the extent directed by the Owner, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

14.2.2.5 settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner, to the extent he may require, which approval of ratification shall be final for all the purposes of this clause;

14.2.2.6 transfer title and deliver to the Owner, in the manner, at the times, and to the extent, if any, directed by the Owner, (A) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the Work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and the property which, if the Contract has been completed, would have been required to be furnished to the Owner;

14.2.2.7 use his best efforts to sell, in the manner, at the time, to the extent and at the price or prices directed or authorized by the Owner, any property of the types referred to in Subparagraph 14.2.2.6 above, provided, however, that the Contractor (A) shall not be required to extend credit to any purchase, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner, and provided further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Owner may direct;

- 14.2.2.8 complete performance of such part of the Work as shall not have been terminated by the Notice of Termination and may incur obligations as are necessary to do so; and
- 14.2.2.9 take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest.
- 14.2.3 The Contractor may submit to the Owner a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Owner, and may request the Owner to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Owner will accept title to such items and remove them or enter into a storage agreement covering the same; provided that the list submitted shall be subject to verification by the Owner upon removal of all items, or if the items are stored within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.
- 14.2.4 After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination claim, in the form and with certification prescribed by the Owner. Such claim shall be submitted promptly but in no event later than six (6) months from the effective date of termination. Upon failure of the Contractor to submit his termination claim within the time allowed, the Owner may determine on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.
- 14.2.5 Subject to the provisions of Subparagraph 14.2.4 above, the Contractor and the Owner may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of Work pursuant to this paragraph, which amount or amounts may include a reasonable allowance of profit on Work done; provided that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract Sum attributable to that portion of Work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in Subparagraph 14.2.6 below, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor by reason of the termination of Work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this Subparagraph 14.2.5.
- 14.2.6 In the event of the failure of the Contractor and the Owner to agree, as provided in Subparagraph 14.2.5 above, upon the whole amount to be paid to the Contractor by reason of the termination of Work pursuant to this paragraph, the Owner shall pay to the Contractor the amounts determined by the Owner as follows, but without duplication of any amounts agreed upon in accordance with Subparagraph 14.2.5:
 - 14.2.6.1 with respect to all Contract Work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - 14.2.6.1.1 the cost of such Work;
 - 14.2.6.1.2 the cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in Subparagraph 14.2.2.5 above exclusive of the

amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the Notice of Termination Work under this Contract, which amounts shall be included in the cost on account of which payment is made under Subparagraph 14.2.6.1 above; and

- 14.2.6.1.3 a sum as profit on Subparagraph 14.2.6.1.1 above, determined by the Owner to be fair and reasonable; and
- 14.2.6.2 the reasonable cost incidental to termination of Work including:
 - 14.2.6.2.1 accounting, legal, clerical and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;
 - 14.2.6.2.2 the termination and settlement of subcontracts (excluding the amounts of such settlements); and storage, transportation and other costs incurred (pursuant to Subparagraph 14.2.2.9), reasonably necessary for the preservation, protection or disposition of the termination inventory.
- 14.2.6.3 The total sum to be paid to the Contractor under Subparagraph 14.2.6.1 above shall not exceed the total Contract Sum as reduced by the portion of the Contract Sum attributable to that portion of Work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under Subparagraph 14.2.6.1, the fair value, as determined by the Owner, of property which is destroyed or lost, stolen, or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to Subparagraph 14.2.2.7.
- 14.2.7 In arriving at the amount due the Contractor under this paragraph, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this Contract, (2) any claim which the Owner may have against the Contractor in connection with this Contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies or other things acquired by the Contractor or sold, pursuant to the provisions of this paragraph and not otherwise recovered by or credited to the Owner.
- 14.2.8 If the termination hereunder be partial, the Contractor may file with the Owner a claim for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices. Any claim by the Contractor for an equitable adjustment under this clause must be asserted within ninety (90) days from the effective date of the termination.
- 14.2.9 The Owner may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this Contract whenever in the opinion of the Owner the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this paragraph, such excess shall be payable by the Contractor to the Owner upon demand, together with interest computed at the legal prevailing rate, for the period from the date such excess payment is received by the

Contractor to the date on which such excess is repaid to the Owner, provided, however, that no interest shall be charged with respect to any such excess payment, attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten (10) days after the date of such retention or disposition, or such later date as determined by the Owner by reason of the circumstances.

- 14.2.10 Unless otherwise provided for in this Contract, or by applicable statute, the Contractor shall - from the effective date of termination until the expiration of three (3) years after final settlement under this Contract - preserve and make available to the Owner at all reasonable times at the office of the Contractor but without direct charge to the Owner, all his books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or, to the extent approved by the Project Manager, photographs, microphotographs, or other authentic reproductions thereof.

END OF ARTICLE 14

REFERENCE:

1. **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA**, constitutes the General Conditions of this Contract, and is further revised and supplemented by the provisions of these Supplementary General Conditions. The General Conditions and the Supplementary General Conditions are applicable to all of the work under this Contract and shall apply to the Contractor and all Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors.

SUPPLEMENTS:

1. The following supplements modify, change, delete, or add to the General Conditions. Where any article of the General Conditions is modified or any paragraph deleted, subparagraph or clause thereof is modified, or deleted by these supplements, the unaltered provisions of such article, paragraph, sub-paragraph or clause shall remain in effect.

ARTICLE 4

Add the following new Paragraphs 4.7.1.2 & 4.7.1.3

- 4.7.1.2 Unless otherwise authorized by the Project Manager, successfully obtaining the necessary permits shall be the responsibility of the Contractor and shall constitute a requirement for the issuance of the Notice to Proceed by the Owner.
- 4.7.1.3 Contractor shall submit Fire Alarm shop drawings to the Municipality of Anchorage Building Safety Office.
 - 4.7.1.3.1 Contractor shall pay for the Municipality of Anchorage Fire Alarm permits.
 - 4.7.1.3.2 Contractor shall obtain the permits upon approval.

Add the following new Paragraph 4.21, Construction Management Software:

4.21 CONSTRUCTION MANAGEMENT SOFTWARE

- 4.21.1 The Contractor shall fully utilize the Owner provided construction management software, currently Sage Procore Construction Management for communications, Submittals, Requests for Information, for submission of construction record documents and photographs, and other purposes as directed by the Project Manager.
- 4.21.2 The contractor shall designate a minimum of two (2) people from their internal project staff to access the Construction Management Software. It is incumbent upon the Contractor to ensure these individuals familiarize themselves and become proficient in the use of the Construction Management software utilizing the manuals, help files, training videos, forums and other support services provided by the Construction Management Software.

ARTICLE 7

Add the following new Paragraph 7.12, Fire Alarm System:

7.12 FIRE ALARM SYSTEM

- 7.12.1 Before beginning any work that may result in a fire alarm transmission, the contractor shall call both the Anchorage Fire Department dispatcher at 522-1122 and the local fire station which would respond to an alarm and let them know you will be working on the system and for approximately how long. Second the contractor shall call Guardian Security at 277-1975 and notify the dispatcher that you have called the Fire Department, what type of work you are planning to do, and approximately how long before you expect to be completed. After the contractor is completed with your work, you must reverse the process by notifying the Fire Department dispatcher and the ASD Dispatcher that you are finished.
- 7.12.2 The Contractor shall be held responsible for all charges incurred from false fire alarms. Currently the Anchorage Fire Department charges seven hundred fifty dollars and no cents (\$750.00) per false alarm, or current rate charged.

Add the following new Paragraph 7.13, Preference for Alaska Forest Products:

7.13 PREFERENCE FOR ALASKA FOREST PRODUCTS

7.13.1 Preference for Alaska Forest and Agricultural Products

This project is funded by state money in which the use of timber, lumber, and manufactured lumber products are required, and, therefore, only timber, lumber, and manufactured lumber products originating in this state from local forest products shall be used whenever practical.

Pursuant to AS 36.15.050 and AS 36.30.322, agricultural and timber, lumber and manufactured lumber products harvested in Alaska shall be used in state funded projects whenever they are priced no more than seven percent above agricultural/wood products harvested outside the state and are of a like quality as compared with agricultural/wood products harvested outside the state. The Contractor shall maintain records which establish the type and extent of Alaska agricultural/wood products utilized. When such products are not utilized, the Contractor shall document the efforts the Contractor made towards obtaining agricultural/wood products harvested in Alaska and include in this documentation a written statement that the Contractor contacted the manufacturers and suppliers identified on the Department of Commerce and Economic Development's list of suppliers of Alaska forest products concerning the availability of agricultural/wood products harvested in Alaska and, if available, the product prices. The Contractor shall complete this documentation at a time determined by the district's project manager.

The Department of Commerce and Economic Development's list of suppliers of Alaska forest products is available at:

<http://www.commerce.state.ak.us/ded/dev/prodpref/fppproduct.cfm>

The Contractor's use of agricultural/wood products that fail to meet the requirements of this section shall be removed and replaced in accordance with **Division 0, Section 00700, paragraph 13.3** of the contract. In addition, pursuant to AS 36.15.050(d), the district may withhold payment until the Contractor complies with this section.

To clarify, the actions required by the successful bidder awarded the contract are as follows:

- For all lumber items required under the contract the Contractor will contact all applicable suppliers of Alaska forest products to determine availability and cost.

- Contractor must use lumber from the suppliers of Alaska forest products unless the cost of the Alaska forest products that are of like quality is seven percent higher than non-Alaska produced forest products, or the Alaska forest products are not available.
- Contractor must maintain records showing efforts made in using Alaska forest products or evidence of Alaska forest products not being available or reasonably competitive.
- The records showing compliance with the Alaska forest products preference must be provided to Owner during the submittal process (Division 1, Section 01300).
- Per AS 36.15.010 if the Contractor fails to provide evidence regarding proper sourcing and comparison of Alaska forest products, the District shall withhold payment until the Contractor complies.

ARTICLE 9

Add the following new Paragraph 9.12, Liquidated Damages:

9.12 LIQUIDATED DAMAGES

- 9.12.1 Should the Contractor fail to substantially complete the Work on or before any date stipulated for Substantial Completion (or such later date as may result from extension of time granted by the Owner), he shall pay the Owner, as liquidated damages, the sum of one thousand dollars and no cents (\$1,000.00) for each consecutive calendar day that terms of the contract remain unfulfilled beyond the date allowed by the Contract, which sum is agreed upon as a reasonable and proper measure of damages which the Owner will sustain per day by failure of the Contractor to complete work within time as stipulated; it being recognized by the Owner and to the Contractor that the injury to the Owner which could result from a failure of the Contractor to complete on schedule is uncertain and cannot be computed exactly. In no way shall costs for liquidated damages be construed as a penalty on the Contractor.
- 9.12.2 For each consecutive calendar day that the Work remains incomplete after the date established for Final Completion, the Owner will retain from the compensation otherwise to be paid to the Contractor the sum of one thousand dollars and no cents (\$1,000.00). This amount is the minimum measure of damages the Owner will sustain by failure of the Contractor to complete all remedial work, correct deficient work, clean up the project and miscellaneous tasks as required to complete all work specified.
- 9.12.3 In no instance shall more than one thousand dollars and no cents (\$1,000.00) a day are assessed for liquidated damages for work, which remains incomplete.

ARTICLE 10

Add the following new Paragraph 10.4, Compliance:

10.4 COMPLIANCE

- 10.4.1 When the school is in session the Contractor will be restricted to the areas, which do not interfere with school operations. These areas shall be safety and security fenced to not impact school operations. Additional areas may be utilized upon concurrence of the Project Manager. The Contractor shall minimize his impact on education while his work is in progress. Workers must stay out of school while school is in session. All renovation work in the existing school, including sprinklers, must be performed while school is not in

session. If scheduling pushes this work into the school session, then the work must be performed on nights and weekends.

- 10.4.2 The Contractor must maintain interior building fire exits through the construction areas and maintain these exits during all school operation hours. These exit routes may not be modified without concurrence of the Project Manager and the School Principal.

ARTICLE 11

Remove and replace Section 11.3.3.1 with the following:

- 11.3.3.1 The Contractor shall maintain an umbrella liability policy according to the following:

Projects < \$2 million construction cost - \$1,000,000 per occurrence and annual aggregate.

Projects < \$10 million construction cost – \$5,000,000 per occurrence and annual aggregate.

Projects > \$10 million construction cost – \$10,000,000 per occurrence and annual aggregate.

This requirement does not apply to Subcontractors.

Article 11, 11.4: Delete this section in its entirety and replace with:

Builders Risk insurance is not required for scope of work identified in this project.

ARTICLE 12

Article 12, 12.5.2: Delete this section in its entirety and replace with:

Disputes between the Owner and the Contractor will be processed through the appeal process described in 12.5.3.

Article 12, 12.5.3: Delete this section in its entirety and replace with:

12.5.3 Appeal Process

- 12.5.3.1 The contractor will submit in writing the issue(s) being claimed and the Project Manager will review. The Project Manager may visit the site, schedule a review hearing, or request additional information in order to fully evaluate the issues of the claim. The Project Manager will send the written decision to the Contractor within ten (10) days of receipt of claim.

- 12.5.3.2 If the Contractor does not agree with the decision of the Project Manager, within ten (10) days from the receipt of the written decision by the Contractor, the Contractor may request an appeal of the decision to the Director of Facilities. The Director of Facilities will then have ten (10) days to review the issue(s) and send a written decision to the Contractor.

- 12.5.3.3 If the Contractor does not agree with the decision of the Director of

Facilities, within ten (10) days from the receipt of the written decision by the Contractor, the Contractor may request an appeal of the decision to the Chief Operating Officer. The Chief Operating Officer will then have ten (10) days to review the issue(s) and send a written decision to the Contractor.

- 12.5.3.4 If the Contractor does not agree with the final decision rendered by the Chief Operating Officer, it may pursue litigation.
- 12.5.3.5 The Contractor may bring no action on claims unless the claims have been properly raised in accordance with all notice provisions of the conditions and considered in the above dispute-resolution procedures.
- 12.5.3.6 The Contractor shall diligently carry on the Work and maintain the progress schedule during any dispute-resolution proceedings, unless otherwise agreed in writing.
- 12.5.3.7 Any step in the process identified above can be waived only by explicit written waiver by both parties.

Article 12, 12.5.4: Delete this section in its entirety.

END OF SECTION

WAGE RATES

I. GENERAL

A. STATE OF ALASKA PREVAILING WAGE SCALE AND ALASKA HIRE

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract. Among other things, the requirements of Alaska's Little Davis Bacon Act (AS 36.05.010) are applicable to this project. Each bidder must inform himself/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of the Contract.

State Labor Wage and Hour Administration Pamphlets No. 600 for Laborers' and Mechanics' are updated on April 1, and September 1. It is the responsibility of the bidder to obtain the new labor wage and hour rates when available from the State of Alaska Department of Labor, and to use the Prevailing wage scale and hiring requirements when formulating your bid.

For copies of this pamphlet, contact the nearest office of the Division of Labor Standards and Safety, Wage and Hour office or visit the internet site at:

<http://labor.state.ak.us/lss/pamp600.htm>

END OF SECTION

SUMMARY OF WORK

PART 1. GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract comprises the general construction of the facility identified in the Solicitation including all noted site improvements.
- B. Definition of Site: Wherein the term Site is used in the contract documents, it shall mean the areas where work is to be performed; located as identified in the Solicitation and on the Contract Drawings.
- C. Acceptance of Site: The Contractor shall fully inform himself of the areas in which work is to be processed, material delivered, and limitation in working conditions, and access to work areas.
- D. Existing Conditions: The drawings may not show all arrangements and condition of the site as they now exist. The Contractor shall be responsible for a complete visual inspection.

1.03 CONTRACT

- A. Construct the work under a single fixed price contract as bound herein.
- B. It is the intent of these documents to require all work for a complete facility and plant with only minor owner-furnished items to be incorporated. See technical sections for specifics.

1.04 WORK FURNISHED AND INSTALLED BY OWNER

- A. Equipment and furniture as noted in documents. Other Contractors or ASD Maintenance personnel may be performing work at this facility concurrent with this project. See Section 1.07 below for requirements concerning coordination with Contractor's work.

1.05 GENERAL PROJECT DESCRIPTION

- A. General Description: Provide renovations as outlined in the project documents at Turnagain Elementary School located at 3500 W Northern Lights Blvd, Anchorage, AK 99517
- B. Construction: Furnish all labor, supervision, testing, materials, tools and equipment as necessary to properly complete the scope of work for the gym/mpr and corridor renovations project as indicated in the project documents. Work includes, but is not limited to:
 - 1. Corridor ceramic tile removal and replacement with other flooring as indicated in the project documents.
 - 2. Gym floor replacement
 - 3. Wall and ceiling painting
 - 4. Removal of wall carpet in gym and re-finishing
 - 5. Operable wall work
- C. Sequence the start, conduct and completion of Work as required in Section 00200, Project

Schedule Milestone Dates.

1.06 CONTRACTOR'S USE OF PREMISES

- A. Limit use of premises for work and for storage to allow for:
 - 1. Area of site indicated on Contract Drawings
 - 2. Owner occupancy of existing building
 - 3. Public use
 - 4. Coordinated use of premises under direction of Project Manager.
 - 5. Full responsibility for protection and safekeeping of products under this Contract stored at Site.
 - 6. Moving any stored products, under Contractor's control, which interfere with operations of Owner or separate Contractor.

1.07 OWNER'S USE OF PREMISES

- A. During the regular school year, conduct operations to minimize interference with normal school operations.
- B. Schedule any work which could interfere with school operations during summer vacation or when the school is not in session during the regular year.
- C. Cooperate with Project Manager in conducting operations to minimize conflict with and to facilitate Owner usage as established by the Project Manager.
 - 1. Other work anticipated to be complete during 2018 Summer includes:
 - a. Kitchen renovations.
 - b. Restroom renovations in the large south wing
 - c. General cleanup by ASD Operations.
- D. Schedule work to maintain Owner's continuous operation. Include in contract sum sufficient funds as may be required for any "after-hours" work caused by this requirement. No additional payment to Contractor will be authorized because of Contractor's failure to anticipate required "after-hours" work.
- E. At all times conduct operation as to insure the least inconvenience to students, staff, visitors, and the general public.
- F. The contractor shall provide advance notice at least 72 hours prior to any utility outages or other operations anticipated to inconvenience the school activities. The Project Manger will review and evaluate the request. The contractor may have to reschedule the operations to another time that will not impact school activities.
- G. The Contractor shall be responsible for maintaining power to the Fire Alarm, Security and Network systems to ensure they are in proper working order throughout the project. If the systems must be off-line during the project, the Contractor shall obtain written approval from the Project Manager. During any time in which the fire alarm or security system is not operational, the Contractor shall provide a fire watch and security watch 24 hours a day, 7 days a week, for the entire period of the shutdown at no additional cost to ASD. The Contractor shall notify the ASD Project Manager of the intended method 72 hours prior to the shutdown.
 - 1. An acceptable method of maintaining power to the fire alarm and security panels includes maintaining power during the entire period of the Electrical Utility Shutdown

- H. While school is occupied by students and the general public the contractor must keep operational the emergency egress lighting.

1.08 COORDINATION OF NOISE, DUST AND FUMES

- A. Contain noise, dust and fumes within work area. Notify Project Manager at least 24 hours prior to any necessary excessive noise, dust or fumes. Comply with the Project Manager's instructions.

1.09 PRODUCTS FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR

A. Owner's Responsibilities:

1. Arrange for and deliver necessary shop drawings, product data, and samples to Contractor.
2. Arrange and pay for product delivery to Site in accordance with construction schedule.
3. Deliver supplier's bill of materials to Contractor.
4. Inspect deliveries jointly with Contractor
5. Submit claims for Transportation damage.
6. Arrange for replacement of damaged, defective, missing or otherwise unacceptable items.
7. Arrange for manufacturer's warranties, bonds, service, and inspections as required.

B. Contractor's Responsibilities:

1. Designate delivery date for each product in construction schedule.
2. Receive and unload products at Site.
3. Promptly inspect products jointly with Owner, record shortages, damaged or defective items.
4. Handle products at Site, including uncrating and storage.
5. Protect products against damage and discoloration.
6. Assemble, install, connect, adjust, and finish products, as stipulated in respective Specification Sections.
7. Clean, repair, or replace items damaged by Contractor.

1.010 SALVAGE RIGHTS

- A. Except where noted otherwise on contract documents, existing equipment which is removed as a part of the work shall become the property of the Contractor to dispose of as he sees fit.
- B. Remove scheduled materials and equipment without damaging items. Store items in protected environment. Coordinate with Owner for pick up and/or delivery to the owner.

1.011 USE OF OWNER'S PROPERTY AND EQUIPMENT

- A. Use of Owner's property or equipment such as tools, ladders, furniture, janitorial equipment and supplies, etc., is strictly prohibited.

1.12 PERMITTING

- A. Contractor shall obtain all necessary building permits required to complete the scope of work identified in the contract documents. These include any/all subcontractor or specialty permits.

- B. Contractor shall ensure all required Municipal inspections, in accordance with the aforementioned permits, are requested and conducted prior to covering, closing or concealing the work in the field. Understanding and adhering to all MOA inspection requirements is mandatory. The Owner is not liable for re-inspection or rework costs associated with non-conforming or prematurely concealed work.
- C. Contractor shall maintain an inspection log and retain copies of all inspection reports, on site, for review by inspection officials and district project representatives.
- D. The District will not be requiring preconstruction meeting with municipality building safety department.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION

3.01 USE OF PREMISES

- A. Contractor shall have primary use of designated project areas including the gym, MPR and corridors of work. Reference paragraph 1.07 for other work planned for 2018 summer and coordination required.
- B. Contractor shall have primary use of designated site and new building premises from notice to proceed through the substantial completion of the building.
- C. Contractor shall have limited use of the new building after the date of Substantial Completion.

END OF SECTION 01010

PROJECT COORDINATION

PART 1. PART GENERAL

1.01 GENERAL CONTRACTOR

- A. Coordinate work of his own employees and subcontractors and coordinate his work with that of other contractors and Owner.
- B. Expedite his work to assure compliance with schedules.
- C. Comply with orders and instructions of the Project Manager.
- D. Monitor and control the use of site:
 - 1. Supervise field engineering and site layout.
 - 2. Allocate space for each subcontractor's use for field offices, sheds, work and storage areas.
 - 3. Establish access, traffic, parking allocations, and regulations.

1.02 GENERAL AND SUBCONTRACTORS SHALL DILIGENTLY COMPLY WITH THE FOLLOWING:

- A. Cooperate in planning and layout of the work well in advance of operations. Inform other contractors of requirements at proper time to prevent delay or revisions.
- B. Be informed of the requirements of other contractors and check own work for conflicts with the work of others.
- C. Ensure delivery of materials and performance of work on coordinated schedule with other contractors.
- D. Be responsible for proper layout of the work, and for all lines and measurements for all of the work executed under the contract documents. Verify the figures shown on the drawings before laying out the work and report any inaccuracies in writing to the Project Manager before commencing work. The Owner, Architect or their representative will in no case assume the responsibility for layout of the work.
- E. The mechanical and electrical trades shall be responsible for the layout of the ductwork, piping and conduits based on the reference lines established.

1.03 COORDINATING UTILITIES

- A. Cooperate and coordinate work with all utilities to be installed for service to Project. Utilities may include, but are not limited to water, sewer, natural gas, telephone, electrical, and cable television. Contractor shall maintain communication with utilities in order to coordinate time and requirements of utilities' installation.
- B. Contractor shall provide all work necessary to comply with requirements of Contract Documents for Utility work that does not meet Contract Document requirements, or for work that is disturbed by utility installation.

1.04 OWNER NOTIFICATION/REIMBURSEMENT

PROJECT COORDINATION
Division 1
Section 01041

- A. Provide the Owner forty-eight (48) hours advance notice of his intention to work overtime, nights, Sundays or holidays, or anytime outside the usual working hours. In no case will the Contractor do any such work without first notifying the Owner to permit arrangements for proper inspection. Unless of an emergency nature, work performed in violation of this paragraph will not be paid for.
- B. Reimburse the additional cost to the Owner for inspection work on Sundays or recognized holidays. Such reimbursement shall include all additional costs to the Owner.

Reimbursement for inspection or observation required of the Project Manager or the Engineer on Sundays or recognized holidays shall be at the rate of (\$150.00) One Hundred Fifty dollars per man-hour of work.

- C. The contractor shall reimburse the additional cost to the owner, architect and consultants for inspection work beyond a first substantial of first final completion inspections. The contractor is expected to be virtually complete at time of substantial completion inspection with only minor punchlist items remaining. Should punchlist items remain at time of final inspection and should subsequent inspections be required, the contractor shall pay all costs for all.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01041

CUTTING AND PATCHING

PART 1. PART GENERAL

1.01 DESCRIPTION OF WORK

- A. Cutting and patching is defined to include, but it not necessarily limited to, the cutting and patching of nominally completed work, and is defined to exclude integral cutting and patching during the manufacturing, fabricating, erecting, and installing process for individual units of work.
- B. Contractor shall be responsible for all cutting, fitting, and patching required to complete the work or to:
 - 1. Accommodate the coordination of work.
 - 2. Provide for installation of other work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Uncover other work for access or inspection.
 - 6. Obtain samples for testing or similar purposes.
 - 7. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.02 RELATED REQUIREMENTS

- A. Section 00700 Article 4.14.
- B. Section 01010 - Summary of Work.
- C. Individual Specification Sections:
 - 1. Cutting and patching incidental to work of the Section.
 - 2. Advance notification to other Sections of openings required in work of those Sections.
 - 3. Limitations on cutting structural members.

1.03 SUBMITTALS

- A. Ten (10) days prior to beginning any demolition activities, the Contractor shall provide written notification to EPA, in accordance with NESHAP regulations, with copy to Project Manager. Notice shall indicate asbestos containing materials are or are not anticipated to be encountered. If no asbestos is anticipated, a negative declaration is made addressing 40CFR61.146 (a), (b) and (c,1-5).
- B. Submit written request in advance of 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 sight-exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Include in Request:
 - 1. Identification of Project.
 - 2. Location and description of affected work.
 - 3. Necessity for cutting and alteration.

4. Description of proposed work. Designate:
 - a. Scope of cutting and patching.
 - b. Contractor and trades to execute work.
 - c. Products proposed to be used.
 - d. Extent of refinishing.
5. Date and time work will be executed.

PART 2. PART PRODUCTS

2.01 MATERIALS

- A. For replacement of work removed, comply with specifications for type of work to be done, unless otherwise noted.
- B. Provide materials for cutting and patching which will result in equal to or better than the work being cut and patched in terms of performance characteristics and visual effect where applicable.

PART 3. PART EXECUTION

3.01 GENERAL

- A. Execute cutting, fitting, and patching to complete Work, and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover work to install or correct ill-timed Work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
 6. Repair surfaces damaged by removal or relocation of surface mounted or built-in items.

3.02 INSPECTION

- A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- B. Do not cut and patch work which is exposed to view in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut and patch work. Remove and replace work judged by Project Manager to be visually unsatisfactory.
- C. After uncovering, inspect conditions affecting performance of work.
- D. Beginning of cutting or patching means acceptance of existing conditions.

3.03 PREPARATION

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by cutting and patching operations, as directed. Return adjacent areas to condition existing prior to start of work.

- B. Provide supports to assure structural integrity of surroundings; devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for areas which may be exposed by uncovering work; maintain openings free of water.

3.04 PERFORMANCE

- A. Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- B. Restore work with new products in accordance with requirements of Contract Documents.
- C. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Maintain all fire assembly rating wall or area separation construction in accordance with applicable codes.
- D. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION 01045

ABBREVIATIONS AND DEFINITIONS

PART 1. GENERAL

1.01 ABBREVIATIONS

- A. References in the contract documents to publications and recommendations by either name or abbreviation thereof include but are not necessarily limited to the following trade associations, technical societies, government agencies, recognized authorities and standards.

AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGC	The Associated General Contractors of America
AI	The Asphalt Institute
AIA	The American Institute of Architects
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
APA	American Plywood Association
ASAHC	American Society of Architectural Hardware Consultants
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for testing and Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWPB	American Wood-Preservers' Bureau
AWS	American Welding Society, Inc.
CPSC	Consumer Product Safety Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of NBS (U.S. Department of Commerce)
CSI	The Construction Specifications Institute, Inc.
EPA	Environmental Protection Agency
FM	Factory Mutual Engineering Corp.
FGMA	Flat Glass Marketing Association
FS	Federal Specification (General Services Administration)
GA	Gypsum Association
HPMA	Hardwood Plywood Manufacturers Association
IBC	International Building Code
MFMA	Maple Flooring Manufacturers Association
MLMA	Metal Lath/Manufacturers Association
NAAMM	The National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBHA	National Builders Hardware Association
NBS	National Bureau of Standards (U.S. Department of Commerce)
NEC	National Electrical Code by NFPA
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
N.F.P.A.	National Forest Products Association
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation

NWMA	National Woodwork Manufacturers Association, Inc.
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
RIS	Redwood Inspection Service (Grading Rules)
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association, Inc.
SPR	Simplified Practice Recommendation of NBS
SSPC	Steel Structures Painting Council
TCA	Tile Council of America, Inc.
UL	Underwriters' Laboratories, Inc.
WCLA	West Coast Lumbermen's Association
WCLB	West Coast Lumber Inspection Bureau (Grading Rules)
WRI	Wire Reinforcing Institute
WWPA	Western Wood Products Association (Grading Rules)
W.W. P.A.	Woven Wire Products Association

- B. Refer to individual sections for other names and abbreviations of trade associations and standards applicable to specific portions of the work. In particular, refer to Divisions 15 and 16 for names and abbreviations applicable to mechanical and electrical work.

1.02 SPECIFICATION EXPLANATION

- A. The specifications are divided into divisions and sections for the convenience of writing and using. The titles of these are not intended to imply a particular meaning nor to fully describe the work of each division or section, nor to define the limits of any subcontract.
- B. These specifications are of the abbreviated, or "streamlined" type, and may include incomplete sentences.
- C. Omissions of words or phrases such as "the Contractor shall", "in conformity therewith", "shall be", "as noted on the drawings", "according to the plans", "a", "an", "the", and "all" are intentional.
- D. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the drawings.

1.03 DEFINITIONS

- A. Certain terms used generally throughout the specifications (and drawings) are hereby defined as follows:
 - 1. Indicated: A cross reference to details, notes or schedules on the drawings, other paragraphs or schedules in the specifications, and similar means of recording requirements in the contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.
 - 2. Installer: The person or entity engaged by the Contractor or his Subcontractor or Sub-subcontractor for the performance of a particular unit or work at the project site, including installation, erection, application, and similar required operations. It is a general requirement that installers be recognized experts in the work they are engaged

to perform.

3. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean "...supply and delivery to the project site, ready for unpacking, assembly and installation...".
4. Provide: Except to the extent further defined, the term "provide" means to furnish and install, complete and ready for the intended use.

1.04 DRAWINGS, DIMENSIONS AND MEASUREMENTS

- A. Where on any of the drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other portions of the work.
- B. Wherever a detail is referenced and developed for a specific condition, same or similar detail shall apply to identical or similar conditions elsewhere on project even though not specifically referenced.
- C. Where the word "similar" occurs on the drawings, it shall be interpreted in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the work.
- D. The figured dimensions on the drawings or notes indicating dimensions shall be used instead of measurements of the drawings by scale, and shall be strictly complied with.
- E. No scale measurements shall be used as a dimension to work with except on "full size" drawings not dimensioned.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01070

REFERENCED SPECIFICATIONS AND STANDARDS

PART 1. GENERAL

1.01 QUALITY ASSURANCE

- A. For products or workmanship specified by Referenced Specification or Standard, comply with requirements of the specification or standard, except when more rigid requirements are specified or are required by governing codes.
- B. Except where a specific date is specified, the date of the referenced specification standard is that in effect as of the bid date.
- C. Obtain a copy of all Referenced Specifications and Standards, and maintain at Jobsite during the specific work until Substantial Completion of the Project.

1.02 SCHEDULE OF REGULATORY AGENCY REFERENCES

- A. AASHTO American Association of State Highway and Trans. Officials
444 North Capitol Street, N.W.
Washington, DC 20001
- B. AAC Anchorage Administrative Code (and Local Amendments)
Municipality of Anchorage
3530 East Tudor Road
Anchorage, AK 99518
- C. ADA Americans with Disabilities Act
The Disabilities Rights Section
Civil Rights Division
P.O. Box 66738
Washington, DC 20035-6738
- D. ANSI American National Standards Institute
1430 Broadway
New York, NY 1018
- E. ASA American Standards Association
Now known as ANSI (See above)
- F. ASTM American Society for Testing Materials
1916 Race Street
Philadelphia, PA 19103
- G. ATBCB The U.S. Architectural and Transportation Barrier Compliance Board
Suite 1000, 131 F St. NW
Washington, DC 20004-1111
- H. CS Commercial Standards of the Commodities
Division of the Department of Commerce
Washington, DC 20006
- I. FM Factory Mutual Engineering and Research Corporation
P. O. Box 688
Norwood, MA 02062
- J. F.S. Federal Specifications of the United States General Services Administration
Specifications and Consumer Information Distribution Section (WFSIS)
Washington, DC 20407

REFERENCED SPECIFICATIONS AND STANDARDS

Division 1
Section 01090

- K. IBC International Building Code published by the
International Code Council (ICC)
4051 West Flossmoor Road
Country Club Hills, IL 60478-5795
- L. IEBC International Existing Building Code
Published by ICC (See IBC above)
- M. ICC/ANSI A117.1-2003

Accessible and Usable Buildings and Facilities
Published by ICC (See IBC above)
- N. IECC International Energy Conservation Code
Published by ICC (See IBC above)
- O. IFC International Fire Code
Published by ICC (See IBC above)
- P. IFGC International Fuel Gas Code
Published by ICC (See IBC above)
- Q. IMC International Mechanical Code
Published by ICC (See IBC above)
- R. MOA Municipality of Anchorage MASS Specifications
Public Works Dept.
3530 East Tudor Road
Anchorage, AK 99518
- S. NBFU National Bureau of Fire Underwriters
85 John Street
New York, NY 10017
- T. NEC National Electric Code published by the National Fire Protection Association
(See NFPA below)
- U. NFPA National Fire Protection Association
Battery March Park
Quincy, MA 02269
- V. PS Product Standards of the Commodities
Division of the Department of Commerce
Washington, DC 20203
- W. UPC Uniform Plumbing Code
Published by IAPMO
5001 East Philadelphia Street
Ontario, CA 91761-2816
- X. UL Underwriter's Laboratories
333 Kingston Road
Northbrook, IL 60062
- Y. State of AK
State of Alaska Amendments
Fire and Life Safety Regulations
Juneau, AK

1.03 TRADE ASSOCIATION REFERENCES

- A. See specific specification sections.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01090

ALTERATION PROCEDURES

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. Part of alteration work may expose portions of the building to the elements. During such periods Contractor shall take all necessary precautions to protect building elements to remain. Any damage due to negligence shall be repaired at no cost to the Owner.
- B. In addition to Cutting and Patching (Section 01045) and cut, move, or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
 - 1. Repair or removal of hazardous or unsanitary conditions.
 - 2. Removal of abandoned items and items serving no useful purpose such as abandoned piping, conduit, and wiring.
 - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals, and deteriorated concrete.
 - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.

1.02 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions.
- B. Section 01045 - Cutting and Patching.
- C. Section 01300 - Submittals.

1.03 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2. PART PRODUCTS

2.01 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in Product Sections; match existing Products and work for patching and extending work.
- B. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to specified condition.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- E. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patched Work to match existing adjacent Work in texture and appearance.
- F. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation for Project Manager review and approval.
- G. Where a change of plane of 1/8 inch or more occurs, submit recommendation for acceptable transition for Project Manager review and approval.
- H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- I. Finish surfaces as specified in individual Product Sections.

PART 3. PART EXECUTION (NOT USED)

END OF SECTION 01120

PROJECT MEETINGS

PART 1. GENERAL

1.01 DESCRIPTION

A. Work Included:

1. In general, project meetings will be held weekly at the job site in accordance with a mutually acceptable schedule. The Project Manager will conduct project meetings throughout the construction period.
2. The purpose of the project meetings is to enable orderly review of progress during construction and to provide for systematic discussion and analysis of problems that might arise between the Owner, Project Architect, Project Manager and/or Contractor relative to execution of the work.

B. Related Work described elsewhere:

1. The Contractor's relations with his subcontractors and material suppliers, and discussions relative thereto, are the Contractor's responsibility as described in the General Conditions and are not part of project meetings content.
2. Section 01400 describes the requirements for quality control meetings that will be held in addition to the requirements of this section.

1.02 AUTHORITY DESIGNATION

- A. Persons designated by the Contractor to attend and participate in project meetings shall have all required authority to commit the Contractor to solutions as agreed upon in the project meetings.

1.03 SUBMITTALS

A. Agenda Items:

To the maximum extent possible, advise the Project Manager forty-eight (48) hours in advance of the project meeting regarding all agenda items to be discussed, including tours in advance of the meeting.

1.04 AGENDA

A. Preconstruction Meeting

1. The Project Manager will conduct this meeting within fifteen (15) days after date of Notice to Proceed.
2. Location:
Anchorage School District
Capital Planning & Construction
1301 Labar Street
Anchorage, Alaska 99515
(907) 348-5190
3. Attendance:
 - a. ASD Construction Manager

- b. ASD Project Manager
- c. Architect and his Professional Consultants
- d. Contractor's Project Manager and Superintendent
- e. Major Subcontractors, as appropriate
- f. Major Suppliers, as appropriate
- g. Others as appropriate

4. Agenda items will include, but not be limited to:

- a. Designation of responsible personnel
- b. Distribution (by Contractor) and discussion of list of major Subcontractors and Suppliers with addresses and telephone numbers
- c. Project coordination
- d. Procedures and processing of:
 - (1) Field decisions
 - (2) Submittals
 - (3) Proposal requests
 - (4) RFI's Change Orders
 - (5) Applications for Payment
 - (6) Schedules and Reports
- e. Discussion of initial Project Schedule
- f. Critical work sequencing
- g. Major equipment deliveries and priorities
- h. Adequacy of Contract Documents distribution
- i. Procedures for maintaining Record Documents
- j. Use of premises:
 - (1) Office, work, and storage area
 - (2) Owner's requirements
- k. Construction facilities, controls, and construction aids
- l. Temporary utilities
- m. Safety and first-aid procedures
- n. Security procedures
- o. Housekeeping procedures

B. Progress Meetings:

- 1. The Project Manager will conduct weekly meetings as required, at the Project Site to coordinate the work, answer questions, and resolve problems.
- 2. Meeting Agenda will include but not be limited to:
 - a. Attendees:
List of attendees and company they represent
 - b. Minutes Review:
Corrections, additions, and/or deletions to previous minutes
 - c. Outstanding Action Items:
Review of items not resolved from previous meeting
 - d. Submittal status
 - e. Request for Information status
 - f. Request for Proposal Status
 - g. Schedule Review:
 - h. Project job concerns

- i. Next meeting
- j. Summarize and Review of all Action Items:

- 3. All items to be discussed shall be addressed at the time scheduled on the agenda. All attendees shall familiarize themselves with the agenda and be prepared in advance with their items for discussion.

C. Special Meetings:

The Project Manager may call special meetings at the project site or the office of the Project Manager to coordinate the work, answer questions, and resolve problems.

1.05 MINUTES

- A. The Project Manager will compile minutes of each project meeting and will distribute copies to all interested parties within seven (7) calendar days after the meeting. Items in the minutes shall be numbered consecutively and grouped under divisions and sections. Each item shall be carried forward until resolved.
- B. The minutes compiled by the Project Manager will be the official record minutes and all clarifications and/or corrections shall be transmitted in writing to the Project Manager within fourteen (14) days of date of receipt of the minutes or unless noted during the next scheduled meeting under the appropriate agenda item. Transmitted corrections shall be legibly submitted on company letterhead.
- C. At least one (1) bound volume of all minutes shall be maintained by the Contractor in the job office until project completion.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01200

SUBMITTALS

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Procedures
- B. Construction Progress Schedules
- C. Schedule of Values
- D. Shop Drawings
- E. Product Data
- F. Samples
- G. Manufacturer's Instructions
- H. Manufacturer's Certificates

1.02 RELATED REQUIREMENTS

- A. Section 01010 -Summary of Work
- B. Section 01311 -Project Schedule
- C. Section 01340 -Shop Drawings Product Data
- D. Section 01370 -Schedule of Values
- E. Section 01400 -Quality Control
- F. Section 01630 -Approval for Substitutions and Product Options
- G. Section 01700 -Project Close Out
- H. Section 01710 -Cleaning
- I. Section 01720 -Project Record Documents
- J. Section 01730 -Operating and Maintenance Data
- K. Section 01750 -Closeout Forms

1.03 PROCEDURES

- A. Deliver submittal documents to the Project Manager using the ASD Procore Construction Management Program. Number each submittal with the section number, dash, numerical order of the submittal, example 03300-1. Add an alpha to each resubmittal, example, 03300-1A. Deliver samples to the Project Manager or Architect as directed to the address listed on the cover of the project manual.
- B. Transmit each item with company submittal. Identify Project, Contractor, subcontractor, major

supplier; identify pertinent Drawing sheet and detail number and specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Architect/Engineer review stamps.

- C. Submit initial progress schedules and schedule of values in duplicate prior to issuance of Notice to Proceed. After review by the Architect/Engineer, revise and resubmit as required. Submit revised schedules with each application for payment, reflecting changes since previous submittal.
- D. Comply with progress schedule for submittals related to work progress. Coordinate submittal of related items.
- E. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions. Review with subconsultants/suppliers any inability to meet requirements of project. Find solutions with subconsultants/suppliers making conformance with documents possible. Review solutions with owner and architect for acceptance prior to proceeding with work.

1.04 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit Project Schedule as called for in Section 01311, Project Schedule.

1.05 SCHEDULE OF VALUES

- A. Submit Schedule of Values as called for in Section 01370, Schedule of Values.

1.06 SHOP DRAWINGS, PRODUCT DATA & SAMPLES

- A. Submit in the form as called for in Section 01340.

1.07 MANUFACTURERS' INSTRUCTIONS

- A. When required in individual specification section, submit manufacturers printed instructions for delivery, storage, assembly, installation adjusting and finishing, in quantities specified for product data.

1.08 FIELD SAMPLES

- A. Provide field samples of finishes at project site as required by individual specification sections. Install sample complete and finishes. Acceptable samples in place may be retained in completed work.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01300

PART 1. GENERAL

1.01 GENERAL REQUIREMENTS

- A. The work under this Section consists of Project Schedule ("Schedule") requirements including the preparation of a Schedule and Schedule Revisions. The Schedule shall be developed by the Contractor and shall be in accordance with the requirements of this Section 01311. No direct payment will be made to the Contractor for performing and complying with the requirements of this Section 01311.
- B. The Schedule will be prepared by the Contractor for this Project and made available to the Owner. It is intended that the Schedule will reflect the Contractor's actual construction plan. The existence of schedules, networks, vector charts or any other charts or services, shall in no way relieve the Contractor of the responsibility of the Contract Document including, but not limited to the responsibility of completing the Work within the contract time and the responsibility of planning, scheduling and coordinating the Work.
- C. The Schedule shall be in the form of a bar chart or other format approved by the project manager.

1.02 REFERENCES

- A. Associated General Contractors of America, "Construction Planning & Scheduling," Copyright January 1994 (AGC's Manual), also referred to as AGC Publication No. 1107.1. The general principles stated in the AGC's Manual shall be used in preparing and updating the Project Schedule, except that the requirements of this Section shall govern.
- B. Related Requirements:
 - 1. Section 00200 – Project Schedule Milestones Dates
 - 2. Section 00700 and 00800 - General Conditions and Supplementary General Conditions
 - 3. Section 01370 - Schedule of Values

PART 2. PRODUCTS

2.01 PROJECT SCHEDULE

- A. Within fourteen (14) calendar days following the Notice to Proceed, the Contractor shall submit for the Project Manager's review, comment and acceptance, a Project Schedule ("Schedule"). The Schedule shall show the activities of work in sufficient detail to demonstrate that the Contractor has a reasonable and workable plan to complete the Project in accordance with the Project Schedule Milestone Dates set forth under Section 00200 of the Contract Documents. The Contractor shall submit two (2) prints of the Schedule, which shall be neatly organized and time scaled from left to right on 11 in. x 17 in. sheets, or 24 in. x 36 in. sheets, at the Contractor's discretion.
- B. Within five (5) calendar days of receipt of the Schedule, the Project Manager shall meet face to face with the Contractor to review the plan and to determine if there are any concerns regarding the Contractor's plan to execute the work. If a resubmittal of the Schedule is required by the Project Manager, the Contractor shall revise and resubmit the Schedule incorporating the Project Manager's comments within seven (7) calendar days after this review meeting. Progress payments will be withheld until the Contractor submits an approvable Schedule.
- C. Revisions to the Schedule shall be done in accordance with paragraph 2.02.

2.02 PROJECT SCHEDULE REVISIONS

- A. Should the Contractor, after acceptance of the Schedule, desire to change his plan of construction, he shall submit his proposed revisions to the Project Manager, along with a written rationale for the revisions. Only the requested changes accepted by the Project Manager will be incorporated into the Schedule in the next reporting period.

2.03 TIME IMPACT ANALYSIS FOR CONTRACT MODIFICATIONS, CHANGES OR DELAYS

- A. If the Contractor believes that a change under Article 12 Paragraph 12.1 causes an increase or decrease in the Contractor's time for completing the Work, he shall complete a Time Impact Analysis that demonstrates how the Contractor proposes to incorporate or has incorporated the Change into the Schedule and the time impact, if any, on the Schedule Milestone Dates set forth under Section 00200 of the Contract Documents.
 - 1. The Time Impact Analysis shall demonstrate the time impact based upon the date the Change in Work is directed by the Project Manager; the status of construction at that point in time; and the event time computations of all affected activities. The event times used in the Time Impact Analysis shall be those set forth in the update of the Schedule in effect at the time the Change in Work is directed by the Project Manager.
 - 2. The Time Impact Analysis is based on an "as-planned" to "as-built" comparison of the event times. In developing an as-built schedule of performance, the Contractor shall utilize actual daily performance data from Schedule Updates and the Contractor's daily construction reports to graphically depict the sequence and manner in which the Contractor actually performed the Work under the Contract.
- B. Activity delays shall not automatically mean that an extension of the Contract Time is warranted or due the Contractor. It is possible that a modification, change or delay will not affect projected or as-built critical activities or cause non-critical activities to become critical. A modification, change or delay may result in only absorbing a portion of the available total float that may exist within an activity chain of the Schedule, thereby not causing any effect on the Contract Time.
- C. Each Time Impact Analysis shall be submitted as follows:
 - 1. Within fourteen (14) calendar days after receipt of a written order designated or indicated to be a change in accordance with Article 12, Changes in the Work;
 - 2. Within fourteen (14) calendar days after the furnishing of written notice by the Contractor;
 - 3. Within fourteen (14) calendar days from the commencement of a delay related to unforeseeable conditions; provided the Contractor complies with the requirements of the Contract Documents regarding said condition.
- D. In cases where the Contractor does not submit a written request for extension of time and Time Impact Analysis within the time stated above in Paragraph 2.03, it is mutually agreed that the Change in the Work does not require an extension of the Contract Time.
- E. Acceptance or rejection of each Time Impact Analysis which requests an extension of the Contract Time shall be made by the Project Manager within fourteen (14) calendar days after receipt of each Time Impact Analysis, unless subsequent meetings and negotiations are necessary. Upon acceptance, the Time Impact Analysis shall be incorporated into the Schedule.
- F. Time Impact Analysis related to requests for an extension of the Contract Time and/or

Change Order work shall be incorporated into and attached to the applicable Change Order(s).

- G. No revision to any Schedule Milestone Date or contractually mandated schedule provisions will be permitted without authorization from the Project Manager.

2.04 COMPLIANCE WITH THE SCHEDULE

- A. The Contractor shall furnish sufficient labor and equipment resources, offices, and facilities, and shall work such hours, including night shift and overtime operations as necessary, to ensure the prosecution of the Work in accordance with the Schedule. If the Contractor falls behind in meeting the Schedule, the Contractor shall take such steps as may be necessary to improve its progress. If the Contractor fails to take such steps, the Project Manager may require the Contractor to increase the hours of work, the number of shifts, overtime operations, the number of workers and/or the amount of construction plant and equipment without additional cost to the Owner. The provisions of this subsection shall not be construed as prohibiting work on Saturdays, Sundays, and holidays, if the Contractor so elects and gives 24 hours notice to the Project Manager.
- B. Failure of the Contractor to comply with the requirements of this Subsection 2.04 shall be a basis for determination by the Project Manager that the Contractor is not prosecuting the Work with such diligence as will ensure completion of the Work in accordance with the requirements of the Contract Documents. Upon such determination, the Project Manager may terminate the Contractor's right to proceed with the Work or any separable part thereof, in accordance with the clause entitled "Termination of Contract" of the Contract Documents, or may take such other actions as he may deem appropriate.

PART 3. EXECUTION (NOT USED)

END OF SECTION 01311

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1. GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION

- A. Prepare and submit to the Project Manager with the Construction Schedule, a separate schedule listing dates for submission and of review for shop drawings, product data, and samples, refer to General Conditions 4.12.13.1. Include installing Subcontractors name responsible for that portion of the Work
- B. Submit Shop Drawings, Product Data, and Samples as may be required, whether mentioned specifically in Contract Documents or not.
- C. Individual submittals shall not include material covering more than one section of the specifications.
- D. Products fabricated and/or installed prior to approval of submittals are subject to demand for removal and replacement with approved products by the Contractor at no additional cost to the Owner.
- E. Shop drawing submittal can not be used for product substitution submittal. See Section 01630 for required procedure.

1.03 RELATED REQUIREMENTS

- A. Section 01311: Project Schedule
- B. Section 01630: Approval for Substitution and Product Options
- C. Section 01720: Project Record Documents

1.04 SHOP DRAWINGS

- A. Prepare original drawings (by Contractor, subcontractor, manufacturer, supplier, or distributor), which illustrate some portion of the work; showing fabrication, layout, setting or erection details.
- B. Prepare shop drawings for this particular project. Drawings prepared for other projects and revised for this project will be rejected.
- C. When necessary, base shop and setting drawings upon actual measurements taken at site and other job conditions. Show any variations and revisions to Contract Documents that are necessary for proper installation of work. Fabrication or installation of work shall not be started until shop or setting drawings have been reviewed and returned by Architect, with his stamp and comments.
- D. Identify details by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.
- E. Minimum sheet size: 8 ½" x 11". Note: Submit full-size sheet submittals. Use of 8 ½ " x 11" format subject to readability and approval of architect.

1.05 PRODUCT DATA

- A. Manufacturer's standard schematic drawings:
 - 1. Modify drawings to delete information which is not applicable to project.
 - 2. Supplement standard information to provide additional information applicable to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
 - 1. Clearly mark each copy and identify pertinent materials, products or models.
 - 2. Show dimensions and clearances required.
 - 3. Show performance characteristics and capacities.
 - 4. Show wiring diagrams and controls.
 - 5. Catalog cuts and descriptive data sheets shall include a complete listing of repair and replacement parts for all equipment and the name and address of a source of supply for parts and service.

1.06 SAMPLES

- A. Physical examples to illustrate materials, equipment or workmanship and to establish standards by which completed work is judged.
- B. Office Samples: Of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of product or material, with integrally related parts and attachment devices.
 - 2. Full range of color, texture and pattern.
- C. Field Samples and Mock-Ups:
 - 1. Erect at project site at location acceptable to Project Manager.
 - 2. Construct each sample or mock-up complete, including work of all trades required in finished work.
 - 3. After review, samples may be used in construction of Project.

1.07 SUBMITTAL REQUIREMENTS

- A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for review, for securing necessary approvals, for possible revision and resubmittals and for placing orders and securing delivery. Submission of all shop drawings shall be through the General Contractor.
- B. The contractor shall allow at least 14 days for review of original submittals or resubmittals except as follows:
 - 1. Structural steel shop drawings shall be broken down into separate submittal packages for most efficient review and delivered at least two weeks apart.
 - 2. Division 15
 - a. Plumbing shop drawings - 21 days
 - b. Heating shop drawings - 21 days
 - c. Ventilation shop drawings - 28 days

- d. Coordination shop drawings - 21 days
- 3. Division 16
 - a. Special Systems shop drawings - 21 days
- C. Submit one (1) reproducible unfolded transparency print of shop drawing. Upon Architects approval, Contractor shall provide five (5) opaque prints for owners use. Transparency will be returned to Contractor for printing and distribution as needed. Additional copies will be returned without review or mark-ups.
- D. Submit four (4) each of samples.
- E. Unless otherwise specifically permitted by the Project Manager, make all submittals in groups containing all associated items. Partial submittals may be rejected.
- F. Accompany submittals with transmittal letter, in duplicate, containing:
 - 1. Date
 - 2. Project Title and number
 - 3. Contractor's name and address
 - 4. The number of each shop drawing, product data and sample submitted
- G. Submittals shall include:
 - 1. Date and revision dates
 - 2. Project title and number
 - 3. The name of:
 - a. Architect
 - b. Contractor
 - c. Subcontractor
 - d. Supplier
 - e. Manufacturer
 - f. Separate detailer when pertinent
 - 4. Identification of product or material
 - 5. Relation to adjacent structure or materials
 - 6. Field dimensions, clearly identified as such
 - 7. Specification section number
 - 8. Applicable standards, such as ASTM number or Federal Specifications.
 - 9. A blank space, for Architect's review stamp

1.08 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings, product data, and samples prior to submission.
- B. Include noted and required corrections and indicate by stamp and signature that submittal is acceptable to Contractor. Submittals without stamp and signature will be rejected.
- C. Verify:
 - 1. Field measurements.
 - 2. Field Construction criteria.
 - 3. Conformance with specifications.
- D. Coordinate each submittal with requirements of work and Contract Documents.

- E. Contractor's responsibility for errors and omissions in submittals is not relieved by Architect's review and approval.
- F. Contractor's deviations in submittal requirements shall not relieve Contractor from completing Contract requirements.
- G. The submittal documents shall be transmitted using the ASD Procore Construction Management Program. Number the submittals with the CSI Section then a dash then the numerical order (01650-1). Resubmittals shall have the same number with an alpha at the end. (01650-1A).
- H. Contractor shall update the Procore Submittal Log on a weekly basis until Submittal Process is complete.

1.09 RESUBMITTAL REQUIREMENTS

- A. Revise initial drawings as required and resubmit as specified for initial submittal.
- B. Indicate on drawings any changes which have been made other than those requested by the Architect.
- C. Project data and samples: Submit new data and samples as required for initial submittal.

1.010 ARCHITECT'S DUTIES

- A. Review submittals with a turn-around time for review of original or resubmittal of no more than fourteen (14) calendar days, except as indicated in paragraph 1.07 B above.
- B. The review will be for conformance to the design concept and compliance with information given in the Contract Document. The Architect will make notations directly on the reproducible.
- C. The review is intended to foresee unacceptable products to avoid the possibility of their rejection at the site. The review shall not be construed as:
 - 1. Permitting a departure from the Contract Documents, unless specifically so noted.
 - 2. Relieving the Contractor of the responsibility for errors or omissions.
 - 3. Acceptance of an assembly in which an approved item is a part.
 - 4. Approval of variations from previously approved items.
 - 5. Approval of dimensions.
- D. The Architect will review all samples. Such review will be for appearance only. Compliance with all other requirements is the responsibility of the Contractor.
- E. Affix stamps and initials or signatures certifying the review of submittal.
- F. Where the Contract Documents require the design of the structural, mechanical, or electrical systems or components of systems by a supplier, such systems or components shall be designed by a registered professional engineer and all calculations submitted to the Architect for his records, prior to starting fabrication or installation of the work. The Architect will not be responsible for the designs of such other Professionals.

1.011 VARIATIONS FROM CONTRACT DOCUMENTS

- A. See Section 01630 for procedure.

- B. If the Contractor fails to mention variations from the Contract Documents, he will not be relieved of the responsibility for executing the work in accordance with the Contract Documents.

1.012 SUBMITTALS FOR COLOR SELECTION

- A. The Contractor shall take particular note that color selections cannot be made for the project until such time as all items requiring color selection have been submitted. After such submittal has been made, the Architect with Owner's concurrence will within fourteen (14) days, make a complete color selection for the entire project.
- B. It will be the contractor's responsibility to review the Contract Documents completely to determine items requiring color selection, obtain color samples from the manufacturer and submit to the Architect at the earliest possible date.

1.013 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

- A. Contractor shall distribute copies of shop drawings and product data which carry Architect's stamp, to:
 - 1. Contractor's file (required)
 - 2. Job-site file (required)
 - 3. Record Documents file (required)
 - 4. Other prime Contractors (as required)
 - 5. Subcontractors (as required)
 - 6. Supplier (as required)
 - 7. Fabricator (as required)
 - 8. Others (as required)

PART 2. PART PRODUCTS (NOT USED)

PART 3. PART EXECUTION (NOT USED)

END OF SECTION 01340

SCHEDULE OF VALUES

PART 1. GENERAL

1.01 RELATED DOCUMENTS

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

1.02 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Schedule of Values.

1.03 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions.
- B. Section 01311 – Project Schedule.

1.04 FORMAT

- A. Schedule of Values shall be submitted on ASD Form 100B.

1.05 CONTENT

- A. List installed value of each major item of work and each subcontracted item of work as a separate line item to serve as a basis for computing values for progress payments. Round off values to nearest dollar.
- B. For Roofing Projects, or projects with roof work, include the following:
 - 1. Roof Hatches
 - 2. Ladders
 - 3. Roof Assembly
 - a. Membrane
 - b. Insulation
 - 4. Parapets
 - 5. Glazed Roof Openings
 - 6. Traffic Toppings and Paving Membranes (Walk Pads)
 - 7. Fall Protection
 - 8. Mechanical Items (Including Gravity Roof Ventilators)
 - 9. Roof Drainage
 - 10. Relocation of Ductwork, Piping and Conduits
 - 11. Hazmat Remediation
- C. For each major subcontract, list products and operations of that subcontract as separate line items.
- D. Include work allowances within line item of work.
- E. Coordinate listings with progress schedule.
- F. Component listings shall each include a directly proportional amount of Contractor's overhead and profit.
- G. For items on which payments will be requested for stored products, list subvalues for cost of stored products with taxes paid.

- H. The sum of values listed shall equal total contract sum.
- I. In addition to the above, values shall be listed for the following close out items.
 - 1. As-builts.
 - 2. O & M Manuals.
 - 3. Warranties.
 - 4. Landscape Maintenance Warranty.
 - 5. Owner Training.
 - 6. Demobilization (If mobilization is itemized).
 - 7. Project close-out must retain a minimum of \$25,000.00..

1.06 SUBMITTAL

- A. Transmit under transmittal letter. Identify project by title and contract number.

1.07 SUBSTANTIATING DATA

- A. When the Project Manager requires substantiating information, submit data justifying line item amounts in question.
- B. Provide one copy of data with cover letter for each copy of application. Show application number, date and line item by number and description.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01370

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Construction Photographs.
- B. Submittals.

1.02 RELATED REQUIREMENTS

- A. Section 01720 - Project Record Documents

1.03 PHOTOGRAPHY

- A. Provide photographs of construction throughout progress of work.
- B. Take photographs prior to covering completed work.
- C. Take photographs at beginning and completion of elements of construction.
 - 1. Asbestos Abatement process indicating the phases of abatement including:
 - a. Existing Conditions
 - b. Preparation Prior to Start of Work
 - c. Work in Progress
 - d. Completed Work
 - e. Equipment used for Abatement Processes
 - 2. Roof demolition
 - a. Repairs
 - b. Documentation of interim building protection measures.
 - c. Work in Progress
 - d. Completed work
 - 3. Air infiltration and/or vapor barrier installation
 - 4. Insulation installation
 - 5. Final completion.
- D. The Contractor, on a daily basis, shall photograph the demolition and abatement process. For their own use and distribution, the Project Manager shall on a regular basis, direct photographs and/or video recordings of construction operations and work in progress.

1.04 IMAGES

- A. Digital images to be uploaded to the ASD Procore Construction Management Program Project Folder daily and provided on CD, DVD or flash drive at project completion.
- B. Photo file name to include location, item photographed and orientation of view.

1.05 TECHNIQUE

- A. Provide factual presentation.
- B. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field and minimum distortion.
- C. The Contractor shall furnish access, labor and facilities to assist photographer(s). Photographs shall be taken with a Digital type camera with flash attachment in working order.
 - 1. Furnish the Project Manager with a quantity equal to minimum ten (10) photographs per work area per day ISO appropriate to lighting conditions.

1.06 VIEWS

- A. Consult with Project Manager for instructions on views required.

1.07 SUBMITTALS

- A. Deliver CD with application for payment.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

QUALITY CONTROL

PART 1. GENERAL

1.01 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions.
- B. Section 01090 - Reference Specifications and Standards.
- C. Section 01300 - Submittals.

1.02 GENERAL REQUIREMENTS

- A. The contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with this section. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.

1.03 QUALITY CONTROL PLAN

- A. The Contractor shall furnish for review by the Owner, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of this section. The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used.
 - 1. Content of the CQC Plan: The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:
 - a. A description of the quality control organization, including the name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function, including the person assigned responsibility of CQC manager.
 - b. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Owner.)
 - c. Procedures for tracking preparatory and follow-up control phases, verification, and acceptance tests, including documentation.
 - d. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
 - e. Reporting procedures, including proposed reporting formats.
 - f. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section.
 - 2. Acceptance of Plan: Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Owner reserves the right to require the

Contractor to make changes in the CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3. Notification of Changes: After acceptance of the CQC Plan, the Contractor shall notify the Owner in writing of any proposed change. Proposed changes are subject to acceptance.

1.04 COORDINATION MEETING

- A. After the Preconstruction Conference and before start of construction, the Contractor shall meet with the Project Manager to discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 15 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship with the Owner's special inspection personnel. Minutes of the meeting shall be prepared by the Contractor and signed by both the Contractor and the Project Manager.

1.05 QUALITY CONTROL ORGANIZATION

- A. CQC Manager: The Contractor shall identify as CQC Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC Manager shall be a person with a minimum of 10 years experience in construction with a minimum of 3 years experience in Quality Control Management or Construction Inspection, preferably with some formal Quality Control training. This CQC Manager shall be on the site at all times during construction and shall be employed by the prime Contractor.
- B. CQC Personnel: In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC Manager for the following areas: electrical, mechanical, structural, and architectural. Each of these individuals must have either an engineering degree in their respective field and two years of experience or five years of related experience. These individuals are to be responsible to the CQC Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with this section. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan.

1.06 CONTROL

- A. Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least two phases of control shall be conducted by the CQC Manager for each definable feature of work as follows:
 1. Preparatory Phase: This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved, and after copies are at the work site. This phase shall include:
 - a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies

- shall be maintained in the field and available for use by the Owner until final acceptance of the work.
- b. A review of the contract drawings.
 - c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
 - d. Review of provisions that have been made to provide required control inspection and testing.
 - e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
 - f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
 - g. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Documentation of construction tolerances and workmanship standards for that feature of work.
 - h. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Project Manager.
 - i. Discussion of the initial control phase.
 - j. The Owner shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC Manager and attended by the Superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.
2. Follow-up Phase: Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

1.07 TESTS

- A. Testing Procedure: The Contractor shall provide inspections, tests, and similar quality control services, specified in individual Specification Sections and required by governing authorities, (Costs for these services shall be included in the Contract Sum). Upon request, the Contractor shall furnish to the Owner duplicate samples of test specimens for possible testing by the Owner. Testing includes operation and/or acceptance tests when specified. The Contractor shall perform the following activities and record and provide the following data:
1. Verify that testing procedures comply with contract requirements.
 2. Verify that facilities and testing equipment are available and comply with testing standards.
 3. Check test instrument calibration data against certified standards.
 4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

5. Results of all tests taken, both passing and failing, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Project Manager, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Project Manager. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.
- B. Retesting: The Contractor is responsible for retesting where results of required inspections, tests, or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- C. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests, and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 1. Providing access to the Work, approved plans, and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 2. Providing facilities for storage of all special inspection reports at the Project site and make available for review by the authorities having jurisdiction.
 3. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 4. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 5. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 6. Security and protection of samples and test equipment at the Project site.
- D. Correction of Work: The Contractor shall bear all costs of correcting all Work identified as defective or as failing to conform to the Contract Documents, including any additional Owner Inspection Costs, and additional compensation for the Architect's and/or Project Manager's additional services made necessary thereby.
- E. Qualification for Laboratory Agencies: Engage inspection and testing service agencies, including independent testing laboratories free of conflict on interests with the General Contractor, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and testing to be performed.
 1. Each independent inspection and testing agency engaged on the Project shall be authorized by the authorities having jurisdiction to operate in the State of Alaska and the Municipality of Anchorage.
 2. The Owner reserves the right to direct the specific location or area of work to be tested in accordance with contract requirements.

1.08 SPECIAL INSPECTIONS

- A. Duties of the Testing Agency: The independent testing agency engaged to perform

inspections, sampling, and testing of materials and construction specified in individual Specification Sections shall cooperate with the Owner's Representative and Contractor in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.

1. The agency shall notify the Project Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
 3. Special Inspection agency shall not perform any duties of the Contractor, nor be under contract to perform testing services required of the Contractor.
- B. Coordination: The Contractor and each agency engaged to perform inspections, tests, and similar services shall coordinate the sequence of activities to accommodate required services. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.
 2. The Contractor shall notify the Owner's Special Inspectors in writing 72 hours prior to required special inspection and coordinate with these inspectors so there are no additional project costs, schedule impacts or delays. The Contractor shall also be responsible to coordinate with the special inspectors and the Owner to identify on the construction schedule when these inspections shall occur.

1.09 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place in positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from the Project Manager before proceeding.

1.11 MANUFACTURER'S FIELD SERVICE

- A. When required by individual Specifications Section, submit manufacturer's certificate, signed by responsible officer of the Manufacturer, that products meet or exceed specified requirements.
- B. When required by manufacturer, have manufacturer provide qualified representative to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable. Manufacturer Field Representative shall make a written report of observations and recommendations to the Project Manager.

1.12 SAMPLE PANELS AND MOCK-UPS

- A. Sample panels and/or mock-ups shall be used to establish uniform level of workmanship and finish color and texture. Accepted sample or mock-up shall serve as minimum standard of quality for subsequent work.
- B. Work on any Section requiring a sample panel or mock-up shall be approved in writing by the Owner.
- C. Sample panels or mock-ups may be requested by the Owner even though not specifically required of Specification Section to clarify level of workmanship, color, or texture.

1.13 OBSERVATION

The following stages of construction specifically require observation by the Architect, Owner, and other Authorities having jurisdiction. Provide the indicated notice to the Project Manager prior to commencing work on the phase or upon completion as appropriate:

- A. Stages that require two day notice include:
 - 1. Completion of utility trench excavation prior to placement of bedding.
 - 2. Completion of utility pipe installation prior to backfill.
 - 3. Completion of subdrain system's drainage mat and perforated pipe prior to backfill.
 - 4. Completion of driveway, parking lot and sidewalk excavation, installation of geotextile fabric and backfill prior to placement of pavement.
 - 5. Completion of asphalt concrete pavement placement.
 - 6. Completion of portland cement concrete pavement placement.
 - 7. Completion of building excavation, geotextile fabric installation, and backfill prior to placement of concrete floor slab.
 - 8. Completion of excavation forming prior to concrete placement.
 - 9. Completion of concrete masonry, as dampproofing work is beginning.
 - 10. Wall framing and sheathing completed, observation of shear wall fastening and connections.
 - 11. Mechanical and electrical rough-in and wall blocking, prior to cover.
 - 12. Insulation and vapor barrier installation prior to cover, observation required as work progresses, notify as phases are complete.
 - 13. Completion of mock-ups and finishes as mock-ups and areas are completed.
 - 14. Prior to beginning roofing.
- B. Stages that require five day notice include:
 - 1. Substantial Completion.
 - 2. Operational instructions.
 - 3. Final Completion.

1.14 COMPLETION INSPECTION

- A. Punch-Out Inspection: Near the end of the work, or any increment of the work established by a time stated in the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by Section 01400, paragraph 1.15 A.4. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC Manager or staff shall make a second inspection to

ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Owner that the facility is ready for the Owner Substantial inspection.

- B. Final Inspection: The Contractor's Quality Control Inspection personnel shall be in attendance at the final inspection.

1.15 DOCUMENTATION

- A. The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:
 - 1. Contractor/Subcontractor and area of responsibility.
 - 2. Operating equipment with hours worked, idle, or down for repair.
 - 3. Work performed each day, giving location, description, and by whom.
 - 4. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified. List of deficiencies noted, along with corrective action.
 - 5. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawing requirements.
 - 6. Offsite surveillance activities, including actions taken.
 - 7. Instructions given/received and conflicts in plans and/or specifications.
 - 8. Any other remarks impacting quality control.
 - 9. Contractor's verification statement.
- B. These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Owner on a weekly basis within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. Reports shall be signed and dated by the CQC Manager. The report from the CQC Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

1.16 NOTIFICATION OF NONCOMPLIANCE

- A. The Project Manager will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01400

AIRBORNE CONTAMINANT CONTROL

PART 1 - GENERAL

1.01 SUMMARY:

A. Related sections:

1. Division 02 - Selective Demolition

- B. Notification of Potential Hazards - Asbestos, lead and other hazardous materials are present in the building that may impact the work of all trades. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Division 00, Hazardous Materials Survey Report; and Division 02 specifications and drawings for specific requirements for disturbing, removing and disposing of these materials and installing new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 DEFINITIONS:

- A. "Airborne Contaminants" are those contaminants listed in 29 CFR 1926.55 and 8 AAC 61.1100 that have the potential to become airborne due to various work activities being performed by the Contractor. Additionally, airborne contaminants include those fumes and odors that may be objectionable to personnel in Occupied Areas of the facility even though they are not listed in the reference regulations. Airborne contaminants may be broadly categorized as Pre-Existing or Activity Generated. Contaminant producing activities include, but are not limited to:

1. Demolition, removal, installation and disposal of walls, floors, ceilings, steel, and other architectural or structural materials.
2. Disturbance or removal of existing settled and concealed dusts.
3. Demolition, relocation, installation and disposal of plumbing, mechanical and electrical systems and equipment.
4. Finish operations such as sanding, preparation, painting, and application of special surface coatings.
5. Any construction activity, which can generate aerosols, dust, smoke, or fumes.
6. Temporary heat sources.
7. Other on-site work operations not described above.

- B. "Pre-Existing Contaminants" are those contaminants that are present in the facility prior to the start of any work. These include settled and concealed dust in areas of the facility not subject to routine cleaning, including the roof and inside and on top of architectural, mechanical, electrical and structural elements. The dust generally contains several common components including, but not limited to asbestos, cellulose, cotton, fiberglass, lead, silica and other Particulates Not Otherwise Regulated. Representative dusts throughout the facility have been examined and sampled by an EPA Certified Building Inspector and determined not to be "asbestos debris" from adjacent "Asbestos-Containing Building Materials" (ACBM). The inspector determined that the asbestos content of dust was less than one percent 1% asbestos by weight and therefore is not an Asbestos-Containing Material (ACM). Reference 40 CFR 763.83. Test results are provided in Division 00, Hazardous Materials Survey Report. Dust and debris related to adjacent damaged asbestos containing materials are addressed in Division 02, Asbestos Removal and Disposal.

- C. "Activity Generated Contaminants" are those contaminants generated by the various demolition or construction related activities of the Contractor. Examples of typical Activity

Generated Contaminants include wood dust (cellulose), cement dust (silica), gypsum dust (particulates not otherwise regulated), paint fumes, and welding fumes. A complete list of regulated air contaminants is available in 29 CFR 1926.55 and 8 AAC 61.1100.

- D. "Work Areas": Areas of demolition, renovation, construction, adjacent staging and storage areas, and passage areas for workers, supplies, and waste. This may include but is not limited to attic spaces, spaces above ceilings, crawl spaces, mechanical and electrical spaces, confined spaces and other spaces not normally accessed or occupied.
- E. "Occupied Areas": Areas as determined by Owner's Representative and as shown on contract drawings. Typically, these include areas adjacent to Work Areas or containment areas, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust, and ductwork. Contaminant control procedures may be relaxed during periods when school is not in session as allowed by the Contractor's approved work plan.
- F. "Critical Clean Areas": Areas inside or outside the Work Area with equipment or occupants that cannot tolerate airborne contamination, and are to be maintained under positive pressure by HEPA filtered equipment relative to the surrounding air. These areas will be described or shown in contract documents or drawings.
- G. "Contractor" is defined to include all trades and all subcontractors performing work on the work site.
- H. "Negative Initial Determination" is a determination made either through air monitoring or other objective data that indicates worker exposure to regulated airborne contaminants are below or expected to be below the regulated limits.

1.03 AIRBORNE CONTAMINANT CONTROL

- A. There is no requirement to remove Pre-Existing Contaminants from the facility. The Contractor may remove Pre-Existing Contaminants from his work areas if he determines that to be a more cost effective means of completing the work.
- B. The Contractors shall establish and maintain control over the generation and containment of all potential airborne contaminants so that facilities, students, staff, educational programs, equipment, and operations are not adversely affected. Construction activities that disturb existing materials or create airborne contaminants must be conducted in Work Areas specifically constructed, ventilated, and/or equipped to prevent the movement of contaminants into Occupied or Critical Clean Areas.
- C. The Contractor shall establish and maintain control over Activity Generated Contaminants within the Work Area to prevent abnormally high levels of airborne contaminants to settle on architectural, mechanical, electrical or structural components within the work areas. The Contractor shall be required to clean all surfaces within a work area where abnormally high levels of Activity Generated Contaminants are deposited.
- D. The Contractor shall ensure that all workers are aware of the Occupied and Critical Clean Areas, the potential air contaminants present and the means and methods established in the work plan to control those contaminants.
- E. The Contractor shall ensure workers have the proper protective equipment needed for the job being performed.

1.04 TRAINING

- A. The Contractor shall ensure that all workers/trades performing work on the project site are trained in accordance with OSHA standards for hazard communication (29 CFR 1910.1200) and proper protective equipment (29 CFR 1926), as well as engineering controls and work methods required to prevent exposure to regulated air contaminants that might be generated or encountered as a results of their work.

1.05 RESPONSIBILITY:

A. Owner's Responsibilities

- 1. The Owner shall identify in contract documents Occupied Areas and Critical Clean Areas prior to allowing the Contractor to begin work. The Contractor shall be notified of all changes to these areas as work progresses.

B. Contractor's Responsibilities:

- 1. Preparing proposed work plan and procedures for control of airborne contaminants during demolition and construction.
- 2. Identifying and implementing specific means and methods of achieving and maintaining control of airborne contaminants.
- 3. Controlling the generation and spread of airborne contaminants from the Contractor's Work Areas.
- 4. Cleaning and decontaminating all areas contaminated as the result of their operation. The Owner has the right to review and approve of any and all clean-up and decontamination procedures, chemicals, and processes.
- 5. Notifying Owner's Representative a minimum of 48 hours prior to starting construction activities that might be expected to produce excess levels of airborne contaminants in Work Area so that precautions may be taken.

1.06 SUBMITTALS:

- A. Submittals Required: Submit the following documentation to the Owner for approval. The submittal shall be coordinated with all the Contractor's subcontractors and trades and be submitted as one submittal for all work covered by this section. WORK SHALL NOT PROCEED UNTIL THE SUBMITTAL PACKAGE IS APPROVED, AND THE PRE-CONSTRUCTION MEETING HAS BEEN HELD.

- 1. Shop Drawings: Make all shop drawings accurately and to a scale sufficiently large to show all pertinent features of the work. Shop Drawings shall show:
 - a. Boundaries of each Work Area, Occupied Areas and Critical Clean Areas.
 - b. Location of barriers, negative pressure areas, and exhaust fan units (if required).
 - c. Locations of windows, louvers, ducts and other penetrations into Occupied Areas and/or Critical Clean Areas that need to be protected from airborne contamination
 - d. Disposal Routes.
 - e. Locations of contaminant producing operations like painting or sanding which could be moved away from Occupied Areas.
- 2. Work Plan: The Work Plan shall be prepared for this specific job in the form of checklists and shall include:
 - a. Work area set-up and protection procedures during occupied times.
 - b. Work area set-up and protection procedures during periods of limited occupancy (vacation and holidays).
 - c. Work procedures to minimize generation of airborne contaminants.
 - d. Worker protection procedures.

- e. Daily cleanup procedures and activities.
 - f. Procedures to follow if air contaminants enter Occupied or Critical Clean Areas.
 - g. Exposure assessment procedures if a “negative initial determination” has not been completed. A record of “negative initial determinations” shall be maintained by the Contractor and be available on the job site for review by the Owner or regulatory agencies.
3. Material Safety Data Sheets: The Contractor shall identify the location where Material Safety Data Sheets (MSDS) for each chemical proposed to be used or installed will be maintained.
- B. Monitoring Results: The Contractor shall submit copies of all air monitoring and testing results to the Owner within 24 hours of receipt of results.

1.07 WORKER PROTECTION:

- A. The Contractor shall review the MSDS's for the substances that will be used, data provided by these specifications, proposed means and methods, manufacturers data and other available data to determine the potential for worker exposure.
- B. Conduct air monitoring of worker exposures as necessary to show that workers are not being exposed above the permissible exposure limits established by 29 CFR 1926 and 8 AAC 61.1100 (negative initial determination). Not all contaminants or substances will require exposure monitoring.
- C. In lieu of worker exposure monitoring, the Contractor may rely on objective data from recognized trade groups, manufacturer or previous exposure monitoring data that establish that worker exposure above the permissible exposure limits is not probable under conditions “closely resembling” the processes, types of materials, control methods, work practices and environmental conditions in the current job.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

3.01 WORK PRACTICES:

- A. General: All construction/demolition work shall be isolated, either by enclosures, and/or work practices and equipment to prevent the migration of contaminants (dust, fumes, smoke, etc.) into Occupied Areas and Critical Clean Areas of the facility. If the Contractor's work practices are not effective in controlling airborne contaminants, as evidenced by dust, fumes, smoke, odors, dust, etc. in Occupied or Critical Clean Areas, the Contractor shall provide a sealed barrier at the perimeter of the work area and exhaust the work area to maintain a negative pressure or provide positive pressure to Critical Clean and Occupied areas to keep airborne contaminants out.
- B. Direct exhaust from fume or smoke producing equipment away from building air intakes, windows and other penetrations into Occupied and Critical Clean Areas.
- C. The Contractor shall provide “walk-off” mats, at all connections between Work Areas and Occupied Areas, vacuumed or changed daily when there is traffic between the Work Area and the Occupied Areas.
- D. Enclosures where used shall be dust tight and withstand air pressure.

- E. Prohibited Materials: The use or application of the following materials is prohibited:
 - 1. All cleaners and aerosol products not submitted and approved by the Owner.
 - 2. All flammable or chlorinated hydrocarbon solvents, unless approved by the Owner.
- F. Any dust or debris tracked outside of Work Areas into Occupied Areas shall be cleaned up immediately. Contractor shall have the necessary manpower and equipment (dust and wet mops, HEPA vacuums, buckets and clean wiping rags) to keep adjacent Occupied Areas clean at all times.
- G. All vacuums used for cleaning shall be equipped with HEPA filters.
- H. Traffic between Work Areas and Occupied Areas shall be kept to a minimum. Keep doors between such areas closed at all times. Transport refuse through Occupied Areas in covered containers.
- I. Notify the Owner's Representative immediately of any release of airborne contaminants into Occupied Areas.

3.02 ENFORCEMENT:

- A. The Contractor shall periodically inspect Occupied Areas at the perimeter of the work area and Critical Clean Areas to verify that airborne contaminants have not spread into those areas.
- B. Failure to properly maintain airborne contaminant control in Occupied or Critical Clean Areas will result in issuance of a written warning. If the problem is not corrected immediately, the Owner will have cause to stop work.
- C. Failure of the Contractor to correct deficiencies in controlling airborne contaminants will result in corrective action taken by the Owner and deduction of all costs from the Contract.

3.03 WORK STOPPAGE:

- A. The Contractor shall stop work and notify the Owner whenever his work has caused visible dust, smoke, fumes or objectionable odors in Occupied or Critical Clean Areas.
- B. When such work stoppage occurs, the area shall be restored to its original condition by the Contractor at no expense to the Owner. The Contractor is responsible for removing dust, fumes and debris that were generated as a result of his work.

3.04 WORK COMPLETION:

- A. Provide thorough cleaning of finished surfaces that become exposed to dust or other airborne contaminants. Cleaning of Pre-Existing contaminants is not required.
- B. Removal of construction barriers and airborne contaminant control equipment shall be performed in a manner to minimize disturbance of airborne contaminants into occupied spaces. HEPA vacuum and clean all finished surfaces free of dust after the removal of barriers and equipment.

END OF SECTION 01561

MATERIALS AND EQUIPMENT

PART 1. GENERAL

1.01 DESCRIPTION

- A. Materials and Equipment incorporated into Work shall:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type, and quantity specified, unless otherwise approved in writing.
- B. Manufactured and Fabricated Products:
 - 1. Manufacture like parts of duplicate units to standard size and gauges, and to be interchangeable.
 - 2. Two or more items of same kind shall be identical, and by same Manufacturer.
 - 3. Products shall be suitable for service conditions.
 - 4. Equipment shall comply with capacity, sizes, and dimensions shown or specified, unless otherwise approved in writing.
- C. Do not use materials or equipment for any purpose other than that for which designed or specified.

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work
- B. Section 01340: Shop Drawing, Product Data and Samples.
- C. Section 01630: Substitution and Product Option
- D. Section 01710: Cleaning

1.03 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard, select any product meeting standard.
- B. For products specified by naming several products, select any of such products.
- C. For products specified by naming one or more products and "or approved", select any one specified product or submit request for substitution as specified.

1.04 INAPPROPRIATE PRODUCTS AND METHODS

- A. If Contractor believes that any specified product, method, or system is inappropriate for use, he shall, if possible, so notify the Project Manager at least ten (10) working days prior to bid opening, and if not possible, such notice shall be given before performing work in question. If notice of objection is not received within the specified time limits, it will be assumed that Contractor agrees that specified products, methods, and systems are not inappropriate for use.
- B. No asbestos containing materials are to be incorporated into the project. Certification signed by the General Contractor shall state that Asbestos Containing materials have not been

installed under this project. Turn certification in to Project Manager no later than first payment application submittal. Recertify to Owner at substantial completion inspection.

1.05 PRODUCT SUBSTITUTIONS

- A. Refer to Section 01630.

1.06 NUMBER OF PRODUCTS REQUIRED

- A. Whenever in specifications a product is referred to in singular number, such reference shall include as many such products as are shown on Drawings are required to complete the Work.

1.07 PRODUCTS LIST

- A. Submit to Project Manager complete list of major products proposed for use; Specification Section, include proprietary product name, manufacturer's name, and installing Subcontractor's name in accordance with requirement of Section 01340 Shop Drawing, Product Data and Samples.

1.08 MANUFACTURER'S INSTRUCTIONS

- A. Perform work in accordance with Manufacturer's instructions.
- B. Do not omit preparatory or installation procedures required by Manufacturer, unless specifically modified by Contractor Documents.
- C. When Contract Documents require Work to comply with Manufacturer's instruction, obtain and distribute such instructions to parties performing work, including copies to Architect and Project Manager. Maintain one set at job site during installation and until acceptance.
- D. Handle, install, connect, clean, condition, and adjust products in strict accord with such instructions and in conformance with specified requirements.
- E. Should job conditions or specified requirements conflict with Manufacturer's instructions, consult Project Manager for further instructions.
- F. Do not proceed with work without clear instructions.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01600

DELIVERY, STORAGE, AND HANDLING

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide for expeditious transportation and delivery of products to project site undamaged, on schedule to avoid delay of the Work.
- B. Providing equipment and personnel at site to unload and handle products in manner to avoid damage to products.
- C. Provide secure storage and protection for products to be incorporated into the Work, and maintenance and protection for products after installation and until completion of the Work.

1.02 DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with work and conditions at site. Contractor deliveries must not conflict with:
 - 1. Work of other Contractors, or Owner.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. Owner's use of premises.
- C. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
- D. Partial deliveries of component parts of equipment shall be clearly marked to identify equipment, to permit easy accumulation of parts and to facilitate assembly.
- E. Immediately upon delivery, inspect shipment to assure:
 - 1. Product complies with requirements of contract documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are protected and undamaged. Minor damages may be repaired, provided finish items are equivalent in all respects to new work.

1.03 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by Owner, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or over-stressing.
- D. Lift heavy components only at designated lifting points.

1.04 STORAGE

- A. Store products immediately on delivery, and protect until installed in the Work. Store in accord with manufacturer's instructions, with seals and labels intact and legible.
- B. Store products subject to damage by elements in substantial weather-tight enclosures.
 - 1. Maintain temperatures with ranges required by manufacturer's instructions.
 - 2. Provide humidity control for sensitive products, as required by manufacturer's instructions.
 - 3. Store unpacked products on shelves, in bins, or in neat piles, accessible for inspection.
- C. Exterior Storage
 - 1. Provide substantial platforms, blocking, or skids to support fabricated products 4" above ground, prevent soiling or staining.
 - 2. Cover products, subject to discoloration or deterioration from exposure to elements, with impervious sheet coverings. Avoid use of non-vented plastic or canvas shelters which could create humidity chambers. Provide adequate ventilation to avoid condensation.
 - 3. Store loose granular materials in solid surfaces such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.
 - a. Provide surface drainage to prevent flow or ponding of rainwater.
 - b. Prevent mixing of refuse or chemically injurious materials or liquids.
 - 4. Provide exterior storage area within Contractor Secure area.
- D. Arrange storage in manner to provide easy access for inspection.

1.05 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Surfaces of products exposed to elements are not adversely affected. Any weathering of products, coatings, and finishes is not acceptable under requirements of contract documents.
- B. Mechanical and electrical equipment which requires servicing during long-term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.

1.06 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations, usage or vandalism. Remove when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Provide coverings to protect finished surfaces from damage.
 - 1. Cover projections, wall corners, jambs, sills, and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
 - 2. Protect finished floors and stairs from dirt and damage.
 - a. In areas subject to foot traffic, secure heavy paper, sheet goods, and other

materials in place.

- b. For movement of heavy products, lay planking or similar materials in place.
- c. For storage of product, lay tight wood sheathing in place.

D. Waterproofed and Roofing Surfaces

- 1. Prohibit use of surface for traffic and any kind, or for storage of any products.
- 2. When some activity must take place in order to carry out Contract, obtain recommendations from installer for protection of surface.
 - a. Install recommended protection, remove on completion of that activity.
 - b. Restrict use of adjacent unprotected areas.

1.07 DAMAGED PRODUCTS

- A. Remove damaged or deteriorated materials from the premises. Replace materials which have been damaged.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01610

SUBSTITUTION AND PRODUCT OPTION

PART 1. GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION OF WORK

- A. Contractor's options in selection of products.
- B. Requests for substitution of products.

1.03 RELATED REQUIREMENTS

- A. Section 00100 - Instruction to Bidders.
- B. Section 00700 and 00800 - General Conditions and Supplementary General Conditions.
- C. Section 01340 - Shop Drawings, Product Data and Samples.

1.04 CONTRACTOR'S OPTIONS

- A. Reference to any equipment, material, article or patented process by trade name, make or catalog number shall be regarded as establishing a standard of quality and characteristics of products that will be satisfactory and shall not be construed as limiting competition.
- B. Whether or not specifically named equipment or material is followed by the term "equivalent" or "equivalent product" or "approved equal", it shall not exclude other manufacturer's equipment or materials from consideration, unless "NO SUBSTITUTIONS" called out in the specification sections. In this usage, the terms "equivalent" and "equal" or "approved equal" are interchangeable though a product or method considered for substitution may be equivalent to a specified product or method without actually being equal, by virtue of performance, appearance, and meeting specified or implied criteria.
- C. No item will be considered for substitution prior to the bid opening. Consequently, the Bidder shall make its own determination if a substituted item will be equivalent to or better than that specified or indicated in regards to quality, workmanship, finish, space requirements, electrical requirements, performance and guarantees or warranties. Any change in bid and/or contract amount due to any subsequent rejection of product found "not equivalent" will not be considered.
- D. After the Notice to Proceed the Contractor shall submit sufficient data in accordance with this Section to establish equality. The Owner's Representative shall be the sole judge of equality and acceptability.
- E. Acceptance of substitute materials will not relieve the Contractor of the responsibility for any changes in the Contractor's own work or in the work of other trades caused by the substitution. Any additional costs resulting from substitutions are the responsibility of the Contractor.

1.05 SUBSTITUTION PROCEDURE

- A. Requests for substitutions of products will be considered only within 90 calendar days after Notice to Proceed. Subsequent requests will be considered only when judged to be in the best interest of the Owner.
- B. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by subcontractor or

supplier, or when acceptance will require substantial revision of Contract Documents.

- C. Substitute products shall not be ordered or delivered without written acceptance.
- D. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- E. Identify products by specifications section and article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
- F. Attach product data as specified in Section 01340 and the following:
 - 1. Give itemized comparison of proposed substitution with specified product and listing variations.
 - 2. Give quality and performance comparison between proposed substitution and specified product.
 - 3. List availability of maintenance services and replacement materials.
 - 4. State effect of substitution on construction schedule, and changes required in other work or products.
- G. If no requests for substitutions have been received within time frame stated above, it will be assumed that construction will proceed with equipment, materials and products called for in Contract Documents.

If this is subsequently found not to be the case, the Owner reserves the right to demand that unapproved item be removed and replaced with specified item.

1.06 CONTRACTOR REPRESENTATION

- A. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product.
- B. Contractor shall provide same warranty or bonds for substitution as for specified product.
- C. Contractor shall coordinate installation of accepted substitute, making such changes as may be required for work to be complete in all respects, specifically including any related redesign costs.
- D. Contractor waives claims for additional cost caused by substitution which may subsequently become apparent.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01630

(Except for "Substitution Request Form," 1 page)

SUBSTITUTION REQUEST FORM

TO: _____

PROJECT: _____

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section _____ Page _____ Paragraph _____ Specified Item _____

Proposed Substitution: _____

Attach complete Product description, drawings, photographs, performance and test data, and other information necessary for evaluation.

Will changes be required to building design in order to properly install proposed substitution?
Yes _____ No _____ If Yes, explain: (Add second sheet).

Will the undersigned pay for changes to the building design, including engineering and drawing costs, caused by requested substitution? Yes _____ No _____.

What differences exist between proposed substitution and specified item?

Does substitution affect Drawing dimension? Yes _____ No _____ If Yes, explain: (Add second sheet.)

What affect does substitution have on other trades?

Does Manufacturer's warranty of proposed substitution differ from that specified?
Yes _____ No _____ If Yes, explain: (Add second sheet.)

Will substitution affect Progress Schedule? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Will substitution cost more than specified Product? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Do substitutions affect the Commissioning process and checklists included in Division 17? Yes _____ No _____ If any, attach a marked-up copy of the appropriate Checklist(s) from Division 17 for Owner's approval.

Will maintenance and service parts be locally available for substitution? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Submitted by:

Signature: _____

Firm: _____

Address: _____

City: _____

Date: _____

For Owner's Representative's Use Only:

Accepted () Accepted as Noted ()
Not Accepted () Received Too Late ()

By: _____

Date: _____

Remarks: _____

Phone: _____

PROJECT CLOSE-OUT

PART 1. CLOSE-OUT

1.01 GENERAL CONDITIONS

- A. Definitions: Close-out is hereby defined to include general requirements near the end of contract time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of Close-out is directly related to "Substantial Completion".

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. General and Supplementary General Conditions
- B. Section 01750: Warranty of Work after Final Payment
- C. Section 01750: Certificate of Compliance

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers work substantially complete as defined in contract conditions, he shall submit to the Project Manager:
 - 1. Written notice that work, or designated portion thereof, is substantially complete.
 - 2. List of items to be completed or corrected.
 - 3. Conditional Certificate of Occupancy from governing authorities.
 - 4. Project Records and Contract Record Drawings.
- B. Project Manager will at the mutually agreed time, make inspection to determine completion status.
 - 1. Should Project Manager determine that work is not substantially complete:
 - a. Project Manager will promptly notify Contractor, in writing, giving reasons therefore.
 - b. Contractor will remedy work deficiencies, and send second notice of substantial completion to Project Manager.
 - c. Project Manager will re-inspect work, with his cost and/or expense for such to be the Contractor's responsibility.
 - 2. When Project Manager concurs that work is substantially complete, the Architect will:
 - a. Prepare Certificate of Substantial Completion accompanied with Contractor's list of items to be completed or corrected, as verified and amended by the Project Manager and Architect.
 - b. Submit certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the certificate.

1.04 FINAL INSPECTION

- A. When Contractor considers work complete, he shall submit written certification that:
 - 1. Contract documents have been reviewed.

2. Contractor has inspected work for compliance with contract documents.
 3. Work has been completed in accordance with contract documents.
 4. Equipment and systems have been tested and operated in presence of Owner's representative and are operational.
 5. Copy of substantial completion punch lists stating that each item has been completed or otherwise resolved for acceptance.
- B. Project Manager will, at the mutually agreed time, inspect the work to verify completion status.
1. Should the Project Manager consider work incomplete or defective:
 - a. Project Manager will promptly notify Contractor in writing of any incomplete or defective work.
 - b. Contractor shall immediately remedy deficiencies, and send written certification to Project Manager that work is complete.
 - c. Project Manager will re-inspect work.
 2. When Project Manger finds the work acceptable under contract documents, he will request Contractor to make closeout submittals.

1.05 RE-INSPECTION FEES

- A. Should Project Manager and or Engineer be required to make more than one substantial and/or final inspection due to Contractor's failure to correct specified deficiencies, the Contractor shall bear all costs made necessary by such additional inspections.

1.06 SUBMITTALS

- A. Record Drawings
1. Prior to Final Completion of the Project, the Contractor and/or Subcontractors under his direction, shall submit records of changes on prints to Project Manager.
 2. Accompany submittal with transmittal letter, to Project Manger, containing:
 - a. Date
 - b. Project title and number
 - c. Contractor's name and address
 - d. Title and number of each record document
 - e. Certification that each document as submitted is complete and accurate.
 - f. Signature of Contractor, or his authorized representative.
 3. Provide drawings and special system drawings on CD in AutoCad format.
- B. Project Record Documents
- C. Operating and Maintenance Data
- D. Building Official's Certificate of Occupancy (MUST BE RECEIVED IN TIME TO ALLOW OCCUPANCY ON DATE REQUIRED IN CONTRACT DOCUMENTS).
- E. Warranty of Work after Final Payment Section 01750
- F. Certificate of Compliance Section 01750
- G. AHERA Exclusion document Section 01750

- H. Department of Revenue Tax Clearance Section 01750
- I. Department of Labor Tax Clearance Section 01750
- J. Department of Labor Notice of Completion of Public Works Section 01750
- K. Certificate of Domestic water disinfection.
- L. Evidence of Payments and Release of Liens
 - 1. Contractor's Affidavit of Payment of Debt and Claims.
 - 2. Contractor's Affidavit of Release of Liens including the following:
 - a. Consent of Contractor's Surety to Final Payment.
 - b. Contractor's Release of Waiver of Liens.
 - c. Separate releases of Waivers of Lien for each subcontractor, supplier, and others with lien rights against Owner's property.
- M. Storm Water Pollution Prevention Plan (SWPPP) and associated documents.
 - 1. A copy of the Notice of Intent (NOI) and the plan review location notice shall be posted in the project office on site.
 - 2. A copy of the SWPPP shall be retained in the project office during construction.
 - 3. All records relating to the SWPPP, as well as the Plan, the NOI, and NOT shall be retained by the Contractor and the Municipality of Anchorage for three years after the NOT is issued.
 - 4. Copies of all SWPPP documents are to be delivered to the Municipality of Anchorage and the Anchorage School District upon completion of the project and before final closeout.
- N. Closeout Checklist Section 01750
 - 1. A closeout checklist is provided for convenience in tracking the necessary documentation and deliverables for project closure. This checklist should be updated and submitted with each closeout deliverable.

1.07 FINAL APPLICATION FOR PAYMENT

- A. Follow procedures specified in General and Special Conditions, and also note miscellaneous prerequisites for final payment noted in this section.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01700

CLEANING

PART 1. GENERAL

1.01 DESCRIPTION

- A. Execute cleaning, during progress of the work, and at completion of the work.

1.02 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2. PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

PART 3. EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the work, the site, and adjacent areas free from accumulations of waste materials, rubbish, and debris, resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris, and rubbish.
- C. Remove waste materials, debris, and rubbish from the site periodically and dispose of.

3.02 DUST CONTROL

- A. Clean interior spaces prior to the start of finishing painting and continue cleaning on an as-needed basis until painting is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.03 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Prior to final completion, or Owner occupancy, the Contractor shall conduct an inspection of sight-exposed interior surfaces and all work areas to verify that the entire work is clean.

END OF SECTION 01710

PROJECT RECORD DOCUMENTS

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Maintenance of record documents and samples.
- B. Submittal of record documents and samples.

1.02 RELATED REQUIREMENTS

- A. Document 00700 - General Conditions.
- B. Section 01300 - Submittals.
- C. Section 01340 - Shop drawings, Product data and Samples.
- D. Section 01700 - Project closeout.
- E. Individual Specifications Sections: Manufacturer's certificates and certificates of inspection.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. In addition to requirements in General Conditions, maintain at the job site for Owner's use one record copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data and samples.
 - 6. Field test records.
 - 7. Inspection certificates.
 - 8. Manufacturer's certificates.
 - 9. Request for Information (RFI)
 - 10. Request for Proposal (RFP)
 - 11. Current Construction Network.
 - B. Store record documents and samples in the field office apart from the documents used for construction.
 - C. Label and file record documents and samples in accordance with Section number listings in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
 - D. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.
- Keep record documents and samples available for inspection by the Project Manager.

1.04 RECORDING

- A. From the copies of Contract Documents to be furnished by Project Manager, the Contractor and/or Subcontractors shall record on a set of clean, new prints each and

every change that is made, at time it is made, in red. This includes any changes that are made in partitions, doors, or otherwise in arrangement of construction of buildings as well as a complete record of exact manner in which electrical and mechanical work, piping, etc., are installed. All Change Orders, RFI's, and Information Bulletins shall be incorporated. Dimensions shall be included where necessary to accurately locate piping and other items that will be concealed underground or in finished building that may later be necessary to service.

- B. Contract Drawings: Legibly mark to record actual construction.
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Field changes of dimensions and detail.
 - 3. Changes made by Change Order and other modifications.
 - 4. Details not on original contract drawings.
 - 5. References to related shop drawings and modifications.
- C. Shop Drawings: Maintain as record documents, legibly annotate appropriate drawings to record changes made after review.
- D. Specifications and Addenda: Legibly mark up each section to record:
 - 1. Changes made by Change Order.
 - 2. Manufacturer, trade name and catalog number of each product actually installed, particularly optional items and substitute items.
 - 3. Changes made by addenda and modifications.
 - 4. Other matters not originally specified.
- E. Label each document "PROJECT RECORD" in printed letters.
- F. Keep record documents current. No progress payments will be made until record documents are verified by the Project Manager as being current.
- G. Do not permanently conceal any work until required information has been recorded.
- H. Methodology:
 - 1. Changes to Work are described by source documents, including, but not limited to, Field Directives (FD), Information Bulletins (IB), Requests for Information (RFI), and Requests for Proposals (RFP), and their attachments. (Reference Section 00700, Article 12.)
 - 2. Project Record drawings are to completely and clearly reflect all Changes to Work by graphically showing actual changes to dimensions, locations, materials, assemblies, and other conditions; by graphically deleting conditions replaced by such changes; and by indicating applicable source document's reference number. Such reference number shall not be the sole representation of Changes to Work shown on Project Record drawings.
 - 3. Where A/E furnishes supplemental drawings, Project Record drawings are to show both the A/E's supplemental drawing reference number and the source document's reference number at the affected location.

1.05 SUBMITTAL

- A. Prior to Final Completion of the Project, the Contractor and/or Subcontractors under his direction, shall submit records of changes on prints to Project Manager.

B. Accompany submittal with transmittal letter, to Project Manager, containing:

1. Date
2. Project title and number
3. Contractor's name and address
4. Title and number of each record document
5. Certification that each document as submitted is complete and accurate.
6. Signature of Contractor, or his authorized representative.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01720

PART 1. GENERAL

1.01 SECTION INCLUDES

- A. Format and content of manuals.
- B. Instruction of Owner's personnel.
- C. Schedule of submittals.

1.02 RELATED SECTIONS

- A. Section 01300 - Submittals
- B. Section 01400 - Quality Control
- C. Section 01420 - Special Inspections
- D. Section 01600 - Material and Equipment
- E. Section 01700 - Contract Closeout
- F. Section 01750 - Closeout Forms
- G. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.03 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.04 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8-½" x 11" three D side ring binders with durable plastic covers; 3 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title "OPERATION AND MAINTENANCE INSTRUCTIONS"; identify title of Project; identify subject matter of contents.
- D. Provide tabbed indexed for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed or typewritten data.
- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- G. Contents: Prepare a Table of Contents for each volume, with each Product or System description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions arranged by and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.

1.05 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect/Engineer, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01400.
- F. Warranties and Bonds: Bind in copy of each.

1.06 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. (Provide information for re-ordering custom manufactured Products.)
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

- D. Additional Requirements: As specified in individual Product specification sections.
- E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified.
- O. Additional Requirements: As specified in individual Product specification sections.
- P. Provide a listing in Table of Contents for design data, with tabbed (fly sheet. indexed) and space for insertion of data.

1.08 MANUALS

- A. Operating and Maintenance Manuals: Submit three (3) sets of manuals for each identified category.

1. Air Balance Report
2. Building Commissioning Reports
3. Materials and Finishes Manual
4. Equipment and Systems Manual
5. Digital and Pneumatic Controls Manual
6. Fire Systems Manual

B. Warranty and Special Warranty Manual: Submit three (3) sets of manual.

1.09 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, provide instructions for all seasons
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.10 SUBMITTALS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Project Manager will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit one advance copy of documents within ten days after acceptance. Include same information within final Operations and Maintenance documents.
- C. Submit 1 draft copy of completed volumes 60 days following acceptance of Project Submittals. Allow 20 days for Architect review and return to Contractor. Provide Contractor resubmittal within 14 days. Allow 14 days for Architect review of resubmittal. Revise content of all document sets as required prior to final submission.
- D. Submit fully approved final volumes within 115 days after acceptance of Submittals or 10 days prior to Substantial Completion, whichever occurs first.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION 01730

CLOSEOUT FORMS

PART 1. GENERAL

1.01 The following forms are to be submitted by the Contractor prior to final project closeout.

1.02 CERTIFICATION OF SUBSTANTIAL COMPLETION

A. Use Anchorage School District Form 101 attached herein.

1.03 CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

A. Use Anchorage School District Form 102 attached herein.

1.04 RELEASE ON CONTRACTS

A. Use Anchorage School District Form 103 attached herein.

1.05 CONSENT OF SURETY COMPANY TO FINAL PAYMENT

A. Use Anchorage School District Form 104 attached herein.

1.06 CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE

A. Use Anchorage School District Form 105 attached herein.

1.07 CERTIFICATE OF COMPLIANCE

A. The Contractor shall submit a notarized Certificate of Compliance, contained in this section, with his application for Final Payment.

1.08 WARRANTY OF WORK AFTER FINAL PAYMENT

A. The Contractor shall furnish to the Owner a notarized Warranty of Work after Final Payment, contained in this section, with his application for Final Payment.

1.09 AHERA EXCLUSION DOCUMENT

A. The Contractor shall furnish to the Owner a signed AHERA Exclusion Document, contained in this section, with his application for Final Payment.

1.10 DEPARTMENT OF LABOR NOTICE OF COMPLETION OF PUBLIC WORKS

A. The Contractor shall furnish to the Owner a Notice of Completion of Public Works form approved by the Department of Labor with his application for Final Payment.

1.11 DEPARTMENT OF REVENUE TAX CLEARANCE REQUEST FORM

A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Revenue with his application for Final Payment.

1.12 DEPARTMENT OF LABOR TAX CLEARANCE REQUEST FORM

A. For projects funded through the Department of Education (debt reimbursement or DEED

grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Labor, with his application for Final Payment.

1.13 CLOSEOUT CHECKLIST

- A. The closeout checklist is designed to assist the contractor and project manager in the process of completing the project.

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: _____ Contract Number: _____

Contractor: _____ Contract Date: _____

Architect: _____ Date of Issuance: _____

Owner: ANCHORAGE SCHOOL DISTRICT
1301 Labar Street
Anchorage, Alaska 99515

Project Description:

The work performed under this contract has been reviewed and found to be substantially complete. The date of Substantial Completion is hereby established as: _____

Definition of Date of Substantial Completion:

The date of substantial completion of the project is the date certified by the Owner when the work is substantially complete in accordance with, and defined in the Contract Documents.

A list of items to be completed or corrected, prepared by the Owner and verified and amended by the Architect is appended hereto. The failure to include any items or such list does not alter the responsibility of the Contractor to complete the project in accordance with the Contract Documents.

The Contractor will complete or correct the work on the list of items appended hereto within 30 days from the date of substantial completion.

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as follows: _____

In reliance upon the certification of the Contractor and the Architect, the Owner hereby accepts the project as substantially complete. In accordance with the Contract Documents, the Owner hereby elects to assume occupancy of _____

_____ at _____ a.m./p.m. on _____.

Owner: **ANCHORAGE SCHOOL DISTRICT**

By: _____ Title: _____ Date: _____

Architect:

By: _____ Title: _____ Date: _____

Contractor:

By: _____ Title: _____ Date: _____

ASD 101 (01/03)

**CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____
Anchorage School District, and

entered into by the _____
for the construction of _____

The undersigned, pursuant to the General Conditions of the Contract for the construction, _____, hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the District or his property might in any way be held responsible.

EXCEPTIONS:

IN WITNESS WHEREOF, the seal of the undersigned Contractor have been hereunto set this

day of

, at

By

being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

By

Subscribed and sworn to before me this _____ day of

, at _____

Notary Public in and for _____

My Commission Expires _____

ASDF Form 102

**RELEASE ON CONTRACT
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____ entered into by the Anchorage School District,

and _____ for the construction of _____

_____, it is provided that:

"Neither the final payment nor the remaining retained percentage shall become due until the Contractor shall provide the Owner (1) with a waiver and release of liens, on the forms provided by the Owner, executed by the Contractor..."

NOW THEREFORE, in consideration of the premises and the payment by the Anchorage School District to the undersigned Contractor of the amounts due under the contract and any changes or modifications thereto, to wit, the sum

of \$ _____ Dollars,

(Numbers)

(In Words)

the undersigned Contractor hereby releases and forever discharges the Anchorage School District including its property, particularly that real property known as:

_____ of the Anchorage School District, of and from all manner of debts, dues and sum or sums of money, accounts, claims, and demands whatsoever, in Law and in equity, under or by virtue of said contract, and warrants good title to all material, supplies and equipment installed or incorporated in the project and all work delivered to the premises, together with all improvements and appurtenances constructed thereon by:

_____ to the Anchorage School District free of any claims, liens or encumbrances. Neither the undersigned nor any person, firm or corporation furnishing material or labor for any work covered by this Contract has any right to a lien upon the premises nor improvement thereon, except:

IN WITNESS WHEREOF, the signature of the undersigned Contractor has been hereunto set this

_____ day of _____, 20__, at _____, Alaska.

Signature: _____

Printed Name: _____

I, _____, being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20__, at _____, Alaska.

Notary Public in and for _____

My Commission Expires: _____.

ASD Form 103

**CONSENT OF SURETY COMPANY
TO FINAL PAYMENT**

PROJECT: _____ **PROJECT NUMBER:** _____

TO: Anchorage School District **CONTRACT DATE:** _____

CONTRACTOR: _____

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above:

(Surety Company)

on bond of

(Contractor)

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to **Anchorage School District, Owner** as set forth in said Surety Company's bond. Surety expressly agrees that any and all valid claims of sub-Contractors and all persons supplying labor or materials to the project will be satisfied by Contractor or Surety in a timely manner

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this

day of _____, 20__.

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASD 104

**CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE
ANCHORAGE SCHOOL DISTRICT**

PROJECT:

PROJECT NUMBER:

TO: Anchorage School District

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above,
the:

_____ (Surety Company)

on bond of

_____ (Contractor)

HEREBY APPROVES OF THE REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE to the Contractor
as follows:

The surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the
Surety of any of its obligations to **ANCHORAGE SCHOOL DISTRICT, OWNER**

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this
day of .

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASDF Form 105

CERTIFICATE OF COMPLIANCE

No final payment shall be made until the Contractor shall file with the Owner, prior to acceptance of the work, a notarized Certification of Compliance in the following form:

The Contractor does hereby certify that all work has been performed and materials supplied in accordance with the Drawings, Specifications and Contract Documents for the above work, and that:

No less than the prevailing rates of wages as ascertained by the governing body of the Contracting Agency has been paid to laborers, workmen and mechanics employed on this work;

There have been no unauthorized substitutions of Subcontractors; nor have any subcontracts been entered into without prior notice having been submitted to the Owner prior to the start of such subcontracted work;

No subcontract was assigned or transferred or performed by any Subcontractor other than the original Subcontractor, without prior notice having been submitted to the Owner together with the names of all Subcontractors;

All claims for material and labor and other paid service performed in connection with these specifications have been paid;

All monies due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund, the State Tax Commission, Hospital Associations and/or others have been paid.

In WITNESS WHEREOF, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

As determined necessary, evidence of compliance may be required to be submitted with and made a part of this Certificate of Compliance.

WARRANTY OF WORK

Prior to Final Payment, the Contractor shall furnish to the Owner a Warranty of Work in the following form:

The Contractor does hereby warrant all work and materials to be in full and complete accordance with the Contract Documents and Agreement between Owner and Contractor, and requirements appertaining thereto; that all work and materials are free from any and all defects and imperfections, and fully suitable for the use and purposes for which each and every part is intended. The Contractor also agrees that, should any defect develop or appear which the Project Manager or Owner's Representative finds was Not caused by improper use, the Contractor shall promptly, upon demand, fully correct, substitute and make good any such defective material without any cost to the Owner and will save the Owner harmless against any claim, demand, loss or damage by reason of any breach of this warranty.

The period of this warranty shall commence on the date of Substantial Completion.

The warranty shall continue to be in full force and effect for the period of one (1) year, except for those items for which a longer period of warranty is specifically stated in the Warranties for work in Technical Sections of the Specifications.

Warranties for work stated in Technical Section shall continue in full force and effect for the respective periods expressly stated.

In WITNESS WHERE, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name) _____

(Signature) _____

(Title) _____

(Attest) _____

(SEAL IF BIDDER IS A CORPORATION)

AHERA Exclusion Document

Contractor's Verification of Asbestos-Free Construction

Project: _____ **Project Number:** _____

Contractor: _____ **Date:** _____

To: Anchorage School District
Facilities Coordinator,
AHERA LEA Designated Person

To the best of our knowledge, no asbestos-containing building materials were installed in this project.

Attest: _____
Signature of Authorized Representative

Title

Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
www.labor.state.ak.us/lss/lss.htm



NOTICE OF COMPLETION OF PUBLIC WORKS

Additional Filing Fee May Be Required

- This form must be typed or printed in ink.
- Fill in all blanks or form will be returned for correction (see back).
- Please allow a minimum of 30 working days for processing.

ENTER YOUR FAX # _____
AND LIST YOUR MAILING ADDRESS BELOW

Contractor, company or agency name, address, city, state & ZIP + 4

Project Name		Contract #
Contract awarding agency		
Address		
City	State	ZIP + 4
Contract awarding agency contact person		Phone #
Location and city where work was performed		
DOLWD Project #		
Project Completion Date		/ /

Primary contractor (has contract with the public agency)

IF YOU HAVE ALREADY PAID \$5,000 IN FEES FOR THIS PROJECT, OR IF YOU PREVIOUSLY PAID ALL FEES DUE AND DID NOT HAVE ANY INCREASES IN CONTRACT AMOUNTS ENTER "NONE" AND, SKIP TO CERTIFICATION. OTHERWISE, DESCRIBE ADDITIONAL WORK.

Description of additional contract/subcontract work performed	Name of contractor who performed this work	Amount of subcontract
CERTIFICATION: I hereby certify that the above information is correct. Enclosed is the additional filing fee computed at 1% of the total amount of all new contracts on this project, including the contract price of new work performed by the primary contractor not previously reported on the Notice of Work, up to a maximum of \$5,000. I also certify that all contractors who worked on this project complied with prevailing wage requirements as described in AS 36.05.010-.110 and AS 36.10.007-.990.	Total value of additional subcontracts	\$
	Additional value of work performed by primary contractor +	\$
	Amount subject to fee	\$
		Multiply by .01
	Supplemental fee enclosed = ROUND FEES TO NEAREST DOLLAR	\$
For Dept. Use Only		
Amount: _____ Check Number: _____ Cash _____ Received By: _____ Date: _____ Credit Card Confirmation _____ Visa _____ MC _____ Project Name _____ DOLWD Project # _____		
Wage & Hour date-stamped copy of this form will serve as temporary receipt.		

For Dept. Use Only	
T-36 Clearance Approved	
By _____	Department of Labor and Workforce Development

D:\ie-temp\Temporary Internet Files\OLKF4\noticecompletionpublicworks.doc

(6/27/03)

How to expedite the processing of your form:

ERRORS THAT CAUSE REJECTION

No fee included or incorrect amount. If total contract amount is less than \$25,000 no filing fee is required. Contract amounts paid to owner/operators with no employees are exempt from the fee. **The maximum total filing fee for any one project is \$5,000.00.**

Missing - Value of work performed by primary contractor.

Missing – The name of each **NEW** subcontractor and the amount of the contract OR the name of existing subcontractors and the amount of any **NEW** work not previously reported on the Notice of Work.

Missing – Notice of Completion of Public Works must be signed by an authorized representative.

FILING INSTRUCTIONS

Additional fees are required for any increase in contract value, unless the maximum fee (\$5,000) has been paid.

If there is not enough space to list all required information on one form, use additional sheets. Please indicate at the top of each sheet "Page 1 of 2", "Page 2 of 2", etc. No other attachments will be accepted.

A Wage and Hour Administration (WH) date-stamped copy of this form will serve as a temporary receipt, while the acceptance of fees is processed. WH will mail or fax the approved copy of this form to the organization provided on the front of this form. Make a copy for your records. This will serve as your notice that the fees paid have been accepted by WH.

For questions call the nearest WH office:

Juneau: (907) 465-4842 Anchorage: (907) 269-4900 Fairbanks: (907) 451-2886

For more forms, see www.labor.state.ak.us/lss/lssforms.htm

Submit the notice and the appropriate filing fee to:

Alaska Department of Labor and Workforce Development
Wage and Hour Administration
3301 Eagle Street, Ste. 301
Anchorage, AK 99503-4149

If no fee is required, you may fax the notice to (907) 269-4915

Alaska Department of Revenue
TAX CLEARANCE REQUEST FORM

Contractor Name: _____

Project Name and Number: _____

EIN/SSN: _____

Mailing Address: _____

City/State/Zip Code: _____

I hereby authorize the Alaska Department of Revenue to release to

(Name of Department or Agency)

whose facsimile number is _____,

confirmation that all taxes, penalties and interest due the Department of Revenue have been paid
and that there are no outstanding amounts due.

Contractor Signature: _____

Printed Name: _____

Title*: _____

*If tax clearance is being requested on behalf of a corporation/LLC/partnership, must be signed by an officer/member/partner.

Send completed form by facsimile to the Department of Revenue at (907)465-2375

DEPARTMENT USE ONLY

- ☐ The above applicant is current on all taxes, penalties and interest due and is in good standing with the Alaska Department of Revenue.
- ☐ The above applicant is not current on all taxes, penalties and interest due and is not in good standing with the Alaska Department of Revenue.

Department of Revenue Representative

Date

TaxClearanceRequestForm (Rev09/10) JG DOT



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Labor and Workforce
Development

Employment Security Division
Employment Security Tax

1111 W. 8th St. Room 205

P.O. Box 115509

Juneau, AK 99811-5509

Relay Alaska (in state): (800) 770-8973 or 7.1.1

Relay Alaska (out of state): (800) 770-8255

Toll free: (888) 448-3527

Phone: (907) 465-2757

Fax: (907) 465-2374

Tax Clearance Request Form for Contractors

Date of Request _____

Business name of the contractor a Tax Clearance is being requested for: _____

Business Address: _____

Business Contact Phone No.: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for (*i.e. beginning and ending date of a subcontract agreement*): _____

Subcontract Project Name: _____

Name and address of the person this Tax Clearance is to be returned to: _____

Comments or additional information: _____

For Agency Use Only

- ☐ Tax Clearance is granted
- ☐ Tax Clearance is not granted (*please have employer contact the department*)
- ☐ No account on file, liability unknown (*please have employer contact the department*)
- ☐ Employer has stated no employees, Tax Clearance not required.

Agency Representative Signature: _____ Date: _____

Agency Representative Title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. www.labor.alaska.gov/estax

Rev. 12/16/2014

Project Title: _____ **Project Number:** _____

PROJECT CLOSEOUT CHECKLIST	Number Required	Number & Date Delivered
Inspection Documents		
Substantial Completion Inspection Documents	1	
Substantial Completion Punch List	1	
Final Inspection Documents	1	
Final Inspection Punch List	1	
Certificate of Substantial Completion (ASD Form 101)	1	
Contractor Submittals		
As-built drawings to Engineer of Record (Section 01700)	1	
All project record documents (Section 01720)	1	
Maintenance and Operations Manuals (Section 01730)	4	
Warranty and Special Warranty Manuals (Section 01730)	4	
Certificate of Domestic Water Disinfection (Section 01700)	2	
Warranty of Work (Section 01750)	1	
Certificate of Compliance (Section 01750)	1	
Building Officials Certificate of Mechanical and Electrical Inspection	3	
Building Official's Certificate of Occupancy	3	
Building Official's Certificate of Completion	3	
AHERA Response Action Report (RAR)	1	
AHERA Exclusion Document (Section 00630)	1	
Return school keys to lock shop	1	
Lock Shop Release Form (signed)	1	

Project Title: _____ **Project Number:** _____

PROJECT CLOSEOUT CHECKLIST	Number Required	Number & Date Delivered
Contractor's Affidavit of Payment of Debts and Claims (ASD Form 102)	1	
Consent of Surety Company to Final Payment (ASD Form 104)	1	
Release on Contract (ASD Form 103)	1	
Consent of Surety to Reduction in/or Partial Release of Retainage (ASD Form 105)	1	
Engineered As-built drawings and special system drawings on reproducible CD's (not zipped)	1	
Engineered As-built drawings and special system drawings on reproducible mylars	1	
Engineered As-built drawings and special system drawings on bond/blacklines	2	
Spare Parts deliverables	1	
Notice of Completion of Public Works (Section 00630) (Approved DOL Clearance Form)	1	
Dept. of Revenue Tax Clearance Form (Section 00630) (Approved DOR Tax Clearance Form)	1	
Dept. of Labor Tax Clearance Form (Section 00630) (Approved DOL Tax Clearance Form)	1	
Final Application and Certificate for Payment (ASD Form 100A-C)	1	
Base Access Pass(s) returned to Project Manager		NA

Project Manager Signature

Date

END OF SECTION

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

1.02 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.03 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of selective demolition activities with starting and ending dates for each activity.

1.04 CLOSEOUT SUBMITTALS

- A. Inventory of items that have been removed and salvaged.

1.05 FIELD CONDITIONS

- A. Owner may occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. All furnishings and equipment not permanently attached to the building, with the exception of non-permanently attached kitchen equipment, to be removed and salvaged for future reuse.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Storage or sale of removed items or materials on-site is not permitted.

- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- F. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.06 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- C. Inventory and record the condition of items to be removed and salvaged.

3.02 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

- a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
- b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
- c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.03 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.04 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 4. Maintain fire watch during flame-cutting operations as required to ensure danger is no longer present.
 - 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 6. Dispose of demolished items and materials promptly and a legal manner.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:

1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner off site designated by the Owner.
 4. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.05 CLEANING

- A. Remove demolition waste materials from Project site and dispose of them in an approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Framing with dimension lumber.
 - 2. Framing with timber.
 - 3. Framing with engineered wood products.
 - 4. Shear wall panels.
 - 5. Rooftop equipment bases and support curbs.
 - 6. Wood blocking and nailers.
 - 7. Wood furring.
 - 8. Wood sleepers.
- B. Related Requirements:
 - 1. Section 061600 "Sheathing" for sheathing, subflooring, and underlayment.

1.02 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.
- E. Timber: Lumber of 5 inches nominal size or greater in least dimension.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preserved treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.04 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Fire-retardant-treated wood.
 - 3. Engineered wood products.
 - 4. Power-driven fasteners.
 - 5. Post-installed anchors.
 - 6. Metal framing anchors.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.01 WOOD PRODUCTS, GENERAL

- A. Certified Wood: The following wood materials shall be certified as "FSC Pure" according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and to FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
 - 1. Dimension lumber.
 - 2. Timber.
 - 3. Laminated-veneer lumber.
 - 4. Parallel-strand lumber.
 - 5. Prefabricated wood I-joists.
 - 6. Rim boards.
- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 - 3. Dress lumber, S4S, unless otherwise indicated.
- C. Maximum Moisture Content of Lumber: as indicated in drawings.
- D. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 - 1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.02 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 - 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
 - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - 4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
 - 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.03 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction, Stud, or No. 3 grade.
 - 1. Application: Interior partitions not indicated as load bearing.
 - 2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine or mixed southern pine; SPIB.
 - c. Spruce-pine-fir; NLGA.
 - d. Hem-fir; WCLIB, or WWP A.
 - e. Spruce-pine-fir (south); NeLMA, WCLIB, or WWP A.
 - f. Northern species; NLGA.
 - g. Eastern softwoods; NeLMA.
 - h. Western woods; WCLIB or WWP A.
- B. Load-Bearing Partitions: grade as indicated in drawings.
 - 1. Application: Exterior walls and interior load-bearing partitions.
 - 2. Species: as indicated on drawings.
- C. Ceiling Joists: Construction, Stud, or No. 3 grade.
 - 1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWP A.
 - d. Douglas fir-larch (north); NLGA.
 - e. Southern pine or mixed southern pine; SPIB.
 - f. Spruce-pine-fir; NLGA.

- g. Hem-fir; WCLIB or WWP.
 - h. Douglas fir-south; WWP.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWP.
 - j. Northern species; NLGA.
 - k. Eastern softwoods; NeLMA.
 - l. Western woods; WCLIB or WWP.
- D. Joists, Rafters, and Other Framing Not Listed Above: No. 2 grade.
 - 1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWP.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWP.
 - g. Hem-fir; WCLIB or WWP.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWP.
- E. Exposed Framing Indicated to Receive a Stained or Natural Finish: Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
 - 1. Species and Grade: As indicated above for load-bearing construction of same type.

2.04 TIMBER FRAMING

- A. Comply with the following requirements, according to grading rules of grading agency indicated:
 - 1. Species and Grade: Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; grade as indicated in drawings; NLGA, WCLIB, or WWP.
 - 2. Maximum Moisture Content: as indicated in drawings.
 - 3. Additional Restriction: Free of heart centers.

2.05 ENGINEERED WOOD PRODUCTS

- A. Engineered Wood Products, General: Products shall contain no urea formaldehyde.
- B. Source Limitations: Obtain each type of engineered wood product from single source from a single manufacturer.
- C. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559. Material and strength properties as indicated in drawings.
- D. Parallel-Strand Lumber: Structural composite lumber made from wood strand elements with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559. Material and strength properties as indicated in drawings.
- E. Wood I-Joists: Prefabricated units, I-shaped in cross section, made with solid or structural composite lumber flanges and wood-based structural panel webs, let into and bonded to flanges. Comply with material requirements of and with structural capacities established

and monitored according to ASTM D 5055. Material and strength properties as indicated in drawings.

1. Web Material: Either OSB or plywood, complying with DOC PS 1 or DOC PS 2, Exposure 1.
 2. Structural Properties: Depths and design values not less than those indicated.
 3. Comply with APA PRI-400. Factory mark I-joists with APA-EWS trademark indicating nominal joist depth, joist class, span ratings, mill identification, and compliance with APA-EWS standard.
- F. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research or evaluation report for I-joists.
1. Manufacturer: Provide products by same manufacturer as I-joists.
 2. Material: product made from any combination solid lumber, wood strands, and veneers.
 3. Thickness: 1-1/4 inches.
 4. Comply with APA PRR-401, rim board grade. Factory mark rim boards with APA-EWS trademark indicating thickness, grade, and compliance with APA-EWS standard.

2.06 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.
 7. Utility shelving.
- B. Dimension Lumber Items: Standard, Stud, or No. 3 grade lumber of any of the following species:
1. Hem-fir (north); NLGA.
 2. Mixed southern pine or southern pine; SPIB.
 3. Spruce-pine-fir; NLGA.
 4. Hem-fir; WCLIB or WWPA.
 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 6. Western woods; WCLIB or WWPA.
 7. Northern species; NLGA.
 8. Eastern softwoods; NeLMA.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.07 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 ICC-ES AC58 ICC-ES AC193 or ICC-ES AC308 as appropriate for the substrate.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.08 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
 - 1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
 - 1. Use for wood-preservative-treated lumber and where indicated.
- D. Stainless-Steel Sheet: ASTM A 666.
 - 1. Use for exterior locations and where indicated.
- E. Joist Hangers: U-shaped joist hangers with 2-inch- long seat and 1-1/4-inch- wide nailing flanges at least 85 percent of joist depth.
- F. I-Joist Hangers: U-shaped joist hangers with 2-inch- long seat and 1-1/4-inch- wide nailing flanges full depth of joist. Nailing flanges provide lateral support at joist top chord.
- G. Top Flange Hangers: U-shaped joist hangers, full depth of joist, formed from metal strap with tabs bent to extend over and be fastened to supporting member
- H. Bridging: Rigid, V-section, nailless type, 0.050 inch thick, length to suit joist size and spacing.

- I. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch above base and with 2-inch- minimum side cover, socket 0.062 inch thick, and standoff and adjustment plates 0.108 inch thick.
- J. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports.
 - 1. Width: As indicated in drawings.
 - 2. Thickness: As indicated in drawings.
 - 3. Length: As indicated.
- K. Rafter Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 2-1/4 inches wide by 0.062 inch thick. Tie fits over top of rafter or truss and fastens to both sides of rafter or truss, face of top plates, and side of stud below.
- L. Hold-Downs: Brackets for bolting to wall studs and securing to foundation walls with anchor bolts or to other hold-downs with threaded rods and designed with first of two bolts placed seven bolt diameters from reinforced base.
 - 1. Bolt Diameter: As indicated in drawings.
 - 2. Width: As indicated in drawings.
 - 3. Body Thickness: As indicated in drawings.
 - 4. Base Reinforcement Thickness: As indicated in drawings.
- M. Wall Bracing: T-shaped bracing made for letting into studs in saw kerf, 1-1/8 inches wide by 9/16 inch deep by 0.034 inch thick with hemmed edges.
- N. Wall Bracing: Angle bracing made for letting into studs in saw kerf, 15/16 by 15/16 by 0.040 inch thick with hemmed edges.

2.09 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.
- B. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
 - 1. Adhesives shall have a VOC content of 70 g/L or less.
 - 2. Adhesives shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Install shear wall panels to comply with manufacturer's written instructions.
- F. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Do not splice structural members between supports unless otherwise indicated.
- H. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- I. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 - 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
 - 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
- J. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- K. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- L. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- M. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).

2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 3. ICC-ES evaluation report for fastener.
- N. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- O. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
1. Comply with indicated fastener patterns where applicable.
 2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
 3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.02 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.03 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal- size furring horizontally and vertically at 24 inches o.c.
- C. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal- size furring vertically at 16 inches o.c.

3.04 WALL AND PARTITION FRAMING INSTALLATION

- A. General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.
1. For exterior walls, provide 2-by-6-inch nominal- size wood studs spaced 24 inches o.c. unless otherwise indicated.
 2. For interior partitions and walls, provide 2-by-4-inch nominal- size wood studs spaced 24 inches o.c. unless otherwise indicated.

3. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.
- B. Construct corners and intersections with three or more studs, except that two studs may be used for interior non-load-bearing partitions.
- C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
 1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.
 2. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated.

3.05 FLOOR JOIST FRAMING INSTALLATION

- A. General: Install floor joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists as follows:
 1. Where supported on wood members, by toe nailing or by using metal framing anchors.
 2. Where framed into wood supporting members, by using wood ledgers as indicated or, if not indicated, by using metal joist hangers.
- B. Fire Cuts: At joists built into masonry, bevel cut ends 3 inches and do not embed more than 4 inches.
- C. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.
- D. Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third at ends. Do not bore holes larger than one-third depth of joist; do not locate closer than 2 inches from top or bottom.
- E. Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists unless nailed to header or band.
- F. Lap members framing from opposite sides of beams, girders, or partitions not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.
- G. Anchor members paralleling masonry with 1/4-by-1-1/4-inch metal strap anchors spaced not more than 96 inches o.c., extending over and fastening to three joists. Embed anchors at least 4 inches into grouted masonry with ends bent at right angles and extending 4 inches beyond bend.
- H. Provide solid blocking between joists under jamb studs for openings.
- I. Under non-load-bearing partitions, provide double joists separated by solid blocking equal to depth of studs above.

1. Provide triple joists separated as above, under partitions receiving ceramic tile and similar heavy finishes or fixtures.
- J. Provide bridging of type indicated below, at intervals of 96 inches o.c., between joists.
 1. Diagonal wood bridging formed from bevel-cut, 1-by-3-inch nominal- size lumber, double-crossed and nailed at both ends to joists.
 2. Steel bridging installed to comply with bridging manufacturer's written instructions.

3.06 CEILING JOIST AND RAFTER FRAMING INSTALLATION

- A. Ceiling Joists: Install with crown edge up and complying with requirements specified above for floor joists. Face nail to ends of parallel rafters.
 1. Where ceiling joists are at right angles to rafters, provide additional short joists parallel to rafters from wall plate to first joist; nail to ends of rafters and to top plate, and nail to first joist or anchor with framing anchors or metal straps. Provide 1-by-8-inch nominal- size or 2-by-4-inch nominal- size stringers spaced 48 inches o.c. crosswise over main ceiling joists.
- B. Rafters: Notch to fit exterior wall plates and toe nail or use metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing, if any, and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.
 1. At valleys, provide double-valley rafters of size indicated or, if not indicated, of same thickness as regular rafters and 2 inches deeper. Bevel ends of jack rafters for full bearing against valley rafters.
 2. At hips, provide hip rafter of size indicated or, if not indicated, of same thickness as regular rafters and 2 inches deeper. Bevel ends of jack rafters for full bearing against hip rafter.
- C. Provide collar beams (ties) as indicated or, if not indicated, provide 1-by-6-inch nominal-size boards between every third pair of rafters, but not more than 48 inches o.c. Locate below ridge member, at third point of rafter span. Cut ends to fit roof slope and nail to rafters.
- D. Provide special framing as indicated for eaves, overhangs, dormers, and similar conditions if any.

3.07 TIMBER FRAMING INSTALLATION

- A. Install timber beams with crown edge up and provide not less than 4 inches of bearing on supports. Provide continuous members unless otherwise indicated; tie together over supports as indicated if not continuous.
- B. Where beams or girders are framed into pockets of exterior concrete or masonry walls, provide 1/2-inch airspace at sides and ends of wood members.
- C. Install wood posts using metal anchors indicated.
- D. Treat ends of timber beams and posts exposed to weather by dipping in water-repellent preservative for 15 minutes.

3.08 STAIR FRAMING INSTALLATION

- A. Provide stair framing members of size, space, and configuration indicated or, if not indicated, to comply with the following requirements:
 - 1. Size: 2-by-12-inch nominal size, minimum.
 - 2. Material: Laminated-veneer lumber parallel-strand lumber or solid lumber.
 - 3. Notching: Notch rough carriages to receive treads, risers, and supports; leave at least 3-1/2 inches of effective depth.
 - 4. Spacing: At least three framing members for each 36-inch clear width of stair.
- B. Provide stair framing with no more than 3/16-inch variation between adjacent treads and risers and no more than 3/8-inch variation between largest and smallest treads and risers within each flight.

3.09 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Wall sheathing.
 - 2. Roof sheathing.
 - 3. Parapet sheathing.
 - 4. Composite nail base insulated roof sheathing.
 - 5. Subflooring.
 - 6. Underlayment.
 - 7. Sheathing joint and penetration treatment.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for plywood backing panels.

1.02 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preserved treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
 - 3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5516.
 - 4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.03 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preserved-treated plywood.
 - 2. Fire-retardant-treated plywood.

1.04 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.02 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.03 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.04 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
 - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201/D 3201M at 92 percent relative humidity. Use where exterior type is not indicated.

- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat plywood indicated on Drawings, and the following:
 - 1. Roof and wall sheathing within 48 inches of fire walls.
 - 2. Subflooring and underlayment for raised platforms.

2.05 WALL SHEATHING

- A. Plywood Sheathing: Exposure 1 sheathing.
 - 1. Span Rating: Not less than 32/16.
 - 2. Nominal Thickness: Not less than 3/8 inch.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1 sheathing.
 - 1. Span Rating: Not less than 32/16.
 - 2. Nominal Thickness: Not less than 3/8 inch.
- C. Cementitious Backer Units: ASTM C 1325, Type A.
 - 1. Thickness: As indicated.

2.06 ROOF SHEATHING

- A. Plywood Sheathing: Exposure 1 sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than 1/2 inch.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1 sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than 3/4 inch.

2.07 SUBFLOORING AND UNDERLAYMENT

- A. Plywood Combination Subfloor-Underlayment: DOC PS 1, Exposure 1, Underlayment single-floor panels.
 - 1. Span Rating: Not less than 24.
 - 2. Nominal Thickness: Not less than 23/32 inch.

2.08 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For roof parapet and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Screws for Fastening Sheathing to Wood Framing: ASTM C 1002.

- E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing to be attached.
 - 1. For steel framing less than 0.0329 inch thick, use screws that comply with ASTM C 1002.
 - 2. For steel framing from 0.033 to 0.112 inch thick, use screws that comply with ASTM C 954.
- G. Screws for Fastening Composite Nail Base Insulated Roof Sheathing to Metal Roof Deck: Steel drill screws, in type and length recommended by sheathing manufacturer for thickness of sheathing to be attached, with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117. Provide washers or plates if recommended by sheathing manufacturer.

2.09 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sealant for Gypsum Sheathing: Elastomeric, medium-modulus, neutral-curing silicone joint sealant compatible with joint substrates formed by gypsum sheathing and other materials, recommended by sheathing manufacturer for application indicated and complying with requirements for elastomeric sealants specified in Section 079200 "Joint Sealants."
 - 1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches wide, 10 by 10 or 10 by 20 threads/inch of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

2.10 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.

- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate wall parapet and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.02 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Combination Subfloor-Underlayment:
 - a. Glue and nail to wood framing.
 - b. Screw to cold-formed metal framing.
 - c. Space panels 1/8 inch apart at edges and ends.
 - 2. Subflooring:
 - a. Glue and nail to wood framing.
 - b. Screw to cold-formed metal framing.
 - c. Space panels 1/8 inch apart at edges and ends.

3. Wall and Roof Sheathing:
 - a. Nail to wood framing.
 - b. Screw to cold-formed metal framing.
 - c. Space panels 1/8 inch apart at edges and ends.

END OF SECTION 061600

SECTION 062023 - INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes interior trim.

1.02 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of process and factory-fabricated product.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

- A. Lumber: DOC PS 20.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber, mark grade stamp on end or back of each piece.
- B. Softwood Plywood: DOC PS 1.
- C. Hardboard: ANSI A135.4.

2.02 INTERIOR TRIM

- A. Softwood Lumber Trim:
 - 1. Species and Grade: Douglas fir-larch or Douglas fir south, Superior or C & Btr finish; NLGA, WCLIB, or WWPA.
 - 2. Species and Grade: Southern pine, C & Btr finish; SPIB.
 - 3. Species and Grade: Western red cedar, Clear Heart; NLGA, WCLIB, or WWPA.
 - 4. Maximum Moisture Content: 15 percent.
 - 5. Finger Jointing: Allowed when identified as painted. Otherwise not allowed.
- B. Hardwood Lumber Trim:
 - 1. Species and Grade: White maple, Clear; NHLA or match existing. Coordinate with Architect.
 - 2. Maximum Moisture Content: 13 percent.
 - 3. Finger Jointing: Not allowed.
- C. Softwood Moldings for Transparent Finish (Stain or Clear Finish): MMPA WM 4, N-grade wood moldings. Made to patterns included in MMPA's "WM/Series Wood Moulding Patterns."
 - 1. Species: Southern pine, Western red cedar, Douglas fir or match existing. Coordinate with Architect.
 - 2. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
 - 3. Finger Jointing: Not allowed.

- D. Hardwood Moldings for Transparent Finish (Stain or Clear Finish): MMPA HWM 4, N-grade wood moldings made to patterns included in MMPA's "HWM/Series Hardwood Moulding Patterns."
 - 1. Species: White maple or match existing. Coordinate with Architect.
 - 2. Kiln-dried softwood or MDF, with exposed surfaces veneered with species indicated, may be used in lieu of solid wood.
 - 3. Maximum Moisture Content: 9 percent.
 - 4. Finger Jointing: Not allowed.
- E. Moldings for Opaque Finish (Painted Finish): Made to patterns included in MMPA's "WM/Series Wood Moulding Patterns."
 - 1. Softwood Moldings: MMPA WM 4, P grade.
 - a. Species: Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine.
 - b. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
 - 2. Hardwood Moldings: MMPA HWM 4, P-grade.
 - a. Species: Aspen, basswood, cottonwood, gum, magnolia, soft maple, tupelo, or yellow poplar.
 - b. Maximum Moisture Content: 9 percent.
 - 3. Optional Material: Primed MDF.
 - 4. Finger Jointing: Allowed.

2.03 MISCELLANEOUS MATERIALS

- A. Low-Emitting Materials: Adhesives shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
 - 1. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
 - 2. Adhesives shall have a VOC content of 30 g/L or less.
- C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
 - 1. Adhesives shall have a VOC content of 70 g/L or less.
 - 2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

PART 3 - EXECUTION

3.01 PREPARATION

- A. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.02 INSTALLATION, GENERAL

- A. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
 - 2. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
 - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 4. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.

3.03 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints.

END OF SECTION 062023

SECTION 066400 - PLASTIC PANELING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes plastic sheet paneling.

1.02 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Samples: For plastic paneling and trim accessories.

PART 2 - PRODUCTS

2.01 PLASTIC SHEET PANELING

- A. Rigid Sheet Vinyl Paneling: Rigid high impact acrovyn.
 - 1. Manufacturers: Basis of Design
 - a. Construction Specialties, Inc. or equal.
 - 2. Surface Burning Characteristics: As follows when tested by a qualified testing agency according to ASTM E 84. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 3. Nominal Thickness: Not less than 0.040 inch.
 - 4. Surface Finish: Pebblette grain texture.
 - 5. Color: As selected from manufacturer's full range.

2.02 ACCESSORIES

- A. Trim Accessories: Manufacturer's standard one-piece vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners, and caps as needed to conceal edges.
 - 1. Color: As selected by Architect from manufacturer's full range.
 - 2. Adhesives shall have a VOC content of 50 g/L or less.
 - 3. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Sealant: Mildew-resistant, single-component, neutral-curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."
 - 1. Sealant shall have a VOC content of 250 g/L or less.
 - 2. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation

of Volatile Organic Chemical Emissions from Indoor Sources Using
Environmental Chambers."

PART 3 - EXECUTION

3.01 PREPARATION

- A. Clean substrates of substances that could impair adhesive bond, including oil, grease, dirt, and dust.
- B. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.
- C. Lay out paneling before installing. Locate panel joints to provide equal panels at ends of walls not less than half the width of full panels.

3.02 INSTALLATION

- A. Install plastic paneling according to manufacturer's written instructions.
- B. Install panels in a full spread of adhesive.
- C. Install trim accessories with adhesive.
- D. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.
- E. Maintain uniform space between panels and wall fixtures. Fill space with sealant.
- F. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION 066400

SECTION 081113 – METAL DOORS AND FRAMES

PART 1 - GENERAL

1.01 SUMMARY

- A. Furnish and install all hollow metal doors, door and window frames, door lites, sidelites, and accessories complete as shown, scheduled, and specified herein.
- B. The Contractor's has the option to use "stock" hollow metal of the series listed below. Current published Specifications of manufacturer for series listed become part of this Section.
- C. Modifications to stock details shall be consistent in design and workmanship to the basic manufacturer's specifications.
- D. The following materials text is prepared using specific manufacturer's model numbers (Curries). This is only for convenience and to establish acceptable standards; equivalent products by other manufacturers are implied.

1.02 REFERENCES

- A. ANSI/ICC A117.1 – American National Standard for Accessible and Usable Buildings and Facilities: International Code Council; 1998
- B. ANSI A250.8 – SDI-100 Recommended Specification for Standard Steel Doors and Frames; 1998
- C. ANSI A250.10 – Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames: 1998
- D. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2000.
- E. ASTM C 236 – Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box; 1989 (Reapproved 1993).
- F. DHI A115 Series – Specifications for Steel Doors and Frame Preparation for Hardware; Door and Hardware Institute; current edition (ANSI/DHI A115 Series).
- G. NAAMM HMMA 840 – Installation and Storage of Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 1999.
- H. SDI 122-99 – Installation and Troubleshooting Guide for Standard Steel Doors and Frames; Steel Door Institute.
- I. UL (BMD) – Building Materials Directory; Underwriters Laboratories Inc.; current edition.

1.03 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.

- B. Product Data: For each type of door and frame indicated, include door designation, type, level and model, material description, core description, construction details, hardware locations, reinforcement type and locations, anchorage and fastening methods, label compliance, sound and fire-resistance ratings, and finishes.
- C. Shop Drawings to show the following
 - 1. Contractor shall verify door elevations of each door design and submit shop drawing showing elevations.
 - 2. Details of doors including vertical and horizontal edge details.
 - 3. Details and locations of internal reinforcement and preparations for hardware.
 - 4. Coordination of glazing frames and stops with glass and glazing requirements.
- D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements
- F. Door Schedule: Use same reference designations indicated.

1.04 QUALITY ASSURANCE

- A. Provide standard steel doors and frames manufactured by a single firm specializing in the production of this type of work.
- B. Provide doors and frames complying with the Steel Door Institute (SDI) ANSI/SDI A250.8 - 2003. Recommended Specifications for Standard Steel Doors and Frames, and as herein specified.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Conform to the requirements of 01610.
- B. Mark all steel doors and frames with door opening mark number to correspond with the Door Schedule.
- C. Deliver all steel doors in cartons and palletized to provide protection during transit and job storage.
- D. Inspect doors and frames upon delivery for damage. Repair minor damage provided the finished items are equivalent in all respects to new work.
- E. Store doors and frames at the building site under cover. Place units on wood sills or on the floor in a manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters which could create a humidity chamber. If the wrapper on the door becomes wet, remove the carton immediately. Provide a 1/4 inch space between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Current published Specifications of manufacturer for series listed are part of this Specification.
- B. Modifications to stock details shall be consistent in design and work execution to the basic manufacturer's specifications.
- C. The following materials text is prepared using specific manufacturer's model numbers (Curries). This is only for convenience and to establish acceptable standards; equivalency to other manufacturers is implied as long as they are SDI members that conform to the specific requirements specified herein.

2.02 HARDWARE LOCATIONS AND GENERAL REINFORCEMENTS

- A. Locate hardware on doors and frames in accordance with the manufactures standard location.
- B. Use hardware reinforcements in accordance with the minimum standard gages as listed in ANSI/SDI-A250.8-2003 and SDI 118.
- C. Doors shall be mortised, reinforced and have function holes provided at the factory in conformance with the hardware schedule and templates provided by the hardware supplier. Through bolt holes, attachment holes, or drilling and tapping for surface hardware are not included in this Section.
- D. Provide fire rated hardware and accessories at fire rated openings.

2.03 HOLLOW METAL DOORS

- A. Basis of Design: Curries, 707S Series, flush construction 1-3/4 inches thick.
 - 1. At interior locations: 16 gauge.
 - 2. At exterior locations: 16 gauge, insulated for maximum "U" factor of 0.35 and galvanized in conformance with ASTM A-525, A60 or G60 after hardware preparation. Wipe coat not an acceptable substitution for galvanizing.
- B. Hardware preparation as listed in the Hardware Schedule and manufacturers' standard, including closer reinforcing. Comply with SDI 109.
- C. Finish: Manufacturer's standard one coat baked-on rust inhibiting prime paint.
- D. Where fire rated openings are shown, fabricate and make entire installation in conformance with UL, FM or WH requirements. Identify each fire door and frame with testing label indicating fire rating attached. Comply with SDI-118.
- E. Where doors include glazed openings, provide steel frame with ¼ inch wired safety glazing. Glazing shall conform to IBC Section 715.4.4.1.

2.04 FRAMES

- A. Minimum Acceptable Gage for interior door and relite frame – 16 gauge; exterior door and relite frame – 14 gauge.
- B. Hardware preparation as listed in the Hardware Schedule and manufacturers' standard. Comply with SDI 109 except 12 gage closer reinforcing.
- C. Provide 26 gage steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar and other materials might obstruct hardware operation.
- D. Finish: Galvanize all exterior frames in conformance with Subparagraph 2.03.A.2 and all frames primed in conformance with Paragraph 2.03C.
- E. Types of Frames:
 - 1. Exterior Door Frames: Welded type, 2 inch face.
 - 2. Interior Door Frames: Fully welded type, 2 inch face.
 - 3. Relite frames: Flush type welded units.
 - 4. Provide appropriate anchors, and if screw-in type, dimple frames at anchor point for subsequent filling with body putty.
 - 5. Comply with paragraph 2.03 - 'D'.
- F. Door Silencers: Except on weather-stripped frames, drill stops to receive 3 silencers on strike jambs of single swing frames and 2 silencers on heads of double swing frame.

2.05 FABRICATION

- A. Determine hardware requirements. Reinforce and fabricate to receive hardware to be used as specified in Article 2.02 herein.
- B. Where fire rated openings are shown, fabricate and make entire installation in conformance with UL, FM or WH requirements. Identify each fire door and frame with testing label indicating fire rating attached.
- C. Door frames to be fully welded and ground smooth suitable for prime finish application.

2.06 PRIME FINISH

- A. Thoroughly clean doors and frames and chemically treat to insure maximum finish paint adhesion. All surfaces of the door and frame exposed to view shall receive a factory applied coat of rust inhibiting primer. The finish shall meet the requirements for acceptance stated in ANSI A224.1. The prime finish is not intended to be the final layer of protection from the elements. Field painting using a good grade of enamel paint in accordance with Specification Section 099113 – Exterior Painting and Section 099123 – Interior Painting and the recommendations of the door and frame manufacturer.

PART 3 - EXECUTION

3.01 PLACING FRAMES

- A. Install hollow metal units and accessories plumb and true, in conformance with final shop drawings and manufacturer's data, and herein specified. Comply with the provisions of SDI 122 unless otherwise indicated.
- B. Set prior to wall construction or in completed openings as applicable or use Contractor's option specified herein. Fill all dimpled anchor points with body putty and grind to flush, smooth surface prior to painting.
- C. Install fire rated frames in conformance with NFPA Standard No. 80.
- D. Maintain frames plumb and square until final installation of doors.
- E. For existing frames with new doors: Coordinate with Architect on site.

3.02 DOOR INSTALLATION

- A. Fit hollow metal doors accurately in their respective frames, within clearances specified in SDI 100.
- B. Place fire rated doors with clearances as specified in NFPA standard No. 80.
- C. Finish hardware and installation specified in Section 087100.
- D. Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

3.03 FINAL ADJUSTMENTS

- A. Check hollow metal work prior to final inspection. Leave work in complete and correct operating condition. Remove and replace defective work, including doors or frames which are warped, bowed, or otherwise damaged.
- B. Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- C. All doors shall be left free of dirt, grease or other deleterious materials.

END OF SECTION 081113

SECTION 083113 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes access doors and frames for walls and ceilings.

1.02 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Samples: For each type of access door and frame and for each finish specified.
- D. Product Schedule: For access doors and frames.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Rated Access Doors and Frames: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection and temperature-rise limit ratings indicated, according to NFPA 252 or UL 10B.

2.02 ACCESS DOORS AND FRAMES

- A. Flush Access Doors with Concealed Flanges
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. JL Industries, Inc.; a division of the Activar Construction Products Group.
 - b. Larsens Manufacturing Company.
 - c. MIFAB, Inc.
 - d. Milcor; Commercial Products Group of Hart & Cooley, Inc.
 - 2. Description: Face of door flush with frame; with concealed flange for gypsum board installation and concealed hinge.
 - 3. Locations: Wall and ceiling.
 - 4. Uncoated Steel Sheet for Door: Nominal 0.060 inch, 16 gage.
 - 5. Stainless-Steel Sheet for Door: Nominal 0.062 inch, 16 gage, No. 4 finish is required at toilet rooms.
 - 6. Frame Material: Same material and thickness as door.
 - 7. Latch and Lock: Cam latch, key operated.

2.03 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

- B. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A 879/A 879M, with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.
- D. Stainless-Steel Sheet, Strip, Plate, and Flat Bars: ASTM A 666, Type 304. Remove tool and die marks and stretch lines, or blend into finish.
- E. Frame Anchors: Same material as door face.
- F. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

2.04 FABRICATION

- A. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- B. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.

2.05 FINISHES

- A. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
 - 1. Factory Finished: Apply manufacturer's standard baked-enamel or powder-coat finish immediately after cleaning and pretreating, with minimum dry-film thickness of 1 mil for topcoat.
 - a. Color: As selected by Architect from full range of industry colors.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.
- B. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 083113

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes service doors.

1.02 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type and size of overhead coiling door and accessory.
- C. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
 - 2. Show locations of controls, locking devices, and other accessories.
- D. Samples: For each exposed product and for each color and texture specified.

1.03 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Overhead coiling doors shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

2.02 DOOR ASSEMBLY

- A. Service Door: Overhead coiling door formed with curtain of interlocking metal slats.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Cookson Company.
 - b. Cornell Iron Works, Inc.
 - c. Overhead Door Corporation.
- B. Operation Cycles: Door components and operators capable of operating for not less than 20,000.

OVERHEAD COILING DOORS
DIVISION 08
Section 083323

- C. Door Curtain Material: Stainless steel.
- D. Door Curtain Slats: Flat profile slats of 2-5/8-inch center-to-center height.
- E. Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch thick; fabricated from stainless steel and finished to match door.
- F. Curtain Jamb Guides: Stainless steel with exposed finish matching curtain slats.
- G. Hood: Match curtain material and finish.
 - 1. Mounting: Between jambs.
- H. Locking Devices: Equip door with a keyed cylinder locking mechanism.
 - 1. Provide interchangeable core.
 - 2. Key integral with school master lock system.
- I. Manual Door Operator: Manufacturer's standard crank operator.
- J. Curtain Accessories: Equip door with astragal.
- K. Door Finish:
 - 1. Stainless-Steel Finish: No. 4 (polished directional satin).
 - 2. Interior Curtain-Slat Facing: Finish as indicated by manufacturer's designations.

2.03 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

2.04 CURTAIN ACCESSORIES

- A. Astragal for Interior Doors: Equip each door bottom bar with a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene as a cushion bumper.

2.05 COUNTERBALANCING MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.06 OPERATION

- A. Motor Operation:
 - 1. Motor – Standard Use – Model MG (Industrial Duty Gear Head) Operator: The operator must not extend above or below the door coil when mounted front-of-

OVERHEAD COILING DOORS
DIVISION 08
Section 083323

coil. Rated for a maximum of 20 cycles per hour (not to be used for consecutive hours) cULus listed (to comply with UL requirements in The United States and Canada), Totally Enclosed Non Ventilated gear head operator rated 1/3 hp as recommended by door manufacture for size and type of door, 120 Volts, 1 Phase. Provide complete with electric motor and factory pre-wired motor control terminals, maintenance free solenoid actuated brake, provisions for auxiliary push-up operation and control station(s). Motor shall be high starting torque, industrial type, protected against overload with an auto-reset thermal sensing device. Primary speed reduction shall be heavy-duty, lubricated gears with mechanical braking to hold the door in any position. Operator shall be equipped with a disconnect cable for auxiliary push-up operation. Operator drive and door driven sprockets shall be provided with #50 roller chain. Provide an integral Motor Mounted Interlock system to prevent damage to door and operator when mechanical door locking devices are provided. Operator shall be capable of driving the door at a speed of 8 to 9 inches per second. Fully adjustable, driven linear screw type cam limit switch mechanism shall synchronize the operator with the door. The electrical contractor shall mount the control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the overhead door wiring instructions.

2. Electric Tube Motor Operator: Rated for a maximum of 10 cycles per day, cULus recognized, rated (50nm) (100nm) or (200nm) as recommended by door manufacturer for size and type of door, 110 Volts, 1 Phase. Provide complete with electric tube motor, maintenance free electric brake, emergency manual crank hoist and control station(s). Motor shall be protected against overload with an auto-reset thermal sensing device. Operator shall be equipped with an emergency manual crank hoist assembly that safely cuts operator power when engaged. A disconnect chain shall not be required to engage or release the manual crank hoist. Operator shall be capable of 10-14 RPM. Fully adjustable, mechanical internal worm limit switch mechanism shall synchronize the operator with the door. The electrical contractor shall mount the control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the overhead door wiring instructions.

B. Control Station: For use with motor operated units only

1. Surface mounted: "Open/Close/Stop" push buttons; NEMA 1

C. Control Operation:

1. Momentary contact to close: Fail-safe, UL325-2010 Compliant Entrapment Protection for Model MG Motor Operation.
 - a. NEMA 1 photo eye sensors consisting of a transmitter and receiver that are to be mounted within 6" of the counter/floor, projecting an IR beam across the entire width of the door. Electrical contractor to provide low voltage wiring from the transmitter and receiver to the door operator.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

OVERHEAD COILING DOORS
DIVISION 08
Section 083323

- B. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion. Lubricate bearings and sliding parts as recommended by manufacturer. Adjust seals to provide tight fit around entire perimeter.

3.02 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 087100 - FINISH HARDWARE**PART 1. GENERAL****1.01 NOTIFICATIONS OF POTENTIAL HAZARDS**

- A. Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 NOTIFICATIONS OF CHILD OCCUPIED FACILITY

- A. Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.03 SUMMARY

- A. Work under this section includes the finish hardware requirements for the project. Hardware schedule is based on hollow metal doors and frames, and cabinet locks. Quantities listed are for the contractor's convenience and are not guaranteed. Items not specifically mentioned, but necessary to complete the work, shall be furnished, matching the items specified in quality and finish.

1.04 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications, apply to this Section
- B. Related Sections
 - 1. Section 062023 - Interior Finish Carpentry
 - 2. Section 081113 - Metal Doors and Frames
 - 3. Section 083323 - Overhead Coiling Doors

1.05 REFERENCES

- A. Reference Standards: Current edition at date of bid
- B. ANSI/BHMA A156.18 – Materials and Finishes
- C. ICC/ANSI A117.1 – Accessible and Usable Building and Facilities
- D. NFPA-80 Standard for Fire Doors and Window

- E. Underwriters Laboratories – Building Materials Directory
- F. Underwriters Laboratories Test Standard UL 10C-98 – Positive Pressure Fire Test of Door Assemblies.
- G. UL10C – Positive Pressure Fire Tests for Door Assemblies

1.06 SUBMITTALS

- A. General: Comply with all the requirements of Section 01300.
- B. Product Data: Submit six (6) copies of manufacturer's data for each item of finish hardware.
- C. Hardware Schedule: Submit six (6) copies of a detailed Finish Hardware Schedule.
 - 1. Indicate complete designation of every item required for each door or opening.
 - 2. Furnish cover sheet listing title of project as shown on Contract Documents, name, address, phone and fax numbers of Owner, Architect, Contractor, and Supplier, name of Certified Hardware Consultant, and date of submittal.
 - 3. List each opening individually under separate headings in same order as door schedule. Do not group like or similar doors under a single heading. Do not continue headings on separate pages.
 - 4. At each heading, indicate opening location, handing, degree of opening, door size, type, fire rating, and Door and Frame material.
 - 5. Indicate product manufacturer and incorporate cross-reference to symbols used in Hardware Schedule attached to this Section.
 - 6. Include locations for miscellaneous items.
 - 7. Cross reference abbreviations or symbols used.
 - 8. Index door number, heading, page number, and locking function of each opening.
 - 9. Schedules in coded or horizontal format are not accepted.
 - 10. Submittals not conforming to these requirements will be returned without review, for re- submittal. Following is an example of required format:

Single Door #100 - Corridor 010 to Office 100 - RH 90°			
3-0 x 7-0 x 1-3/4" x Non-Rated x Type A - SC WD x HMF			
3	Each Hinges	MC	T4A4386/T4A4786 US26D 4-1/2 x 4-1/2" NRP
1	Lockset	SC	L9456 06L 32D RH L/C
1	Cylinder	BE	1E74 626
1	Door Closer	LCN	4040XP EDA Alum. SNB
1	Kick Plate	RO	K1050 - 10 x 34.5 – 32D
1	Wall Stop	RO	416 26D TORX
1	Set Smoke Gasket	PE	S44D OR S88D - 17' per Set

Cabinet Lock Format:

Classroom 103

Cabinet Doors – 2 ea	Door Locks	OL	721DRUS26D
Cabinet Drawers – 45 ea	Drawer Locks	OL	721DWUS26D

- 11. Processing: Hardware schedules will not be reviewed by Architect until they have been reviewed and approved by Contractor. Resubmit only corrected copies of those sheets requiring correction and update distributed copies with corrected sheets.

12. Modifications: Update Hardware Schedule and keep current throughout project duration.
 - a. Incorporate revisions conforming to specified requirements.
 - b. Submit only cover sheet and revised pages.
 - c. Clearly identify changes from previous submittal content.
 13. Owner's Representative will review and approve final submittal. When approved, send one copy to Anchorage School District, Maintenance Department/Lock Unit, 1301 Labar Street, Anchorage Alaska 99515, Attn: Joe Balogh III.
 14. Review of hardware schedule does not relieve Contractor of responsibility to fulfill project requirements in accordance with the Contract Documents.
 15. Affidavit of Coordination: Letter signed by an approved hardware consultant stating they have reviewed the drawings and specifications and have coordinated the hardware for completeness, substrates, conditions of project. Submittals submitted without affidavit will be returned unreviewed.
 - a. Submit Certified Architectural Hardware Consultant qualifications and certificate.
- D. Key Schedule: Submit three (3) copies of Keying Chart for Locks and Cabinet Locks.
1. Include door number, location, lock function, heading, keying layout, and quantity of keys.
 2. Deliver two copies of approved keying chart, complete with key numbers.
- E. Wiring Diagrams:
1. Submit three (3) copies of electronic hardware system riser and terminal-to-terminal wiring diagrams for each Electronic Hardware application, cross-referenced to Finish Hardware Submittal and Door Schedule.
 2. Include voltage requirements along with product data and installation instructions.
 3. Indicate connection points to equipment provided under Division 26.
- F. Operations and Maintenance Data:
1. Submittals: Submit Maintenance and Operations Manuals under provisions of Division 1, Operation and Maintenance Data.
 2. Content: Manuals shall contain final copy of Finish Hardware Submittal, product data, templates, Key Schedule, parts lists and diagrams, installation and maintenance instructions, wiring diagrams, and Product Warranties.

1.07 QUALITY CONTROL

- A. Quantities listed are for Contractor's convenience only and require verification. Provide Items not specifically mentioned, but necessary to complete work, matching items specified.
- B. Supplier:
1. Recognized builders' hardware supplier who has been furnishing hardware in same area as project for a period of not less than 5 years.
 2. Factory direct, authorized distributor of Exit Devices, Locksets, and Door Closers.

3. Employing a hardware consultant, certified by Door and Hardware Institute (DHI), available during course of work to meet and consult with Owner, Architect, or Contractor.
- C. Source: Furnish each kind of hardware from single source manufacturer, except as otherwise specified.
- D. Templates: Furnish hardware templates for each fabricator of doors, frames and other work to be factory prepared for installation of hardware. Upon request, check shop drawings of such other work to confirm that provisions will be made for proper installation of hardware.
- E. Installer:
 1. Trained by hardware manufacturer or local trade union jurisdiction in procedures required for a successful installations, conforming to manufacturer's instructions.
 2. Able to document 3 years or more years' experience upon request by Owners representative.
- F. Codes:
 1. All finish hardware shall comply with current applicable local and/or state building codes.
 2. Hardware for fire-rated openings shall also be in compliance with all fire related building codes applicable to the district in which the building is located. Provide only hardware which has been tested and listed by UL for the types and sizes of doors required, and which complies with the requirements of the door and door frame label.

1.08 PRODUCT HANDLING AND STORAGE

- A. Packaging:
 1. Each item or package is to be separately tagged with identification related to final hardware schedule.
 2. Detailed installation instructions shall be included.
- B. Storage:
 1. Provide locked room at the job site for storage of hardware.

1.09 GUARANTEE

- A. Finish hardware shall be guaranteed against defects in workmanship and operation for a period of one (1) year, backed by a factory guarantee of the hardware manufacture. The following products shall be guaranteed for period beyond one (1) year:
 1. Locks – 2 years
 2. Exit Devices – 5 years
 3. Door Closers – 10 years
 4. Electronics – 2 year

PART 2. PRODUCTS

2.01 ABBREVIATIONS

A.	ABH	Architectural Builders Hardware
B.	ACSI	Architectural Control Systems, Inc
C.	BBW	Builders Brass Works
D.	BE	Best Access Systems.
E.	LCN	LCN Door Closers
F.	LN	Locknetics
G.	MA	Marks
H.	MC	McKinney
I.	MK	Marks
J.	OL	Olympus Lock
K.	PE	Pemko Mfg
L.	RI	Rixson
M.	RW	Rockwood
N.	SC	Schlage
O.	ST	Stanley
P.	VO	Von Duprin

2.02 MANUFACTURES AND ACCEPTED SUBSTITUTIONS

- A. Manufacturers: Furnish products as specified or accepted substitutions as specified in table below:

Product	As Specified	Acceptable Substitutions
Butt Hinges	McKinney	Stanley, Hager, Ives
Continuous Hinges	ABH 12 Gauge	Marks 12 Gauge
Cylinders & Cores	BEST	None
Locksets	Schlage L9000	None
Exit Devices	Von Duprin 98/99	None
Door Closers	LCN 4040XP EDA	None
Flush Bolts	Rockwood	Ives, Trimco
Coordinators	Rockwood	Ives, Trimco
Kick Plates, Push/Pulls	Rockwood	Tice, Trimco, Ives
Wall and Floor Stops	Rockwood/ABH	Ives/ABH, Trimco/ABH
Overhead Stop and Holders	ABH	Rixson, Glynn Johnson
Weatherstrip & Thresholds	Pemko	National Guard, Zero
Electrical Switches	ACSI	BEST, Schlage, Von Duprin
Cabinet Locks	Olympus	None

- B. Substitution Requests for Unlisted Products: Submit under provisions of Division 1

2.03 FINISH

- A. Finish in general to be US26D, unless existing hardware is determined to be something other than US26D. Coordinate with Architect for matching of existing hardware finish.:
- Where specifically noted differently.
 - Closers: SRI Prime/Al or powder coat
 - Exit Devices: US32D, satin stainless steel

4. Locksets: US32D, satin stainless steel
5. Thresholds: As listed in schedule
6. Closers: SRI Prime/Al or

2.04 HARDWARE MATERIALS

- A. Fasteners: Provide fasteners for installation with each hardware item. Provide Phillips head fasteners, countersunk oval, flat head, or undercut head as appropriate for material to be installed. Provide Door Closers and Exit Devices with Sex Bolts sized to thickness of door.
- B. Compatibility: Provide fasteners that are compatible with both units fastened and substrate and that will not cause corrosion or deterioration of hardware, base material, or fastener.
- C. Door stops applied to masonry walls or concrete floors; provide double expansion shield type anchors. Sleeve anchors may be substituted when approved by the Anchorage School District Maintenance Department Lock Unit.
- D. TEK/Self-Tapping screws are not permitted.

2.05 BUTTS

- A. Types: Types required are indicated under Hardware Schedule, Article 3.4, and as described below.
- B. Sizes:
 1. Exterior and Vestibule doors: Ball Bearing, Non-Ferrous, Heavy Duty continuous geared hinges.
 2. Interior doors up to and including 36": Ball Bearing, Standard Weight 2 ball bearing hinges.
 3. Doors over 36" or with Overhead Stops: Ball Bearing, Heavy Duty 4 ball bearing hinges.
- C. Quantity: 1-1/2 pair up to and including 90" in height and/or 36" in width unless noted otherwise:
 1. 2 pair over 90" in height and/or 36" in width.
 2. For unusual size or weight doors, furnish type, size quantity recommended by the butt manufacturer, and as listed.
- D. All hinges shall have non-removable pins (NRP) set-screw in barrel.
- E. Provide electrically modified continuous geared hinges as needed by project requirements.

2.06 CONTINUOUS HINGES

- A. Design: 12-gauge stainless steel, Pin and Barrel.

2.07 LOCKSETS (MORTISE)

- A. Types: Schlage L9000 Series are indicated under Hardware Schedule, Article 3.4, and as described below.
- B. Lever Design: Furnish Lever Handle Locksets and Latches in 06L Design.
- C. Backset: 2-3/4 inch.
- D. Ratings: Locksets and Latchsets shall be listed with Underwriters Laboratories for A label and lesser class doors.
- E. Provide extended spindles for doors with doors over 1-3/4" thick
- F. Strikes: Provide Curved Lip Strikes with adequate projection to protect door trim. Provide flat, flush lip strikes for pairs of doors with overlapping Astragals.
- G. Strike Boxes: Provide manufacturers standard wrought or plastic strike boxes

2.08 LOCKSETS (CYLINDRICAL)

- A. Manufacturer listed: Marks 195 Series. **Architect note: Cylindrical locksets for retrofit only. Confirm use with ASD Maintenance's Lock Unit via Project Manager.**
 - 1. Acceptable Substitutions: BEST 9K Series
- B. Backset: 2-3/4", 3-3/4" or 5"

2.09 CASEWORK LOCKS

- A. Cabinet Locks keyed Type that will accept "SFIC". Keyed into the building master key system:
 - 1. Manufacture Listed: Olympus
 - 2. Acceptable substitutions: None
- B. Cabinet locks not keyed into the building master key system:
 - 1. Manufacture Listed: Olympus
 - 2. Acceptable substitutions: Approved equal
- C. Provide Cabinet Locks for all doors and drawers as shown in the contract documents.

2.10 COILING AND OVERHEAD DOOR LOCKS

- A. Manufacture Listed: Schlage Best 1E Series
- B. Acceptable substitutions: NONE

2.11 ELECTRICAL SWITCH LOCKS

- A. Manufacture Listed: ACSI

- B. Acceptable substitutions: Best Access Systems, Schlage and Von Duprin
- C. Type that will accept "SFIC".

2.12 CYLINDERS

- A. Manufacturer: All lock cylinders shall be manufactured by BEST, no substitutions.
- B. Type that will accept "SFIC".

2.13 CORES

- A. Manufacturer listed: Best Access Systems, 7 pin, interchangeable core, "Premium". Provide typically with all locksets and as listed.
- B. Acceptable substitutions: None.

2.14 EXIT DEVICES

- A. Types: Von Duprin 98 Series are indicated under Hardware Schedule, Article 3.4, and as described below. NOTE VO 99 (grooved) is acceptable if VO99 hardware is on site to remain.
 - 1. All cylinder dogging shall accept BEST SFIC cylinders/cores.
- B. Pair Openings: Furnish two Exit Devices for pair openings.
- C. Rated Openings: Provide UL listed Fire Exit Hardware at rated openings.
- D. Sizes: Provide Exit Devices sized in accordance with manufacturer's recommendations.
- E. Keyed Removable Mullions: Furnish Spacers for installation in narrow stop frames.
- F. Provide a pair of mullion stabilizers KR154 for ALL mullions.
- G. Vision Frames: Provide Glass Bead Kits where interference with vision frames occurs.
- H. Lever Trim: Exit Device Lever Trim shall be similar to design specified under LOCKSETS.
- I. Provide Sex Nuts and Bolts for all Exit Devices
- J. Mount 36 inches AFF to center of lever or pull at elementary schools, standard by DHI elsewhere.

2.15 DOOR CLOSERS, SURFACE

- A. Types: LCN 4040XP EDA Series are indicated under Hardware Schedule, Article 3.4, and as described below.
- B. Pair Openings: Furnish two Door Closers for pair openings, except as noted in HW Groups.

- C. Drop Plates: Furnish drop plates where doors have insufficient height top rails, or where Regular Arm Door Closers are used in conjunction with Concealed Overhead Stops.
- D. Fluid: Furnish cold weather fluid at exterior & vestibule doors. Furnish non-flammable fluid at fire rated openings in conformance with UL Standard 10C.
- E. Spacer Blocks: Furnish Spacer Blocks where frame stop does not provide for adequate support for parallel arm soffit shoe.
- F. Special Mounting: Provide special closer mounting as required where interference with weatherstrip or sound seals occurs. Do not cut sound seal or weatherstrip to accommodate door closer shoe.
- G. Provide Special Rust Inhibitive (SRI) undercoating for all door closers.
- H. Provide Sex Nuts and Bolts for all Door Closers.
- I. Provide and/or mount all closers in parallel arm (EDA) configuration UON.
- J. Plastic covers are acceptable.
- K. Stop on the Arm (LCN S-Cush) type closers are unacceptable.

2.16 KICKPLATES, PUSH AND PULLS

- A. Types: Rockwood is indicated under Hardware Schedule Article 3.4 and as described below.
- B. Pair Openings: Furnish two Kick Plates for pair openings.
- C. Fasteners: Provide stainless steel Phillips oval/undercut head, full tread type sheet metal screws for fastening not more than 5 inches on center.
- D. Material: Plates shall be .050 Stainless Steel and beveled 4 edges
- E. Provide kickplates 10" in height, typical height.
- F. Provide Mop Plates 6" in height at restroom door.
- G. Provide Armor Plates 34" in height at Janitor Closets and Kitchens
- H. Size: All plates shall be 2" less than door width on push side of door, except pairs of doors shall be 1-1/2" less than door width. All shall be 1-1/2" less than door width on pull side of door. Kick plates shall be 10" in height, standard.

2.17 STOPS AND HOLDERS

- A. Types: Types required are indicated under Hardware Schedule, Article 3.4, and as described below.
- B. Pair Openings: Furnish two Stops for pair openings.
- C. Size: Furnish Overhead Stop and Holders sized as recommended by manufacturer

- D. Special Applications: Furnish Overhead Stop and Holders with special shims, brackets, or special template mounting where required
- E. Overhead stops may only be used where floor and wall stops won't work and must be approved for each location by the ASD Maintenance Lockshop.
- F. Set doors to open 180 degrees and use floor or wall stops.

2.18 THRESHOLDS//WEATHERSTRIP/SOUND SEALS

- A. Types: Pemko is indicated in under Hardware Schedule, Article 3.4, and as described below.
- B. Fasteners: Furnish Thresholds with PE 273x3AFG Phillips Flat Head Sleeve Anchors

2.19 MAGNETIC HOLDERS

- A. Types: ABH is indicated in under Hardware Schedule, Article 3.4, and as described below.
- B. Vandalism resistant, metal units only. Plastic magnet covers are not acceptable.

2.20 MISCELLANEOUS

- A. Types: Rockwood 608 are indicated under hardware schedule, Article 3.4 and as described below.
- B. Provide quantities of miscellaneous items as required for a complete and operational opening.
- C. Provide door silencers for all openings without gasketing/weatherstrip. Provide three (3) for single doors and four (4) for pairs of doors and doors 7'-6" and taller.

2.21 KNOX BOX

- A. Provide One (1) Knox Box Model 3202 keyed to Anchorage Fire Dept and Anchorage School District System.
- B. Locate as approved by local fire department

2.22 KEYING

- A. Types: A key conference will be conducted with the owner and hardware supplier to determine permanent keying requirements. Key cylinders as directed to owner's existing BEST "Premium" Grandmaster key system.
- B. Construction Keying: Provide Brass Construction Cores and Keys for all locks and cabinet locks during construction period. Plastic Construction Cores are unacceptable. Construction cores shall remain the property of the hardware supplier and are to be returned after installation of permanent cores.

- C. All cylinders and cabinet locks are to be provided with brass construction cores.
- D. All keys and cores shall be stamped as directed for visual key control.
- E. Key Quantities: Three (3) keys for each keyed lock as follows:
 - 1. Three (3) cut keys for each individually keyed lock; or
 - 2. Three (3) cut keys for each keyed alike group, with balance in uncut blanks.
- F. Ship all cores, change keys, masterkeys, control keys, and construction/control keys via registered mail, return receipt requested to: Anchorage School District, Maintenance Department / Lock Unit, 1301 Labar Street, Anchorage, Alaska 99515, Attn: Joe Balogh III.

PART 3. EXECUTION

3.01 PREPARATION

- A. Examination: Examine Doors, Frames, and related items for conditions that would prevent proper application of Finish Hardware. Do not proceed until defects are corrected
- B. Blocking: Provide solid blocking for Wall Stops, Automatic Operators, Wall Plate Actuators, and Magnetic Holders.
- C. Fasteners: Check conditions and use fastening devices as needed to securely anchor hardware as per manufacturer's published templates. Self-tapping sheet metal screws are not acceptable.

3.02 INSTALLATION

- A. Mounting Heights: Mount units at heights as recommended in Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames (2014) by Doors and Hardware Institute, except as indicated below. Products not specifically covered shall be installed in accordance with manufacturer templates and instructions.
 - 1. Hinges:
 - a. Top Hinge: 7-1/4 inch, Top of frame rabbet to centerline of hinge.
 - b. Bottom Hinge: 12-1/4 inch, Bottom of Frame to centerline of hinge.
 - c. Intermediate Hinges: Centered, equal spacing between top and bottom hinges.
 - 2. Mortise Lock Strikes: 40 inch, bottom of frame to centerline of Strike.
 - 3. Exit Devices: Per Manufacturers recommendation
- B. Installation: Install each hardware item in conformance to manufacturer's instructions..
 - 1. Cutting and Fitting: Wherever cutting and fitting are required to install hardware on surfaces that will be painted or finished at a later time, install each item completely and then remove and store in a secure place. After completion of finishes, re-install each item.
 - 2. Door and Frame Finishes: Do not install surface-mounted items until finishes have been completed on substrate.
 - 3. Fire Rated Openings: Install in accordance with NFPA 80
 - 4. Degree of Opening: Door shall swing to maximum degree that project conditions will allow. The swings indicated on floor plan are intended to depict direction and do not indicate full degree of opening.

5. Exit Devices: Trim Exit Devices to provide 1-1/2 inch clearance between End Cap and hinge jamb stop face and stop applied weatherstrip.
 6. Door Closers: Door Closer shall be located to allow maximum degree of opening that project conditions will allow. Door Closer shall not be used to stop door, except for models equipped with an integral stop-on--arm feature.
 7. Overhead Stops: Furnish Overhead Stop and Holders with maximum degree of opening that project conditions will allow. Maintenance Lockshop must approve the use of these.
 8. Floor Stops: Locate Floor Stops at maximum degree of opening that project conditions will allow. Do not locate Floor Stops where they create a hazardous condition. Stops should be located no more than 1/3 Door width from latch edge of Door. Contractor shall verify Architect (or Owner) prior to installation.
 9. Thresholds: Set Exterior Thresholds in a bed of butyl rubber sealant. Completely fill all voids to exclude moisture. Remove excess sealant. Caulk edges and joints. Anchor Thresholds at Wood Gym Floors to Concrete side of opening only.
 10. Weatherstrip: Mount and adjust Rigid Jamb Weatherstrip prior to mounting Parallel Arm Door Closers. Weatherstrip shall be installed to provide a continuous seal at head and jambs. Do not notch Weatherstrip for Door Closer shoe. Lower Door Closer Body 1/4 inch to allow for mounting of Soffit shoe on top of weatherstrip. Provide Parallel Arm 5th hole spacer of increased thickness to allow for revised location.
 11. Smoke Gasket: Completely clean frame and apply gasket in accordance with manufacturer's instructions. Mount Gasket to stop face of Strike Jambs and Headers, Door Rabbet of Hinge Jamb. If Gasket is required to be mounted on door rabbet of Strike Jambs due to Fire labeling requirements, provide Silencers.
- C. Adjustment: Adjust and check each operating item of hardware and each door to insure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly.

3.03 FINAL ADJUSTMENT

- A. Final Adjustment: Wherever hardware installation is made more than one (1) month prior to Substantial Completion, make a final check and adjustment of hardware items during week prior to Substantial Completion. Clean and lubricate operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- B. Door Closer Adjustment: After mechanical systems have been balanced, adjust Door Closers to conform to following ICC/ANSI A117.1 - 2009 requirements.
1. Closing Speed: With door open 70 degrees, door closer shall be adjusted so that door will take at least three (3) seconds to move to a point where leading edge of door is three inches from latching.
 2. Opening Force: The maximum force for pushing or pulling a door open shall be as follows: (these forces do not apply to force required to retract latch bolts or disengage other devices securing door).
 - a. Fire Doors: The minimum opening force allowable by appropriate authority having jurisdiction.
 - b. Exterior Doors: 8.5 lbf.
 - c. Interior Doors: 5.0 lbf.
- C. Backcheck: Adjust to prevent damage to closer, hardware, door and frame, and wall.
- D. Instruction: Instruct Owner's Personnel in proper adjustment and maintenance of hardware.

3.04 HARDWARE GROUPS

- A. General interior doors, single leaf, non-fire-rated
 - 1. HW-1 (passage type)
 - 2. Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1each Latchset SC L9010L.
1each Stop RW416 (if not feasible use ABH 9000A)
 - 3. HW-2 (privacy type):
As HW-1 except delete latchset and add 1each Privacy-set SC L9040L.
 - 4. HW-3 (locked):
As HW-1 except delete latchset and add 1each Lockset SC L9456L
 - 5. HW-4 (school lock-down classroom or office):
As HW-1 except delete latchset and add 1each Lockset SC L9456L.
 - 6. HW-5 (permanently locked) (electrical, mechanical, or chase doors only)
As HW-1 except delete latchset and add 1each Lockset SC L9080L.
 - 7. HW-6 at above HW groups where door closer required / wanted add
1each Closer (heavy use) LCN 4040XP EDA 689SRI.
1each Kickplate RW K1050 B4ELTDW 630
 - 8. HW-7 at above HW groups where doors are required to have Sound
Transmission Coefficient STC-30.
1 each PE # PDB Acoustic Set (jamb, head and door bottom)
1 each Saddle PE 151A.
- B. General interior doors, single leaf, 20-minute rated.
 - 1. HW-8
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500:
1each Latch/Lockset SC (L9010) (L9040) (L9070) (L9080) (L9456).
1each Closer LCN 4040XP EDA 689SRI
1 pair Jamb Gaskets PE 2891 APK
1each Head Gasket PE S44D OR S88D
1each Stop RW 416 (if not feasible use ABH 9000A)
1each Kickplate RW K1050 B4ELTDW 630
 - 2. HW-9 (school lock-down)
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1each Lockset SC L9456L
1each Closer LCN 4040XP EDA 689SRI
1 pair Jamb Gaskets PE S44D OR S88D
1each Head Gasket PE S44D OR S88D
1each Stop RW 416 (if not feasible use ABH 9000A)
1each Kickplate RW K1050 B4ELTDW 630
- C. General interior doors, single leaf, fire-rated (1, 1-1/2 hour).
 - 1. HW-10
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1each Latch/Lockset SC (L9010) (L9040) (L9070L) (L9080) (L9456)
1each Closer LCN 4040XP EDA 689SRI
1 pair Jamb Gaskets PE 2891 APK (at corridor location only)
1each Head Gasket PE S44D OR S88D (at corridor location only)
1each Stop RW 416 (if not feasible use ABH 9000A)
1each Kickplate RW K1050 B4ELTDW 630
 - 2. HW-11 (school lock-down)
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1each Lockset SC L9456L

1each Closer LCN 4040XP EDA 689SRI
1 pair Jamb Gaskets PE 2891 APK (at corridor location only)
1each Head Gasket PE S44D OR S88D (at corridor location only)
1each Stop RW 416 (if not feasible use ABH 9000A)
1each Kickplate RW K1050 B4ELTDW 630

D. Interior, single leaf, corridor/classroom door (school lock-down)

1. HW-12
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Exit Device VO CD98Lx 996L (breakaway lever)
1 each Cylinder BE 1E74 OR BE 1E72
1 each Cylinder BE 1E7A2/Rim Thumb Turn for cylinder dogging
1 each Closer LCN 4040XP EDA 689SRI
1 set door silencers RW 608
1 each Kickplate RW K1050 B4ELTDW 630
1 each Stop RW 416 (if not feasible use ABH 9000A)
2. HW-13 (20-minute rated)
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Exit Device VO 98L-F-2SI x 299F x 996L (breakaway lever)
1 each Cylinder BE 1E74
1 each Cylinder BE 1E-7A2/Rim Thumb Turn
1 each Closer LCN 4040XP EDA 689SRI
1 pair Jamb Gaskets PE S44D OR S88D
1 each Head Gasket PE S44D OR S88D
1 each Kickplate RW K1050 B4ELTDW 630
1 each Magnetic Holder ABH 2100

E. Interior, single leaf corridor door with hold-open, 20-minute rated.

1. HW-14
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Lockset SC L9070L
1 each Closer LCN 4040XP EDA 689SRI
1 each Magnetic Holder ABH 2100
1 pair Jamb Gaskets PE 2891 APK
1 each Head Gasket PE S44D OR S88D
1 each Kickplate RW K1050 B4ELTDW 630
2. HW-15 (school lock-down)
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Lockset SC L9456L
1 each Closer LCN 4040XP EDA 689SRI
1 each Magnetic Holder ABH 2100
1 pair Jamb Gaskets PE S44D OR S88D
1 each Head Gasket PE S44D OR S88D
1 each Kickplate RW K1050 B4ELTDW 630

F. Interior, single leaf, classroom toilet door

1. HW-16
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Privacy Set SC L9040L or SC L9486x06L 626 L283-722 (with indicator)
1 each Closer LCN 4040XP EDA 689SRI
1 each Stop RW 416 (if not feasible use ABH 9000A)

- 1 set Silencers
- 1 each Armor plate BBW 37 x 36" x .050 x US32D

- G. Interior, single leaf, non-rated, no latching
 - 1. HW-17
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 1 each Push/Pull RW 111 73C/73CL 630
 - 1 each Stop RW 487 (mount at top of door)
 - 1 each Kickplate RW K1050 B4ELTDW 630
- H. Interior, single leaf, sound control door, rated/non-rated
 - 1. HW-18
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Lockset SC L9070L
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 1 each Stop RW 416 (if not feasible use ABH 9000A)
 - 1 each Kickplate RW K1050 B4ELTDW 630
 - 1 each PE # PDB Acoustic Set (jambs, head and door bottom)
 - 1 each Saddle PE 151A
 - 2. HW-19 (school lock-down)
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Lockset SC L9456L
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 1 each Stop RW 416 (if not feasible use ABH 9000A)
 - 1 each Kickplate RW K1050 B4ELTDW 630
 - 1 each PE # PDB Acoustic Set (jambs, head and door bottom)
 - 1 each Saddle PE 151A
- I. Interior, single leaf, utility chase door
 - 1. HW-20 (non-rated)
 - Butts MC T4A4386/T4A4786
 - 1 each Lockset SC L9080L x abrasive outside knob
 - 2. HW-21 (rated)
 - Butts MC TB4A4386
 - 1 each Lockset SC L9080L x abrasive outside knob
 - 1 each Closer 4040XP EDA 689SRI
- J. Interior, single leaf, smoke/fire-rated, push-pull door
 - 1. HW-22
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Latchset SC L9010L
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 1 each Stop RW 487(mount at top of door)
 - 1 each Kickplate RW K1050 B4ELTDW 630
 - 1 pair Jamb Gaskets PE 2891 APK (at corridor locations only)
 - 1 each Head Gasket PE S44D OR S88D (at corridor locations only)
- K. Interior, pair of doors, infrequent use, storage room, etc.
 - 1. HW-23
 - Butts MC T4A4386/T4A4786 or continuous hinge ABD A5500
 - 1 each Lockset SC L9080L
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 2 each Stop/Holder RW491S / ABH 9010 as appropriate

- 2 each Surface Bolts RW 585-12
- 2each Kickplates RW K1050 B4ELTDW 630
- 1 set silencers
- 2. HW-24 (smoke/fire-rated)
 - Butts MC T4A4386/T4A4786
 - 1 each Lockset SC L9080L
 - 1 each Closer LCN 4040XP EDA 689SRI
 - 2 each Surface Bolts RW 585-12 x through bolts
 - 1 pair Astragal PE 357 SS
 - 1 pair Jamb Gaskets PE 2891 APK (at corridor locations only)
 - 1 each Head Gasket PE S44D OR S88D (at corridor locations only)
 - 2 each Kickplates RW K1050 B4ELTDW 630
- L. Interior, pair of doors with key removable mullion, hold-open feature, smoke/fire-rated, room/area exiting conditions, both leaves active
 - 1. HW-25
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 2 each Exit Devices VO 98L-F x 996L X 299 X 626 X SNB 3'
 - 2 each Cylinders BE 1E74 OR BE 1E72, rim type
 - 1 each Cylinder BE1E74, mortise type (keyed mullion)
 - 1 each Removable Mullion KR4954 7' SP28
 - 1 set Mullion Stabilizers, KR154
 - 2. 2 each Closers LCN 4040XP EDA 689SRI
 - 1 pair Jamb Gaskets PE 2891 APK (at corridor locations only)
 - 1 each Head Gasket PE S44D OR S88D (at corridor locations only)
 - 2 each Magnetic Holders ABH 2100
 - 4 each Kickplates RW K1050 B4ELTDW 630
 - 3. HW-26 (school lock-down)
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Exit Device VO 98L-F-2SI x 299F x 996L (breakaway lever)
 - 1 each Exit Device VO 98L-F x EO
 - 1 each Cylinder BE 1E74
 - 1 each Cylinder BE 1E7A2/Rim Thumb Turn
 - 1each Cylinder BE 1E74, mortise type (keyed mullion)
 - 1 each Removable Mullion KR4954 7' SP28
 - 1 set Mullion Stabilizers, KR154
 - 2each Closers LCN 4040XP EDA 689SRI
 - 1 pair Jamb Gaskets PE S88D
 - 1 each Head Gasket PE S88D
 - 2 each Magnetic Holders ABH 2100
 - 4 each Kickplates RW K1050 B4ELTDW 630
- M. Interior, pair of doors, smoke/fire-rated, room/area exiting conditions, one leaf active
 - 1. HW-27
 - Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
 - 1 each Exit Device VO 9875L-F X 996L
 - 1 each Cylinder BE 1E74 or BE 1E72, mortise type
 - 2 each Closers LCN 4040XP EDA 689SRI
 - 1 pair Astragal PE 357 SS
 - 1 each Coordinator RW 2672
 - 1 pair Automatic Flush Bolts RW 555 626
 - 1 pair Jamb Gaskets PE 2891 APK (at corridor locations only)
 - 1 each Head Gasket PE S88D (at corridor locations only)
 - 2 each Kickplates RW K1050 B4ELTDW 630

2 each Stops RW 487 (mount at top of door)

N. General exterior door, single leaf, in exit path.

1. HW-28
Butts MC T4A4386, or ABH A5500
1 each Exit Device VO 98 (EO)
1 each Closer LCN 4040XP EDA 689SRI
1 each Door Bottom PE 315CN (except at aluminum)
1 pair Jamb Gaskets PE 2891 APK (except at aluminum)
1 each Head Gasket PE S44D OR S88D (except at aluminum)
1 each Stop RW 416 (if not feasible use ABH 9000A)
1 each Kickplate RW K1050 B4ELTDW 630
1 each Threshold PE 273X3AFG

O. Exterior, single leaf, out-swing.

1. HW-29
ABH A5500
1 each Lockset SC L9070L
1 each Closer LCN 4040XP EDA 689SRI
1 each Threshold PE 273X3AFG
1 each Door Bottom PE 315CN
1 pair Jamb Gaskets PE 2891 APK
1 each Head Gasket PE S44D OR S88D
1 each Lock Protector RW 320
1 each Stop/Holder RW 491S (if not feasible use ABH 9010)

P. Single, inside vestibule door.

1. HW-30
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
1 each Closer LCN 4040XP EDA 689SRI
1 set VO 350 x990DT
1 each Stop RW 491S (if not feasible use ABH 9010)
1 each Kickplate RW K1050 B4ELTDW 630
1 pair Jamb Gaskets PE 2891 APK
1 each Head Gasket PE S88D
1 each Astragal PE 357 SS

Q. Pair, inside vestibule doors.

1. HW-31
Butts MC T4A4386/T4A4786 or Continuous Hinge ABH A5500
2 each Closers LCN 4040XP EDA 689SRI
2 sets VO 350 x990DT
2 each Stops RW 491S (if not feasible use ABH 9010)
2 each Kickplates RW K1050 B4ELTDW 630
1 pair Jamb Gaskets PE 2891 APK
1 each Head Gasket PE S88D
1 each Astragal PE 357 SS

R. Pair, exterior doors (Typical exterior storage and mechanical room access)

1. HW-32
Continuous Hinge ABH A5500
1 each Lockset SC L9480L
1 each Closer LCN 4040XP EDA 689SRI
1 each Surface Bolts RW585-12 x through bolts

- 2 each Stops/Holders RW491S (if not feasible use ABH 9010)
 - 1 each Threshold PE 2573X3AFG
 - 2 each Door Bottoms PE 315CN
 - 1 pair Jamb Gaskets PE 2891 APK
 - 1 each Head Gasket PE S88D
 - 1 each Astragal PE 357 SS
 - 2 each Kickplates RW K1050 B4ELTDW 630
 - 1 each Lock Protector RW 320
- S. Pair, exterior doors, in exit path, one leaf active (NOTE: For entries that have more than two doors, only one of these should have key access (VO CD98x990NL) type.
- 1. HW-33
 - Continuous Hinge ABH A5500
 - 1 each Exit Device VO CD98 x 990NL
 - 1 each cylinder BE 1E72
 - 2 each cylinders BE 1E74 for dogging
 - 1 each Exit Device VO CD98 x 990DT
 - 1 each Cylinder BE 1E74, mortise type
 - 2 each Closers LCN 4040XP EDA 689SRI
 - 1 each Removable Mullion KR4954 7' SP28
 - 1 set Mullion Stabilizers, KR154
 - 2 each Stops/Holders RW 491S (if not feasible use ABH 9010)
 - 1 each Threshold PE 252X3AFG
 - 2 each Door Bottoms PE 315CN
 - 1 set Jamb Gaskets PE 2891 APK
 - 1 each Head Gasket PE S44D OR S88D
 - 2 each Kickplates RW K1050 B4ELTDW 630
 - 1 LCN4640, electric door operator with power transfer, keyed switch, ADA operator
- T. Pair, exterior doors, in exit path, (RHR) leave active; with key removable mullion.
- 1. HW-34
 - Continuous Hinge ABH A5500
 - 1 each Exit Devices VO CD98NLx990NL X 299 X 626 X SNB 3'
 - 1 each Exit Devices VO CD98DTx990DT X 299 X 626 X SNB 3'
 - 1 each Removable Mullion KR4954 7' SP28
 - 1 set Mullion Stabilizers, KR154
 - 2.
 - 1 each Cylinder BE 1E72, rim type
 - 2 each Cylinder BE 1E74, mortise type (for CD)
 - 1 each Cylinder BE 1E74, mortise type (keyed mullion)
 - 2 each Closers LCN 4040XP EDA 689SRI
 - 2 each Stops/Holders RW 491S (if not feasible use ABH 9010)
 - 1 each Threshold PE 273X3AFG
 - 2 each Door Bottoms PE 315CN
 - 1 set Jamb Gaskets PE 2891 APK including mullion)
 - 1 each Head Gasket PE S44D OR S88D
 - 2 each Kickplates RW K1050 B4ELTDW 630
- U. Electrified entry door (typically for school hours access to main office)
- 1 Continuous hinge ABH5500 PT
 - 1 Continuous hinge ABH5500
 - 1 KR Mullion VO 154-KR-4954 SP28
 - 1 Exit Device VO CD-98-DT US32D 990DT US26D

1 Exit Device VO QEL-98-NL US32D 990NL US26D
1 Astragal Pemko 5110BL 210 @ Mullion
1 Closer LCN4040XP, sex bolts
1 Electronic Closer LCN4642 Long AL
2 Kickplates RW K1050 10"x34" US32D
2 Holders RW491S, or overhead GJ 904H
1 Accessory VO EPT-2
1 Threshold PE 273x3AFG
3 Weather Stripping PE 2891APK
1 Misc SC 653-04 L2 36-079-050
1 Misc SC 660-PB
2 Misc LCN 8310-853T AL

V. Casework Locks

1. HW-35 Cabinet locks keyed into the buildings master key system
Cabinet Lock OL 721
2. HW-36 Cabinet locks for drawers
3. Drawer Lock OL 721DW
4. HW-37 Cabinet locks for doors
5. Door Lock OL 721DR

W. Coiling and Overhead Doors

1. HW-38 Interior Coiling Door
2. Cylinder BE 1E74, mortise type
3. HW-39 Exterior Overhead Sectional Door
4. Cylinder BE 1E72, rim type

X. Electrical Switch Locks

1. HW-40 Interior Coiling Door – Electrically operated
2. Keyed Switch ACSI 1310 with BE Cylinder BE1E74 and BE Core
3. HW-41 Elevator Switch Locks
4. Keyed Switch ACSI 1310 with BE Cylinder BE1E74 and BE Core
5. HW-42 Exterior Hose Bibs, Electrically operated equipment (i.e. basketball goals, curtains), HVAC override switches
6. Keyed Switch ACSI 1310 with BE Cylinder BE1E74 and BE Core

Y. Miscellaneous

1. Custodial Room Door: Provide in addition to the hardware group
1 each Magnetic Holder ABH 2100

Z. EXTRA HARDWARE

2 each Closers LCN 4040XP EDA 689SRI

2 each Exit Devices VO CD98NLx990NL X 299 X 626 X SNB 3'

2 each Lockset SC L9456L

2 each PE 2891 APK

2 each PE S88D

2 each PE 315CN

SECTION 087100

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior partitions.
 - 2. Suspension systems for interior ceilings and soffits.

1.02 SUBMITTALS

- A. Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Evaluation reports for firestop tracks.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.02 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40, hot-dip galvanized unless otherwise indicated.
- B. Studs and Runners: ASTM C 645.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: As required by performance requirements for horizontal deflection.
 - b. Depth: As indicated on Drawings 3-5/8 inches and 6 inches.
- C. Slip-Type Head Joints: Where indicated, provide one of the following:
 - 1. Clip System: Clips designed for use in head-of-wall deflection conditions that provide a positive attachment of studs to runners while allowing 2-inch minimum vertical movement.
 - 2. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch-deep flanges in thickness not less than indicated for studs, installed with studs friction

- fit into top runner and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
3. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch-deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
 4. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
- D. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base-Metal Thickness: 0.0179 inch.
- F. Cold-Rolled Channel Bridging: Steel, 0.0538-inch minimum base-metal thickness, with minimum 1/2-inch-wide flanges.
1. Depth: 1-1/2 inches or as indicated on the Drawings.
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch-thick, galvanized steel.
- G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base-Metal Thickness: 0.0296 inch.
 2. Depth: 7/8 inch.
- H. Resilient Furring Channels: 1/2-inch-deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical.

2.03 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch-diameter wire, or double strand of 0.048-inch-diameter wire.
- B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch in diameter.
- C. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.
- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch and minimum 1/2-inch-wide flanges.
1. Depth: 2-1/2 inches.
- E. Furring Channels (Furring Members):
1. Cold-Rolled Channels: 0.0538-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges, 3/4 inch deep.
 2. Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: 0.0269 inch or as indicated on Drawings.
 - b. Depth: 2-1/2 inches.
 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.

- a. Minimum Base-Metal Thickness: 0.0179 inch or as indicated on the Drawings.
- 4. Resilient Furring Channels: 1/2-inch-deep members designed to reduce sound transmission.
 - a. Configuration: Asymmetrical.

2.04 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
 - 1. Asphalt-Saturated Organic Felt: ASTM D 226/D 226M, Type I (No. 15 asphalt felt), nonperforated.
 - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.02 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- E. Direct Furring:
1. Screw to wood framing.
 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Z-Shaped Furring Members:
1. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
 2. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.
- G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.03 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not attach hangers to steel roof deck.
 6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.
- E. Seismic Bracing: Sway-brace suspension systems with hangers used for support.
- F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Tile backing panels.

1.02 SUBMITTALS

- A. Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Samples: For each texture finish indicated on same backing indicated for Work.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- B. Ceiling and wall materials shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.02 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.03 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch.
 - 2. Long Edges: Tapered.
- B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch.
 - 2. Long Edges: Tapered.
- C. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch.
 - 2. Long Edges: Tapered.
- D. Impact-Resistant Gypsum Board (corridor side of walls): ASTM C 1396/C 1396M gypsum board, tested according to ASTM C 1629/C 1629M.

1. Core: 5/8 inch, Type X.
 2. Surface Abrasion: ASTM C 1629/C 1629M, meets or exceeds Level 3 requirements.
 3. Indentation: ASTM C 1629/C 1629M, meets or exceeds Level 3 requirements.
 4. Hard-Body Impact: ASTM C 1629/C 1629M, meets or exceeds Level 3 requirements according to test in Annex A1.
 5. Long Edges: Tapered.
 6. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- E. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
1. Core: 5/8 inch, Type X.
 2. Long Edges: Tapered.
 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.04 TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
1. Core: 5/8 inch, Type X.
 2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- B. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.
1. Thickness: 5/8 inch.
 2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.05 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.06 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
1. Interior Gypsum Board: Paper.
 2. Exterior Gypsum Soffit Board: Paper.
 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 4. Tile Backing Panels: As recommended by panel manufacturer.

- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 - 5. Skim Coat: For final coat of Level 4 finish, use drying-type, all-purpose compound.
- D. Joint Compound for Exterior Applications:
 - 1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
 - 2. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.
- E. Joint Compound for Tile Backing Panels:
 - 1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.
 - 2. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.07 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
 - 1. Adhesives shall have a VOC content of 50 g/L or less.
 - 2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- E. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Sealant shall have a VOC content of 250 g/L or less.

2. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

PART 3 - EXECUTION

3.01 APPLYING AND FINISHING PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- B. Comply with ASTM C 840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- E. Prefill open joints and damaged surface areas.
- F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 2. Level 2: Panels that are substrate for tile and panels that are substrate for acoustical tile.
 3. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
- H. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.
- I. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.
- J. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.02 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900

SECTION 095113 – ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 SUMMARY

- A. All materials, labor, and equipment required for the installation of acoustical ceiling materials and suspension systems as shown on the Drawings and specified herein.

1.02 REFERENCES

- A. The most recently published standards of the following organizations are referenced herein by their acronym:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. Federal Specifications (FS)
 - 3. Ceilings and Interior Systems Construction Association (CISCA)

1.03 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Samples: Submit samples of each acoustical material specified, including representative metal items. Show full range of texture and color with samples to be expected in completed work.
- D. Submit manufacturer's specifications and installation instructions for acoustical material, suspension system, and other products required, including certified laboratory test reports and other data as may be required to show compliance with the Contract Documents.

1.04 REGULATORY REQUIREMENTS

- A. Lateral bracing shall conform to the requirements of IBC Section 1621.2.5 for Category D, following the guidelines of CISCA Guidelines for Seismic Restraint, Zones 3 & 4. Mechanical and electrical equipment shall be supported to conform with IBC Section 1621.3.

1.05 ENVIRONMENTAL CONDITIONS

- A. Do not install acoustical materials unless temperature and humidity conditions closely approximate the interior conditions which will exist when the building is occupied. Maintain temperature and humidity conditions before, during, and after installation. Drywall and similar work shall be complete and dry. Windows and exterior doors shall be in place and glazed.

PART 2 - PRODUCTS

2.01 ACOUSTICAL TILE

- A. Provide manufacturer's standard units of noncombustible mineral fiber, meeting or exceeding FS SS-S-118B, and as specified below.

B. Basis of Design for ceilings as noted:

1. ACT-1: Match existing 12" x 12" acoustic tile, white, Class A. Fully adhered installation.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Coordination: Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.
- B. Verify all measurements and dimensions and coordinate the work with work with other trades, with particular attention to work of mechanical and electrical trades.

3.02 INSTALLATION

- A. Where ceiling is to be adhered, use adhesives recommended by ceiling manufacturer and installed per adhesive recommendations.

3.03 CLEANING AND PROTECTION

- A. Upon completion of the work remove all debris, containers, and equipment from the project site.
- B. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- C. Protect acoustical ceilings during construction period so that they will be without any indication of deterioration or damage at the time of acceptance by the Owner.

END OF SECTION 095113

SECTION 096500 – RESILIENT FLOORING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide resilient flooring and matting as shown or specified and in conformance with the Contract Documents.

1.02 REFERENCES

- A. The most recently published standards of the following organizations are referenced herein by their acronym:

- 1. American Society for Testing and Materials (ASTM)

1.03 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Submit manufacturer's technical data and installation instructions for each type of material and accessories.
- C. Samples: Submit samples of each type, color, and finish of resilient flooring and accessories required, indicating full range of color and pattern variation. Provide full-size tile units, 12 inch square samples of sheet floorings, and 6 inches long samples of accessories.
- D. Maintenance Instructions: Submit manufacturer's recommended maintenance practices for each type of resilient flooring and accessories required.
- E. Provide shop drawing, showing starting point, and design layout per floor design.

1.04 CLOSEOUT SUBMITTALS

- A. Maintenance Data.

1.05 JOB CONDITIONS

- A. Maintain minimum temperature of 65 degrees F in spaces to receive resilient flooring for at least 40 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55 degrees F in areas where work is completed.
- B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Moisture content of concrete slabs and environmental conditions shall be within limits recommended by manufacturer of products being installed.

1.06 WARRANTY

- A. Provide written rubber and vinyl flooring warranty to be free of manufacturing defects for five years.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Colors and Patterns: As selected from manufacturer's standard colors. Patterns and layouts shall be as shown on Drawings.
- B. Stair Treads, Risers and Landing Tiles
 - 1. Basis of Design: Roppe #93 textured.
- C. Safety Flooring Vinyl (SFV)
 - 1. Basis of Design: Mannington Assurance or approved equal.
 - 2. Construction: Homogeneous Sheet Flooring.
 - a. Size: 6'w
 - b. Wearlayer Thickness: 0.080" urethane aluminum oxide topcoat
 - c. Overall Thickness: 0.080"
 - d. Weight Per Square Yard: 6.3 lbs. (3.37 kg per m²)
 - e. Static Load Limit: 750 p.s.i.
 - f. ASTM Specification F-1913: Exceeds
 - g. Coefficient of Friction (ASTM C1028): Meets or exceeds Guidelines of 0.6.
 - h. Flooring Radiant Panel Test (ASTM E648): .45 watts/cm², Passes Class I.
 - i. N.B.S. Smoke Chamber Test (ASTM E662): <450, Passes
 - j. Heat-Weld Seam: Mannington Commercial Solid Integral Color Heat Weld Rods. Heat weld is the recommended procedure for high traffic applications. Match flooring color.
 - k. Recycle Content: 40% pre-consumer
- D. Vinyl Composition Tile (VCT)
 - 1. Basis of Design: Mannington Essentials and/or equal, solid color feature strips as indicated.
 - 2. Size: 12 inches by 12 inches by 1/8 inch.
 - 3. ASTM F-1066, Comp 2
- E. Adhesives: Waterproof, stabilized type **only** as recommended by the flooring manufacturers to suit material and substrate conditions.
- F. Sealer/Primer: As recommended by resilient flooring manufacturer.
- G. Provide 5% Flooring Material Overage.
- H. Edgings/Divider Strip Schedule:
 - 1. Floor Surface Transitions: Basis of Design: Penko 173A or 174B or similar to meet site conditions.
 - 2. Wall Surface Transitions: Basis of Design: Fry Reglett of appropriate shapes to meet site conditions including J-Cap and H-Trim profiles, stainless steel.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Broom clean or vacuum surfaces to be covered, or inspect subfloor. Fill subfloor joint and voids for semifinish surface. Start of flooring installation indicates acceptance of subfloor conditions and full responsibility for completed work.
- B. Use leveling compound as recommended by flooring manufacturer for filling small cracks and depressions in subfloors.
- C. At existing concrete slab, where existing flooring has been removed, in fill all cracks and voids and level surface free from obstructions.

3.02 INSTALLATION

- A. General:
 - 1. All plywood substrate should be sealed prior to applying adhesive.
 - 2. Adhesive: Apply to substrate with correctly notched steel trowels; allow adhesive to become tacky before applying resilient flooring.
 - 3. Extend resilient flooring into closets and offsets, and under movable equipment of the rooms and spaces shown or scheduled to receive resilient flooring. Extend unexposed edges of flooring under set-on bases and equivalent trim work. Scribe, cut, and fit exposed edges of flooring and base adjoining other work accurately and neatly with tight joints.
 - 4. Maintain overall continuity of color and pattern with pieces of flooring installed in these covers. Tightly cement edges to perimeter of floor around covers and to covers.
 - 5. Tightly cement flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll flooring at perimeter of each covered area to assure adhesion.
- B. Resilient Floor Tile:
 - 1. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
 - 2. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable.
 - 3. Install game line feature strips, accurately as shown (Multi-Purpose).
- C. Sheet Vinyl: Install in conformance with manufacturer's recommendations.
- E. Perform concrete moisture vapor emission testing and pH testing to all concrete surfaces specified to be covered with floor coverings or resinous coatings.
- F. Perform a calcium chloride test for concrete moisture vapor emission and perform a pH test to determine if the surface of the concrete slab has an alkalinity over 9 on a pH scale.

3.03 CLEANING AND PROTECTION

- A. Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Before attaching heavy Kraft paper or other covering clean or remove floor surfaces. Immediately repair damage protective floor covering. Do not remove until inspection, cleaning, and polishing has been completed.
- B. Finishing: After completion of the project and just prior to final inspection of work, thoroughly clean floors and accessories.
- C. Apply polish and buff, with type of polish, number of coats, and buffing procedures in compliance with flooring manufacturer's instructions.

END OF SECTION 096500

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Resilient base.
 - 2. Resilient stair accessories.
 - 3. Resilient molding accessories.

1.02 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
 - 1. Product Data: For adhesives, indicating VOC content.
 - 2. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.
 - 3. Laboratory Test Reports: For resilient base and stair accessories, indicating compliance with requirements for low-emitting materials.
- C. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Resilient base and stair accessories shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.02 THERMOPLASTIC-RUBBER BASE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Armstrong World Industries, Inc.
 - 2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
 - 3. Flexco.

- 4. Johnsonite; A Tarkett Company.
- 5. Roppe Corporation, USA.
- B. Product Standard: ASTM F 1861, Type TP (rubber, thermoplastic).
 - 1. Group: I (solid, homogeneous).
- C. Thickness: 0.125 inch.
- D. Height: As indicated on Drawings.
- E. Lengths: Coils in manufacturer's standard length Cut lengths 48 inches long or coils in manufacturer's standard length.
- F. Outside Corners: Preformed.
- G. Inside Corners: Job formed.
- H. Colors: As selected by Architect from full range of industry colors.

2.03 RUBBER STAIR ACCESSORIES

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Armstrong World Industries, Inc.
 - 2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
 - 3. Flexco.
 - 4. Johnsonite; A Tarkett Company.
 - 5. Roppe Corporation, USA.
- C. Stair Treads: ASTM F 2169.
 - 1. Type: TP (rubber, thermoplastic).
 - 2. Class: 2 (pattern; embossed, grooved, or ribbed).
 - 3. Group: 1 (embedded abrasive strips).
 - 4. Nosing Style: Square, adjustable to cover angles between 60 and 90 degrees.
 - 5. Nosing Height: 1-1/2 inches.

6. Thickness: 1/4 inch and tapered to back edge.
 7. Size: Lengths and depths to fit each stair tread in one piece.
 8. Integral Risers: Smooth, flat; in height that fully covers substrate.
- D. Separate Risers: Smooth, flat; in height that fully covers substrate; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
1. Style: Toeless, by length matching treads.
 2. Thickness: 0.125 inch.
- E. Stringers: Height and length after cutting to fit risers and treads and to cover stair stringers; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
1. Thickness: 0.125 inch.
- F. Landing Tile: Matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
- G. Locations: Provide rubber stair accessories in areas indicated.
- H. Colors and Patterns: As selected by Architect from full range of industry colors.

2.04 RUBBER MOLDING ACCESSORY

- A. Description: Rubber stair-tread nosing, cap for cove resilient flooring and transition strips.
- B. Colors and Patterns: As selected by Architect from full range of industry colors.

2.05 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
 1. Adhesives shall have a VOC content of 50 g/L or less and 60 g/L or less for rubber stair treads.
 2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Stair-Tread Nose Filler: Two-part epoxy compound recommended by resilient stair-tread manufacturer to fill nosing substrates that do not conform to tread contours.
- D. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
 - 4. Moisture Testing: Proceed with installation only after substrates pass testing according to manufacturer's written recommendations, but not less stringent than the following:
 - a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have maximum 75 percent relative humidity level.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient products until they are the same temperature as the space where they are to be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.02 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.

3.03 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Stair Accessories:
 - 1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
 - 2. Tightly adhere to substrates throughout length of each piece.
 - 3. For treads installed as separate, equal-length units, install to produce a flush joint between units.
- C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.04 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Floor Polish: Remove soil, visible adhesive, and surface blemishes from resilient stair treads before applying liquid floor polish.
 - 1. Apply two coat(s).
- C. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096566 - RESILIENT ATHLETIC FLOORING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Fluid-applied, homogeneous flooring – Multi-purpose Room.
- B. Fluid-applied flooring over rubberized base mat.
- C. Painted game lines.
- D. Accessories.
- E. Floor substrate preparation
- F. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.
- G. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 RELATED REQUIREMENTS

- A. Section 09 65 13 – Resilient Base.

1.03 REFERENCE STANDARDS

- A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
- B. GEI (SCH) - GREENGUARD "Children and Schools" Certified Products; GREENGUARD Environmental Institute; current listings at www.greenguard.org.

1.04 SUBMITTALS

- A. See Division 01 for submittal procedures
- B. Product Data: Manufacturer's printed data sheets for products specified.

- C. Shop Drawings: Fabrication and installation details, and layout, colors, and widths of game lines and equipment locations.
- D. Selection Samples: Manufacturer's color charts for flooring materials specified and game line paints, indicating full range of colors and textures available.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer certified in writing by the flooring manufacturer to be qualified for installation of specified flooring system.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in unopened containers clearly labeled with manufacturer's name and identification of contents.
- B. Store materials in dry and clean location until needed for installation. During installation, handle in a manner that will prevent marring and soiling of finished surfaces.

1.07 FIELD CONDITIONS

- A. Maintain temperature in spaces to receive adhesively installed resilient flooring within range of 70-95 degrees F for not less than 48 hours before the beginning of installation and for not less than 48 hours after installation has been completed. Subsequently, do not allow temperature in installed spaces to drop below 50 degrees F or to go above 100 degrees F.

PART 2 PRODUCTS

2.01 FLUID-APPLIED ATHLETIC FLOORING

- A. Manufacturers: All products by the same manufacturer.
 - 1. Robbins Sports Surfaces; Basis of Design: Pulastic FL-E: www.robbsfloor.com
 - 2. Alternate Brand Request or Substitution Request required.
- B. Polyurethane Flooring Over Rubberized Base Mat:
 - 1. Total System Thickness: Minimum 3/8 in; with minimum .07 in polyurethane. Coordinate installation with concrete substrate infill thickness to flush out floor with adjacent floor finishes.
 - 2. Base Mat: Prefabricated rubber mat of recycled rubber granules in polyurethane binder.
 - 3. Sealer: Manufacturer's standard two-component polyurethane compound designed to seal base mat before application of resin topcoat.
 - 4. Resin: Two-component, solid, pigmented, self-leveling polyurethane without fillers, zero mercury formulation, with properties as follows:
 - a. Tensile strength: Minimum 1,450 psi, per ASTM D412.
 - b. Hardness: Minimum 70, when tested in accordance with ASTM D2240 using Type A durometer.
 - c. Ultimate Elongation: Minimum 230 percent, per ASTM D412.
 - 5. Finish: Manufacturer's standard pigmented two-component polyurethane topcoat, matte finish, in color as selected from manufacturer's standards.

- C. Game Lines (see Drawings for game line layout)
 - 1. Basis of Design: Sika by Descol.
 - 2. Minimum of three game line colors to be determined by ASD.
 - 3. Coordinate layout with Anchorage School District.

2.02 ACCESSORIES

- A. Leveling Compound: Latex-modified cement formulation as recommended by flooring manufacturer for substrate conditions.
- B. Adhesive: Water-resistant type recommended by flooring manufacturer for project conditions.
- C. Reducer Strip: Schluter Reno Ramp natural anodized Aluminum.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates for conditions detrimental to installation of athletic flooring. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of athletic flooring to substrate.
- C. Verify floor height, finish and condition at all door openings to achieve smooth transition with not more than 1/4" differential between adjacent floor finish.
- C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.
 - 1. Test in accordance with ASTM F710.
 - 2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Concrete: Use leveling compound as necessary to achieve substrate flatness of plus or minus 1/8 inch within 10 ft radius.
- C. Broom clean areas to receive athletic flooring immediately before beginning installation.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Comply with manufacturer's recommendations and approved shop drawings.
- C. Fluid-Applied Polyurethane Flooring Over Base Mat:

1. Mix components in strict accordance with manufacturer's written instructions, and apply at manufacturer's recommended rates. Allow sufficient curing time between coatings.
2. Unroll base mat and allow to relax before beginning installation.
3. Apply adhesive to substrate with notched trowel, and roll base mat into fresh adhesive. Do not allow compression fit at any seams. Roll mat with weighted linoleum roller immediately upon application of base mat and again after 45 minutes to insure that base mat is firmly adhered to substrate.
4. Thoroughly mix and apply seal coat to surface of base mat with steel trowel.
5. Apply resin wear layer in number of lifts recommended by manufacturer, applying wet-into-wet to achieve a seamless surface. Sand any imperfections in surface after wear layer has cured.
6. Thoroughly mix and apply finish coat with lambswool roller to achieve uniform appearance.
7. Lay out game lines using tape and taping machine approved by flooring manufacturer. Apply game line paint with roller, and allow it to dry before removing tape.

D. Accessories:

1. Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.04 CLEANING

- A. Clean flooring using methods recommended by manufacturer.

3.05 PROTECTION

- A. Protect finished athletic flooring from construction traffic to insure that it is without damage upon completion of the work.

END OF SECTION 096566

SECTION 096800 - CARPET

PART I - GENERAL

1.01 SUMMARY

- A. This Section includes tufted carpet.

1.02 DEFINITIONS

- A. The term "Carpet System" refers to the tufted yarn and yarn/pile treatments, primary backing, pre-coat, secondary backing, and adhesive.

1.03 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Contractor shall submit Carpet Submittal Checklist, including Attachments A&B, in 8 ½" x 11" white paper format completed in its entirety with supporting documentation attached in the same order as the listed Criteria. Failure to supply the above information may result in submittal being judged non-responsive.
- C. Shop Drawings: Use the same project, Owner, building, floor, room, material, and product designations that appear on construction drawings and schedules. Indicate the installation company, General Contractor, drawing dates and scales. Show the following:
1. Columns, doorways, enclosing walls and/or partitions, built-in cabinets and equipment, and locations where cutouts are required in carpet.
 2. Carpet manufacturer, type, style, color, and dye lot for each carpet specified.
 3. Locations of expansion joints and treatments.
 4. Type of substrate.
 5. Type of installation.
 6. Type of adhesive.
 7. Type of wall base in each room/area.
 8. Direction of carpet pattern/s.
 9. Type, color, and location of edge and transition strips, and other accessories.
 10. Transition details to other flooring materials.
 11. Large-scale drawings showing treatment of steps and other areas where detailed work is required.
 12. Mill Manufacture Origin
- D. Product Data and Samples:
1. For each proposed carpet, submit two (2) each architects' folders with samples of each standard color available. Label each architect's folder with supplier's name, material description, product color name and designation of where used in Project (use room/area designations that appear on construction drawings and their schedules). Once color or colors are selected, submit four (4) each 18" x 18" minimum samples of each selected color/s, labeled as above. A larger sample may be requested by the Project Manager.
 2. For each type of carpet, submit two (2) each 8" x 10" sample of carpet to Project Manager for testing purposes. Label each sample with supplier's name, manufacturer's name, material description, product name/pattern, product color

- name and designation of where used in Project (use room/area designations that appear on construction drawings and their schedules).
 - 3. For all Installation Accessories, submit manufacturer's specifications and data.
 - 4. For adhesive(s), provide Material Safety Data Sheet.
- E. Maintenance Data: Manufacturer's printed maintenance manuals for proposed carpet shall include the following:
- 1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet.
 - 3. Material Safety Data Sheet for recommended cleaning and stain-removal products.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall provide documentation showing: experience performing similar installations; certification for commercial installations by the Floor Covering Installation Board or demonstrated compliance with its certification program requirements; and certification and warranty by the proposed carpet manufacturer to install carpet in this Project.
- B. Third Party Test Results must be supplied to the Anchorage School District Facilities Office for Performance Data no later than fourteen (14) calendar days after Award of Contract.
- C. Fire-Test-Response Characteristics: Provide products with critical radiant flux classification indicated in Part 2 as determined by testing identical products per ASTM E-648 by an independent testing and inspecting agency acceptable to Owner.
- D. Product Quality:
 - 1. All carpet to be first quality with no seconds or imperfections and to be of one dye lot unless approved by Project Manager prior to shipping.
 - 2. Carpet shall have a documented five (5) year history complying with Performance Characteristics listed in Products/Carpet/Performance Data certified by an independent testing laboratory. Carpet shall have a documented five (5) year history of excellent performance in K-12 public schools.
 - 3. At Owners' option, on-site carpet may be tested for specification compliance at Owner's expense.
- E. Product Options: Carpet submitted shall be available in sufficient range of colors to enable Owner to select color(s) coordinated with Project's predetermined color scheme.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Storage: Carpet and related materials shall be stored in a climate-controlled, dry space per specific manufacturer's instructions. Carpet shall be adequately protected from soil, dust, moisture, and other contaminants, and stored on a flat surface. Follow manufacturer's instructions for storing and stacking boxes of carpet tiles.
- B. Handling: Carpet shall be transported in a manner that prevents damage and distortion.

1.06 PROJECT CONDITIONS

- A. General: Comply with CRI 104, Section 7, Site Conditions, as applicable.

- B. Environmental Limitations: Do not install carpet until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained for a minimum of 72 hours prior to and after installation at levels normal to Project space when occupied for intended use.
- C. Do not install carpet over concrete slabs until slabs have sustainable pH range and moisture level acceptable to specific carpet manufacturer.

1.07 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Carpet System and Installation Warranty: Written warranty, signed by authorized agent of carpet manufacturer and by the manufacturer's warranted installer, agreeing to replace carpet that does not comply with requirements listed herein or that fails within specified warranty period. Warranty includes labor and materials for removal and disposal of failed product, substrate repair as required due to carpet removal, cost of replacement carpet, freight and delivery to site and cost of installation, including furniture, fixture and equipment moving expenses. Warranty does not include deterioration or failure of carpet system due to failure of substrate, vandalism, or abuse. Failures include, but are not limited to, more than 10 percent loss of face fiber, zippering, dimensional stability, edge raveling, snags, runs, delamination, backing resiliency loss, color fastness, stain resistance, and static resistance properties of carpet system for the warranted period.
 - 1. Warranty Period: 20 years wear from date of Substantial Completion, non-prorated; Lifetime for all other Performance Data as listed in Part 2, Products.

1.08 EXTRA MATERIALS

- A. Before installation begins, furnish extra materials described below that match installed products. Package with protective covering for storage and identify with labels describing contents including manufacturer, carpet name/quality, carpet color name, and amount of carpet (sq. yds.).
 - 1. Carpet: Full boxes equal to 3 percent of amount installed for each type indicated, unless otherwise instructed by the Project Manager.

PART 2 - PRODUCTS

2.01 PHYSICAL CHARACTERISTICS

- A. Carpet Type: Carpet Tile
- B. Carpet Construction: Tufted.
- C. Pile Type: Multi-level textured loop with maximum pile height variation of no more than 1/32".
- D. Pattern & Coloration: Pattern to be non-directional and random in appearance. Minimum of five (5) distinctly different colors.

- E. Fiber Content: 100 percent bulk continuous filament cationic nylon fiber Type 6,6 with a modification ratio of no greater than 2.0, using Fiber Identification Cross Pattern and Analysis results according to AATCC TM 20.
- F. Dye Method: Yarn dye or solution dye.
- G. Yarn Ply: 2 to 4.
- H. Finished Pile Yarn Weight: 20-oz./sq. yd. minimum per ASTM D-5848. This weight does not include weight of backings.
- I. Pile Thickness: Measured according to ASTM D-6859, adjust to meet density.
- J. Pile Density: Allowable minimum 6500. Density is calculated as follows:

$$\text{Density} = (36 \times \text{Finished Pile Weight in oz. per sq. yd.}) \div \text{Pile thickness in inches as determined by ASTM D418 or Tuft Height in inches as determined by ASTM D 5823.}$$
- K. Gauge: Minimum 1/10 per inch in accordance with ASTM D 418.
- L. Stitches per Inch: Minimum 10.
- M. Primary Backing: 100% woven or non-woven synthetic with a thermally stable synthetic pre-coat.
- N. Secondary backing: High performance, moisture impermeable 70 oz. minimum pvc or non-pvc backing system. Min 5 year proven record of successful performance in K-12 education use.
- O. Size: 12" minimum x 48" maximum size for plank tiles and 18" x 18" minimum to 36" x 36" maximum for square carpet tiles.

2.02 PERFORMANCE DATA

- A. All test and performance data shall be performed and documented by an independent testing lab:
- B. Surface Flammability: Carpet passes Methenamine Pill Tests ASTM D-2859 and CPSC FF1-70 (as found in 16 CFR 1630). 7 passes out of 8 specimens tested minimum.
- C. Critical Radiant Flux Test: Carpet to achieve a Class 1 rating: >0.45 watts/sq cm critical radiant flux and/or federal, state or local requirements per ASTM E 648 or a lower rating as allowed by all applicable codes.
- D. Smoke Density: NBS Smoke Chamber Test: ASTM E-662 Test Method: carpet rating to be < 450 Dm in Flaming Mode or as allowed by all applicable codes.
- E. Static Control: By permanent means and without chemical treatment, static control shall be achieved below 3.5 kV when tested at 20 % relative humidity and 70° F in accordance with Electrostatic Propensity Test, AATCC-134
- F. Appearance Retention Rating: Based upon the 12,000 cycle Hexapod Drum Test performed in accordance with ASTM D 5252 carpet to achieve a minimum rating of 3.5 in severe use

areas such as corridors, assembly areas, commons and a minimum rating of 3.0 in heavy use areas such as administrative spaces, media centers, classrooms.

1. Based upon the 22,000 Vetterman Drum Test performed in accordance with ASTM D 5417 Carpet to achieve a rating of 3.5 in severe use areas and 3.0 in heavy use areas
- G. Dimensional Stability: Tolerance of 0.2% maximum dimensional change in varying moisture conditions per Aachen Test (I.S.O. 2551).
- H. Tuft Bind: A minimum of 10 lbs. of force allowed to pull a single carpet strand from its primary backing in accordance with ASTM D 1335 Test Method for Tuft Bind.
- I. Colorfastness to Light: A minimum rating of 4 after 160 AFU for 3 cycles using the AATCC Grey Scale for Color Change in accordance with AATCC 16, Option E.
- J. Colorfastness to Crocking: Rating of not less than 4, wet and dry, using the AATCC Color Transference Scale in accordance with AATCC-165.
- K. Color fastness to atmospheric contaminants: Minimum rating of 4 using the AATCC Grey Scale for Color change in accordance with AATCC-164 (oxides of nitrogen) and AATCC-129 (ozone) for 2 cycles.
- L. Color Fastness to Water: Achieve a minimum rating of 4 on the AATCC Transference Scale in accordance with AATCC 107 Test Method. (for yard dyed carpet fibers only)
- M. Resistance to Staining: Achieve a minimum rating of 8 using AATCC Red 40 Stain Scale in accordance with AATCC Test Method 171 (HWE) for two (2) cleanings to simulate removal of topical treatments by hot water extraction followed by AATCC 175 Stain Resistance Test Method.
- N. Resistance to Soiling: An average of 3 fluorine analyses per AATCC-189, using a single composite sample, to be a minimum of 500 ppm fluorine by weight when new and 400 ppm fluorine by weight after 2 AATCC-171 (HWE) cleanings. Single composite sample to be made by taking nine (9) fiber cuts across the entire width of the carpet.
- O. Resistance to Delamination: A minimum of 3.5 lbs. per inch shall be allowed in accordance with ASTM D-3936
- P. Indoor Air Quality: Comply with NSF ANSI 140 and CRI IAQ Green Label. Program Emission Requirement in accordance with ASTM D 5116.
- Q. ADA Compliance: All carpet shall comply with Section 4.5 of the ADA Guidelines.
- R. Anti-microbial: Non-toxic antimicrobial treatment or inherent properties for the life of the carpet as guaranteed by the manufacturer in accordance with AATCC 174 Part 1(qualitative).

2.03 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: water-resistant, mildew-resistant, non-staining, latex-modified, hydraulic cement- based formulation provided by or recommended by the carpet manufacturer. Leveling and patching compounds shall be CRI Indoor Air Quality, or SCS certified.

- B. Floor Sealers: Water-resistant, mildew-resistant, non-staining type as recommended by proposed carpet manufacturer, that complies with flammability requirements for installed carpet and that suits the sub-floor and leveling and patching compounds. Sealers shall be CRI Indoor Air Quality or SCS certified.
- C. Adhesives: Water-resistant, mildew-resistant, non-staining type and releasable for life of the warranty to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and that is recommended by the carpet manufacturer. Adhesives shall be CRI Indoor Air Quality or SCS certified.

2.04 WALK-OFF CARPET (W.O.C.)

- A. Basis of Design Lee, First Step II Modular, Obsidian 989, or equal. (Location: Corridor 200)
 - 1. Construction: Tufted.
 - 2. Surface texture: Performance Loop Pile.
 - 3. Gauge: 5/32".
 - 4. Recycled Content: 35% pre-consumer recycled content by total weight
 - 5. Stitches: 8.5 per inch.
 - 6. Face yarn: Invista Nylon 6,6 with Nylon 6,6 scraper yarn.
 - 7. Face yarn weight: 38 oz/yd²
 - 8. Backing materials: Thermobond – fiberglass reinforced thermoplastic composite.
 - 9. Total weight: 215.45 oz/yd²
 - 10. Size: 24" x 24".
- B. Basis of Design Lee, Step in Style II Modular, Cobalt 955, or equal. (Location: Corridor 100)
 - 1. Construction: Tufted.
 - 2. Surface texture: Performance Loop Pile.
 - 3. Gauge: 5/32".
 - 4. Recycled Content: 35% pre-consumer recycled content by total weight
 - 5. Stitches: 8.5 per inch.
 - 6. Face yarn: Invista Nylon 6,6 with Nylon 6,6 scraper yarn.
 - 7. Face yarn weight: 38 oz/yd²
 - 8. Backing materials: Thermobond – fiberglass reinforced thermoplastic composite.
 - 9. Total weight: 215.45 oz/yd²
 - 10. Size: 24" x 24".

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Verify that substrates and conditions are satisfactory for carpet installation and comply with requirements specified.
- B. Concrete Subfloors: Verify that concrete sub flooring complies with the specific carpet manufacturer's recommendations, and the following:
 - 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by the carpet manufacturer. Provide a copy of test reports to Owner.

- 2. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. General: Comply with CRI 104, Section 7, Site Conditions; Floor Preparation, and carpet manufacturers written installation instructions for preparing substrates indicated to receive carpet installation.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by the carpet manufacturer.
- D. Broom and vacuum clean substrates to be carpeted immediately before installing carpet. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 INSTALLATION

- A. Direct-Glue-Down Installation: Comply with CRI 104, Section 9, Direct Glue-Down Installation and Section 15, Patterned Carpet Installations, as applicable.
- B. Carpet shall be installed using manufacturer's recommended installation method and products in a manner that will allow its removal from substrate without damage or destruction of substrate or carpet and carpet backing for the life of the carpet. In the absence of manufacturer's recommendations, strict adherence to the applicable CRI 104 installation guidelines shall be followed.
- C. Comply with Architect's direction for carpet pattern/pile of carpet; maintain specified carpet pattern, as required by Design Documents. At doorways, center carpet change of style, pattern or color under the door in closed position.
- D. Do not bridge building seismic expansion joints with carpet.
- E. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
- F. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.
- H. Install pattern parallel to walls and borders, or as indicated by Architect and/or Owner.
- I. Completed carpet installation is to be smooth and free of bubbles, puckers, bumps and other defects.

- J. Walk-Off Mat: Install in conformance with manufacturer's recommendations with strips in lengths as long as practicable.

3.04 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet:
 - 1. Remove excess adhesive, and other surface blemishes using cleaner recommended by carpet manufacturer.
 - 2. Remove yarns that protrude from carpet surface.
 - 3. Vacuum carpet using commercial machine with face-beater element.
 - 4. All rubbish, wrappings, trimmings and debris, etc. are to be removed from site and disposed of properly.
- B. Protect installed carpet to comply with CRI 104, Section 16, Protection of Indoor Installations.
- C. Protect carpet against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet manufacturer.

End of Section 096800 (Except for Attachments)

Carpet Submittal Checklist – Attachment A
Comparison Sheet Carpet Performance Data - Attachment B

Carpet Submittal Checklist – Attachment A

☐		Carpet comparison sheet, Attachments A and B, of carpet requirements and independent test lab results indicating conformance to all requirements listed herein
☐		Manufacturer's printed products specifications and MSDS for Carpet
☐		Product Specifications and MSDS for Adhesive
☐		Product Specification and data for all other Installation Accessories
☐		IAQ Certification for carpet system
☐		Manufacturer's printed Warranties for carpet system and Installation.
☐		Manufacturer's printed installation recommendations for each Substrate required, include recommended adhesives: (Architect insert substrates below.)
		☐ _____
		☐ _____
☐		List of floor covering contractors who can bid and install proposed carpet system on an equal cost basis and a list of the carpet manufacturer's trained approved installers.
☐		Installer's Identification & Qualifications
☐		List of 3 references for carpet system:
		Include name of institution, location of product within institution by room/area name, manufacturer's name, name of product installed, physical address, contact name, phone and fax numbers, e-mail and date identical carpet was installed (minimum of 5 years installed). Identical carpet means that proposed carpet/s may be a different pattern or color than the referenced carpets; however, proposed carpet shall have same specifications as the referenced carpet/s.
☐		Shop drawings: ref. 09680/1.04/B
☐		Product Samples: ref. 09680/1.04/C
☐		Manufacturer's printed maintenance data: ref. 09680/1.04/D
☐		5-year HISTORY OF PERFORMANCE: ref. 09680/1.05/D
☐		Complete Color Range of submittal: ref. 09680/1.05/E

CARPET MANUFACTURER _____ PRODUCT LOCATION _____

CARPET QUALITY _____ CONTRACTOR _____

Comparison Sheet Carpet Performance Data - Attachment B

Ref. 09860/2.02 For Complete Test Description

Criteria	Test Method	Performance Required	Submittal Performance
A: Flammability	ASTMD-2859 & CPSC FF1-70 (16 CFR 1630) Flooring	Passes	_____
		Passes	_____
B: Radiant Panels	Radiant Panel Test and/or State or local reg. per ASTM 648 Federal,	Class 1 (Direct Glue)	Class _____ (Direct Glue)
		>0.45 watts/sq.cm. critical radiant flux	_____ watts/sq.cm. critical radiant flux
C: Smoke	NBS Smoke chamber test (ASTM E-662)	<450 Dmc (Flaming Mode)	_____ Dmc (Flaming Mode)
D: Electrostatic Propensity	AATCC-134 AATCC-171	<3.5KV after AATCC-171 with 5 washings	_____ KV
E: Appearance Retention Rating	Hexapod Test or Vetterman Drum Test per ASTM D-5417 using CRI TM-101, Heavy and Severe Use Ref. Scale	≥ 3.5 Severe Use Ref. Scale ≥ 3.0 Heavy Use Ref. Scale	_____ Severe Use Ref. Scale _____ Heavy Use Ref. Scale
F: Dimensional Stability	Aachen Test (I.S.O. 2551)	<0.20%	_____ %
G: Tuft Bind	ASTM D-1335	10 lbs., min.	_____ lbs.
H: Colorfastness to Light	AATCC-16, Option E	After 160 AFU, rating of not less than 4 minimum using the AATCC Scale for Color Change	_____ Rating

CARPET MANUFACTURER _____ PRODUCT LOCATION _____

CARPET QUALITY _____ CONTRACTOR _____

Comparison Sheet Carpet Performance Data - Attachment B Continued

I:	Colorfastness to Crocking	AATCC-165 Crock-meter Method	Rating not less than 4, wet and dry	_____ rating wet _____ rating dry
J:	Colorfastness to Atmospheric Contaminants	AATCC-164 AATCC-129 for 2 cycles	Min. rating of 4 using the AATCC Grey Scale for Color Change	_____ Rating
K:	Colorfastness to Water	AATCC 107	Min. rating of 4 on AATCC Ransference Scale	_____ Rating
L:	Resistance to Staining	AATCC-171 (HWE) for 2 cleanings Followed by AATCC-175	Min. level of 8 using AATCC Red Dye 40 Stain Scale	Level of _____
M:	Resistance to Soiling	AATCC-189, avg. of 3 fluorine analyses. AATCC-171	•500 ppm by weight new •400 ppm by weight after 2 ea. AATCC-171 (HWE) cleanings	_____ ppm – new _____ ppm – after cleanings
N:	Resistance to Delamination	ASTMD-3936	Min. 3.5 lbs./inch	_____ lbs./inch
O:	Indoor Air Quality	NSF ANSI 140 & CRI IAQ Green Label		_____ Complies
P:	ADA Compliance	ADA Guidelines, Section 4.5		_____ Complies
Q.:	Anti-microbial	AATCC 174 Part 1 (qualitative)	Non-topical, inherent for life of carpet	_____ Complies

CARPET MANUFACTURER _____ PRODUCT LOCATION _____

CARPET QUALITY _____ CONTRACTOR _____

End of Section

SECTION 098433 - SOUND-ABSORBING WALL UNITS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes shop-fabricated, sound-absorbing acoustical panel units tested for acoustical performance.

1.02 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.03 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Sustainable Design Submittals – Product Data: For adhesives, indicating VOC content.
- D. Shop Drawings: For unit assembly and installation.
- E. Samples: For each exposed product and for each color and texture specified.

1.04 INFORMATIONAL SUBMITTALS

- A. Product certificates.

1.05 CLOSEOUT SUBMITTALS

- A. Maintenance data.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Wall materials shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Fire-Test-Response Characteristics: Units shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Surface-Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.

2. Fire Growth Contribution: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265 Method B Protocol or NFPA 286.

2.02 SOUND-ABSORBING WALL UNITS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Acoustical Panel Systems (APS, Inc.).
 2. Acoustical Solutions, Inc.
 3. Armstrong World Industries.
 4. Conwed Designscape; an Owens Corning company.
 5. Wall Technology, Inc.; an Owens Corning company.
- B. Sound-Absorbing Wall Panel: Manufacturer's standard panel construction based on pattern selected.
 1. Core-Face Layer: Manufacturer's standard tackable, impact-resistant, high-density board.
 2. Edge Construction: Manufacturer's standard chemically hardened core with no frame.
 3. Edge Profile: Chamfered beveled and custom profile as indicated on Drawings.
 4. Corner Detail in Elevation: Square and with continuous edge profile indicated.
 5. Reveals between Panels: Reveals as selected by Architect from manufacturer's full range.
 6. Facing Material: Per manufacturer's standard line.
 7. Acoustical Performance: Sound absorption NRC .85 to .90 according to ASTM C 423 for Type A mounting according to ASTM E 795.
 8. Nominal Core Thickness: 1 inch.

2.03 MATERIALS

- A. Core Materials: Manufacturer's standard.
 1. Glass-Fiber Board: ASTM C 612; of type standard with manufacturer, unfaced, and dimensionally stable, molded rigid board; and with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
 2. Mineral-Fiber Board: Maximum flame-spread and smoke-developed indexes of 25 and 10, respectively, and with perforated surface.

3. Tackable, Impact-Resistant, High-Density Board for Face Layer: 1/8-inch-thick layer of compressed molded glass-fiber board with a nominal density of 16 to 18 lb/cu. ft. laminated to face of core.
 4. Impact-Resistant, Acoustically Transparent, Copolymer Sheet for Face Layer: 1/16- to 1/8-inch-thick layer of perforated, noncombustible, copolymer sheet laminated to face of core.
 5. Wood and Plywood: Manufacturer's standard plywood or clear, vertical grain, straight, kiln-dried hardwood.
 - a. Fire-retardant treated by pressure process with a flame-spread index of 25 or less when tested according to ASTM E 84 or UL 723, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
 - 1) Treated material shall have a moisture content of 28 percent or less when tested according to ASTM D 3201/D 3201M at 92 percent relative humidity.
 - 2) Kiln-dry material after treatment to 19 percent or less for lumber and 15 percent or less for plywood.
- B. Facing Material: Fabric from same dye lot; color and pattern as selected by Architect from manufacturer's full range.
1. Applied Treatments: Stain resistance.
- C. Mounting Devices: Concealed on back of unit, recommended by manufacturer to support weight of unit, and as follows:
1. Adhesives shall have a VOC content of 70 g/L or less.
 2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.04 FABRICATION

- A. Standard Construction: Use manufacturer's standard construction unless otherwise indicated; with facing material applied to face, edges, and back border of dimensionally stable core; and with rigid edges to reinforce panel perimeter against warpage and damage.
- B. Core-Face Layer: Evenly stretched over core face and edges and securely attached to core; free from puckers, ripples, wrinkles, or sags.
- C. Facing Material: Apply fabric facing fully covering visible surfaces of unit; with material stretched straight, on the grain, tight, square, and free from puckers, ripples, wrinkles, sags, blisters, seams, adhesive, or other visible distortions or foreign matter.
 1. Fabrics with Directional or Repeating Patterns or Directional Weave: Mark fabric top and attach fabric in same direction so pattern or weave matches in adjacent units.

- D. Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install units in locations indicated. Unless otherwise indicated, install units with vertical surfaces and edges plumb, top edges level and in alignment with other units, faces flush, and scribed to fit adjoining work accurately at borders and at penetrations.
- B. Comply with manufacturer's written instructions for installation of units using type of mounting devices indicated. Mount units securely to supporting substrate.
- C. Align fabric pattern and grain with adjacent units.

3.02 CLEANING

- A. Clip loose threads; remove pills and extraneous materials.
- B. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 098433

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete.
 - 2. Concrete masonry units (CMUs).
 - 3. Steel and iron.
 - 4. Galvanized metal.
 - 5. Wood.
 - 6. Gypsum board.
 - 7. Acoustic Ceilings

1.02 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.03 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
- C. Sustainable Design Submittals:
 - 1. Product Data: For paints and coatings, indicating VOC content.
 - 2. Laboratory Test Reports: For paints and coatings, indicating compliance with requirements for low-emitting materials.
- D. Samples: For each type of paint system and in each color and gloss of topcoat.

1.04 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
- B. Benchmark Samples (Mock-Ups): Provide a full-coat benchmark finish sample of each type of coating and one folding panel partition section. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample submittals. Assume three (3) color samples applied at three different times for color approval.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Sherwin Williams
 - 2. Benjamin Moore & Co.
 - 3. Dulux (formerly ICI Paints); a brand of AkzoNobel.
 - 4. Glidden Professional.
 - 5. Kelly-Moore Paint Company Inc.
- B. Products: Subject to compliance with requirements, provide product listed in the Interior Painting Schedule for the paint category indicated.

2.02 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Nonflat Paints and Coatings: 50 g/L.

3. Primers, Sealers, and Undercoaters: 100 g/L.
 4. Rust-Preventive Coatings: 100 g/L.
 5. Zinc-Rich Industrial Maintenance Primers: 100 g/L.
 6. Pretreatment Wash Primers: 420 g/L.
 7. Shellacs, Clear: 730 g/L.
 8. Shellacs, Pigmented: 550 g/L.
- D. Low-Emitting Materials: For field applications that are inside the weatherproofing system, 90 percent of paints and coatings shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- E. Colors: As selected from manufacturer's standard line.
1. Ten (10%) percent of surface area will be painted with deep tones in accent wall locations as indicated on the Drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Concrete: 12 percent.
 2. Fiber-Cement Board: 12 percent.
 3. Masonry (Clay and CMUs): 12 percent.
 4. Wood: 15 percent.
 5. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Application of coating indicates acceptance of surfaces and conditions.

3.02 PREPARATION - GENERAL

- A. Prepare surfaces to receive paint; thoroughly clean off grime, grease, dirt, loose material and other substances that may interfere with proper adhesion of paint. Paint dry surfaces only.
- B. Fill dents, cracks, hollow places, open joints and other irregularities with an approved filler suitable for the purpose, and after setting, sand to a smooth, hard finish or as appropriate for textures of materials being prepared.
- C. Prime surfaces not more than 8 hours after cleaning.

- D. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- E. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.03 PREPARATION – SPECIFIC EXISTING SURFACES

- A. Concrete and Masonry Surfaces
 - 1. Surfaces shall be allowed to dry at least 30 days before painting, except concrete slab on grade which will be allowed to cure 90 days before painting. Glaze, efflorescence, laitance, dirt, asphalt, surface deposits of free iron and other foreign matter shall be removed prior to painting.
 - 2. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metaborate after thoroughly wetting with water. Allow to dry.
 - 3. 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.
 - 4. EIFS system surface: Patch damaged areas and cracks greater than 1/4" in width with materials recommended by system manufacturer.
- B. Ferrous Surfaces
 - 1. Ferrous surfaces that have not been shop-coated shall be solvent-cleaned. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7.
 - 2. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.
- C. Galvanized and Nonferrous Surfaces
 - 1. Galvanized, aluminum and aluminum-alloy, lead, copper and other nonferrous surfaces to be painted shall be solvent-cleaned in accordance with SSPC SP 1 and treated with a vinyl-type wash coat meeting the requirements of SSPC Paint 27.
 - 2. Copper surfaces scheduled for a natural oxidized finish: Remove contamination by applying oxidizing solution of copper acetate and ammonium chloride in acetic acid. Rub on repeatedly for required effect. Once attained, rinse surfaces with clear water and allow to dry.
- D. Gypsum Board Surfaces
 - 1. Gypsum board surfaces shall be dry and shall have all loose dirt and dust removed by brushing with a soft brush, rubbing with a dry cloth.
 - 2. Fill minor defects with filler compound. Spot prime defects after repair.
- E. Wood Surfaces
 - 1. Surfaces shall be checked to insure that finishing nails have been properly set and all holes and surface imperfections shall be primed.
 - 2. Sand woodwork to remove roughness, loose edges, splinters, or splinters and brush to remove dust. Wash off grease or dirt with an approved cleaner.

3. Clean knots, pitch streaks, or visible sap spots of residue and treat with two coats of Formula W2-578 Knot Sealer (Western Pine Association). Allow at least two hours between coats.
 4. Back prime all exterior wood trim and board siding.
 5. Prime millwork on all sides before installation.
 6. Treat surfaces of open-grained woods and with paste filler. Thin paste filler to brushing consistency with turpentine and apply in two coats, with stiff, short-bristled brushes. Allow filler to dry for one hour, then rub surfaces across grain until surplus filler is removed.
 7. After the primer or paste filler has dried, fill nail holes and other indentations with putty, flush with the adjacent surfaces.
 8. Putty or wood filler used shall be compatible with subsequent coatings.
 9. Sand wood surfaces smooth with No. 00 sandpaper and remove dust.
 10. Interior wood surfaces to receive stain shall be sanded or shall be stained to the required shade and lightly sanded.
- F. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surfaces to dry.
- G. Asphalt, creosote or bituminous surfaces scheduled for paint finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.
- H. Pipe Covering and Insulation: Clean surfaces of pipe, duct and equipment insulation, such as canvas jackets and troweled on magnesia insulation, of loose, foreign and objectionable material prior to priming or sealing.

3.04 ITEMS NOT TO BE PAINTED (UNLESS PREVIOUSLY PAINTED)

3.05 The following items are not to be painted unless specifically scheduled or previously painted:

- A. Items with factory-finish paint, such as light fixtures, toilet partitions, factory-finished wall and roof panels, vinyl wall coverings and acoustical ceilings.
- B. Concealed areas such as pipe chases and areas above finish ceiling.
- C. Finished metals such as hardware trim, anodized aluminum, stainless steel and bronze.
- D. The wearing surfaces of moving equipment.
- E. Equipment data plates, manufacturer's permanent maintenance labels, and fire door and jamb labels.
- F. Galvanized building structural frame.
- G. Galvanized sheet metal ducts inside building in other than offices, classrooms or corridors.
- H. Interior signage.

3.06 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.07 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.08 INTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Non-traffic Surfaces:
 - 1. Institutional Low-Odor/VOC Latex System MPI INT 3.1M:
 - a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - b. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
- B. CMU Substrates:
 - 1. Institutional Low-Odor/VOC Latex System MPI INT 4.2E:
 - a. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
- C. CMU Substrates (In Kitchen Only):
 - 1. Epoxy System MPI INT 4.2F:
 - a. Block Filler: Block filler, latex, interior, MPI#4
 - b. Intermediate Coat: Epoxy, matching topcoat.
 - c. Topcoat: Epoxy, (MPI Gloss Level 4), MPI #77.
- D. Steel Substrates:
 - 1. Institutional Low-Odor/VOC Latex System MPI INT 5.1S:
 - a. Prime Coat: Primer, rust inhibitive, water based MPI #107.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
 - d. Topcoat at Door Frames and Handrails: Alkyd #168, interior, institutional Low-Odor/VOC (MPI Gloss Level 4), MPI
- E. Galvanized-Metal Substrates:
 - 1. Institutional Low-Odor/VOC Latex System MPI INT 5.3N:
 - a. Prime Coat: Primer, galvanized, water based, MPI #134.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
- F. Wood Substrates: Glued-laminated construction, as indicated on plans.
- G. Wood Substrates: Wood trim architectural woodwork and wood board paneling.
 - 1. Painted Surfaces (previously painted existing wood surfaces only) - Institutional Low-Odor/VOC Latex System MPI INT 6.3V:

- a. Prime Coat: Primer, latex, for interior wood, MPI #39.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
 - 2. Transparent Surfaces (new or previously existing wood with transparent surface):
 - a. Prime Coat: Lacquer Sanding Sealer, MPI #84.
 - b. Intermediate and Topcoat: Lacquer, Clear, Satin, MPI #86.
- H. Acoustic Ceiling Substrates:
- 1. Latex, Flat System MPI INT 9.1A: Spray applied.
 - a. Prime Coat: Latex, interior, flat, matching topcoat.
 - b. Topcoat: Latex, interior, flat (MPI Gloss Level 1), MPI #53.
- I. Gypsum Board Substrates:
- 1. Institutional Low-Odor/VOC Latex System MPI INT 9.2M:
 - a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4), MPI #146.
- J. Ferrous Metal Substrates (operable walls only): Provide the following finish systems over interior ferrous-metal surfaces at operable wall.
- 1. Mild Environment (Eggshell Finish): One finish coat over an intermediate coat and a primer.
 - a. Prime Coat: Acrylic or epoxy primer, as recommended by manufacturer for this substrate, applied at spreading rate recommended by manufacturer.
 - 1) PPG: 90-7XX Series Pitt-Tech One Pack Interior/Exterior Primer Finish DTM Industrial Enamel.
 - 2) S-W: Pro-Industrial Pro-Cryl Universal Primer B66W003 Series.
 - b. Intermediate Coat: Acrylic enamel applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 1.0 to 4.0 mils.
 - 1) PPG: 16-310 Series Pitt-Glaze WB1 Interior Eggshell Pre-Catalyzed Water-Borne Acrylic Epoxy.
 - 2) S-W: Pro Industrial Pre-Catalyzed Waterbased Epoxy Coating K45W150 Series.
 - c. Topcoat: Eggshell acrylic enamel applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 1.0 to 4.0 mils.
 - 1) PPG: 16-310 Series Pitt-Glaze WB 1 Interior Eggshell Pre-Catalyzed Water-Borne Acrylic Epoxy.
 - 2) S-W: Pro Industrial Pre-Catalyzed Waterbased Epoxy Coating K45W150 Series.
 - 3)

END OF SECTION 099123

SECTION 101000 – MARKER AND TACKBOARDS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes porcelain enamel marker boards and tack boards.

1.02 REFERENCED STANDARDS

- A. ASTM E 84 – Standard Test Method for Surface Burning Characteristics for Building Materials.
- B. ASTM B221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wires, Profiles and Tubes.

1.03 SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Provide shop drawings for each type of visual display board required.
- C. Provide technical data for materials specified. Include material safety data sheets when applicable.
- D. Provide manufacturer's color charts and composition samples of face, core, backing and trim to illustrate finish, color and texture, where required.
- E. Provide manufacturer's installation instructions.

1.04 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform to applicable code for flame/smoke rating in tack boards in accordance with ASTM-E84.
- B. Operation and Maintenance: Include data on regular cleaning, stain removal and precautions.

1.05 PROJECT CONDITIONS

- A. Field measure prior to preparation of shop drawings and fabrication to ensure proper fit.
- B. Comply with manufacturer's recommendations for climatizing area for interior moisture and temperature to approximate normal occupied conditions.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unopened, undamaged containers with identification labels intact.
- B. Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

1.07 WARRANTY

- A. Submit a "Life of the Building" warranty, stating that under normal usage and maintenance, and when installed in accordance with manufacturer's instructions and recommendations, Claridge porcelain enamel steel Vitracite chalkboards and LCS marker boards are guaranteed for the life of the building. Guarantee covers replacement of defective boards but does not include cost of removal or reinstallation.
- B. Submit a standard warranty, stating when installed in accordance with manufacturer's instructions and recommendations, Claridge tack boards are guaranteed for one year against defects in materials and workmanship. Guarantee does not cover normal wear and tear, improper handling, any misuse or any defects caused by vandalism or subsequent abuse. Guarantee covers replacement of defective material but does not include cost of removal or reinstallation.
- C. Writing Surface Warranty Period: Five (5) years commencing on date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Claridge Porcelain Enamel and Marker Boards.

2.02 MATERIALS

- A. Porcelain enamel Vitracite LCS marker boards shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel finish shall be fusion bonded to a 24 gauge steel substrate at temperature necessary to reduce steel and porcelain stresses and achieve superior enamel bond and hardness.
- B. Factory-Built Marker Boards: (Individual Boards)
 - 1. Face Sheet: 24 gauge LCS marker board.
 - 2. Core Material: 3/8" Duracore.
 - 3. Panel Backing: Moisture Barrier Back, 0.015" aluminum sheet panel.
 - 4. Series: 4
 - 5. Typical Arrangement: Type A.
 - 6. Panel Size: As shown on drawings.
 - 7. Panel Color: Selected from manufacturer's standard colors.
 - 8. Individual Marker Board: Equivalent in physical characteristics and finish to "Claridge" factory-built units, Series 4, Type A, without marker tray.

2.03 FABRICATION

- A. Shop assembly: Factory assembled marker board and tack board units.

PART 3 – EXECUTION

3.01 PROJECT CONDITIONS

- A. Verify before installation that interior moisture and temperature approximate normal occupied conditions.

- B. Verify that wall surfaces are prepared and ready to receive boards.

3.02 INSTALLATION

- A. Delivery factory built units completely assembled and of dimensions shown in details and in accordance with manufacturers shop drawings as approved by the Architect.
- B. Do not install boards on damp walls or in damp and humid weather without heat in the building.
- C. Install level and plumb, keeping perimeter trim straight in accordance with manufacturer's recommendations.

3.03 ADJUST AND CLEAN

- A. Verify that all accessories are installed as required for each unit.
- B. At completion of work, clean surfaces and trim in accordance with manufacturer's recommendations, leaving all materials ready for use.

END OF SECTION 101000

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes corner guards.

1.02 ACTION SUBMITTALS

- A. General: Comply with the requirements of Section 01300.
- B. Product Data: For each type of product.
- C. Samples: For each exposed product and for each color and texture specified, 12 inches long.

1.03 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Material certificates.
- C. Sample warranty.

1.04 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.05 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of wall- and door-protection units that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Surface Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.

2.02 CORNER GUARDS

- A. Surface-Mounted, Opaque-Plastic Corner Guards (CG): Fabricated as one piece from acrylic-modified vinyl sheet; with formed edges; fabricated with 90- or 135-degree turn to match wall condition.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Construction Specialties, Inc.
 - b. Korogard Wall Protection Systems; a division of RJF International Corporation
 - c. Pawling Corporation
 - d. WallGuard.com
2. Mounting: Adhesive.
3. Color and Texture: As selected by Architect from manufacturer's full range.
4. Size: 2" x 2" x Full Height.

2.03 MATERIALS

- A. Plastic Materials: Chemical- and stain-resistant, high-impact-resistant plastic with integral color throughout; extruded and sheet material as required, thickness as indicated.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation Quality: Install wall and door protection according to manufacturer's written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
- B. Mounting Heights: Install wall and door protection in locations and at mounting heights indicated on Drawings.
- C. Accessories: Provide splices, mounting hardware, anchors, trim, joint moldings, and other accessories required for a complete installation.
 1. Adjust end and top caps as required to ensure tight seams.

END OF SECTION 102600

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.03 WORK INCLUDED

- A. The work to be included in these and all other mechanical subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items shown on the drawings, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 01 of the specifications is to be specifically included as well as all related drawings.

1.04 RELATED WORK

- A. Carefully coordinate all work with the electrical work shown and specified elsewhere.

1.05 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 13 Installation of Sprinkler Systems.
- B. NFPA 70 National Electrical Code (NEC).
- C. IMC International Mechanical Code.

- D. UPC Uniform Plumbing Code.
- E. IECC International Energy Conservation Code.
- F. IFC International Fire Code.
- G. IFGC International Fuel Gas Code.
- H. IBC International Building Code.

1.06 PROJECT RECORD DRAWINGS

- A. In addition to other requirements of Division 01, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building. Show exact dimensions of buried piping off of columns or exterior walls.
- B. Maintain record documents at job site in a clean, dry and legible condition. Keep record documents available for inspection by the Project Manager.
- C. Show the location of all valves and their appropriate tag identification.
- D. At completion of project, deliver these drawings to the Owner and obtain a written receipt.

1.07 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 01 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories in order of the Specification Sections. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications.
- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.

1.08 OPERATING AND MAINTENANCE MANUALS

- A. Submit maintenance manuals to the Engineer covering all equipment, fixtures, devices, etc. installed by the Contractor.
- B. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs

between sections and references to sections of specifications. The manual shall contain, but not limited to, the following types of information:

1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
2. Catalog cuts of all equipment, fixtures, etc. installed (Marked to identify the specific items used).
3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
4. Identification numbers of all parts and nearest sources for obtaining parts and services.
5. Written summary of instructions to Owner.
6. All manufacturers' warranties and guarantees.
7. Contractors Warranty Letter.

1.09 HANDLING

- A. See General Conditions and the General Requirements in Division 01 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.10 SUBSTITUTIONS

- A. See General Conditions and the General Requirements in Division 01 for substitution request procedures.
- B. In accordance with the General Conditions and the General Requirements in Division 01, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Owner shall be the final authority regarding acceptability of substitutes.

1.11 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to the Architect/Engineer for consideration before proceeding with the work.

1.12 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Architect/Engineer of any such conflicts before installation.

1.13 PERMITS, FEES, ETC.

- A. The Contractor under each Division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.14 TESTING

- A. The Contractor under each section shall at his own expenses perform the various tests as specified and required by the Architect and as required by applicable code, the State and local authorities. The Contractor shall furnish all fuel and materials necessary for making tests.

1.15 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.16 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to avoid delaying any other trade. The Architect will set up completion dates. Each contractor shall cooperate in establishing these times and locations and shall process his work so as to ensure the proper execution of it.

1.17 COOPERATION AND CLEANING UP

- A. The contractor for the work under each section of the specifications shall coordinate his work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on his work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Architect, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all

tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.18 WARRANTY

- A. Unless a longer warranty is hereinafter called for, all work, materials and equipment items shall be warrantied for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Architect/Engineer, shall be repaired and/or replaced to the complete satisfaction of the Architect/Engineer. Warranty shall be in accordance with Division 01.

1.19 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 01, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Operation and Maintenance Manuals.

1.20 INSPECTION OF SITE - REMODEL PROJECTS

- A. The accompanying plans do not indicate completely the existing mechanical installations. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the present building and underground serving to and from that structure. Failure to comply with this shall not constitute grounds for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.21 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing mechanical systems, and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. By actual examination at the site, each bidder shall determine those portions of the remaining present installations, which must be relocated to avoid interference with the installations of new work of his particular trade and that of all other trades. All such existing installations, which interfere with new installations, shall be relocated by the Contractor.

1.22 SALVAGE MATERIALS

- A. The Contractor shall remove existing equipment, piping, controls and other items associated with the mechanical systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Architect/Engineer), they shall be removed.

- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.
- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.02 RESTRICTED MATERIALS

- A. No materials containing asbestos in any form shall be allowed.
- B. No solder or flux containing lead shall be used on this project.
- C. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61."
- D. Where materials or equipment provided by this Contractor are found to contain restricted materials, such items shall be removed and replaced with non-restricted materials items. Entire cost of restricted materials removal and disposal and cost of installing new items shall be the responsibility of the Contractor for those restricted materials containing items installed by the Contractor.

PART 3 - EXECUTION

3.01 DRAWINGS

- A. The mechanical drawings are generally diagrammatic. Complete details of the building which affect the mechanical installation may not be shown. For additional details, see Architectural and Electrical Drawings. Coordinate work under this section with that of all related trades.

3.02 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NFPA, IECC, IFGC and IFC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.

3.03 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all fixtures on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, equipment, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations and in compliance with current ADA and ANSI 117.1 standards.

3.04 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Mechanical Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction. Provide a minimum of eight hours of onsite instruction to the owner designated personnel.
- C. When required by individual specification sections provide additional training on plumbing systems and equipment as indicated in the respective specification section.

3.05 OPERATION AND MAINTENANCE MANUALS

- A. Submit maintenance manuals to the Engineer covering all equipment, fixtures, devices, etc. installed by the Contractor. Submit prior to substantial completion.
- B. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided for review in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications. Final operation and maintenance manuals shall be bound in a loose leaf three ring binder with reinforced holes in the sheets so as to prevent lost pages. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.

2. Catalog cuts of all equipment, fixtures, etc. installed (Marked to identify the specific items used).
3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
4. Identification numbers of all parts and nearest sources for obtaining parts and services.
5. Written summary of instructions to Owner.
6. All manufacturers' warranties and guarantees.

3.06 SYSTEM ADJUSTING

- A. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all plumbing systems. Test all plumbing equipment, fixtures and piping for proper water distribution, drainage, pressure and flow, adjust systems as required to eliminate splashing, noise and vibration.

3.07 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for piping.
- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.08 PAINTING

- A. Perform all of the following painting in accordance with provisions of Division 09 with colors as selected by the Architect. Provide the following items as a part of mechanical work:
 1. Factory applied prime coat on access doors.
 2. Pipe identification where specified.
- B. If factory finish on any equipment furnished is damaged in shipment or during construction, refinish to equal original factory finish.

3.09 INSTALLATION OF EQUIPMENT

- A. Unless otherwise indicated, mount all equipment and install in accordance with manufacturer's recommendations and approved submittals.
- B. Maintain manufacture recommended minimum clearances for access and maintenance.
- C. Where equipment is to be anchored to structure, furnish and locate necessary anchoring and vibration isolation devices.

COMMON WORK RESULTS FOR PLUMBING
DIVISION 22
Section 220500

- D. Furnish all structural steel, such as angles, channels, beams, etc. required to support all piping, equipment and accessories installed under this Division. Use structural supports suitable for equipment specified or as indicated. In all cases, support design will be based upon data contained in manufacturer's catalog.
- E. Openings: Arrange for necessary openings in buildings to allow for admittance and reasonable maintenance or replacement of all equipment furnished under this Contract.
- F. Access Doors: Provide as necessary for reasonable maintenance or replacement of all equipment valves, controls, etc.

END OF SECTION 220500

SECTION 220505 – SELECTIVE DEMOLITION FOR PLUMBING AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 DESCRIPTION

- A. Work specified in this Section includes the demolition, removal, and disposition of certain mechanical work.
- B. Drawings, the provisions of the Agreement, and Administrative Specification Sections apply to all work of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.
- B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of conditions as satisfactory.

3.02 DEMOLITION, REMOVAL AND DISPOSITION

- A. Saw-cut concrete as shown or required.

SELECTIVE DEMOLITION FOR PLUMBING AND EQUIPMENT
DIVISION 22
Section 220505

- B. Piping Removed: Remove all piping, ductwork, and equipment as indicated on the Drawings. Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.
- C. Materials To Owner: All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- D. Materials To Owner: As indicated on the Drawings.
- E. Re-use Of Materials: Only where indicated on Drawings.
- F. Materials To Contractor: Materials shown or specified to be removed, other than the materials indicated to be turned over to Owner.
- G. Protect any active piping and/or wiring encountered; remove, plug or cap utilities to be abandoned. Notify the Architect of utilities encountered whose service is not known.
- H. Debris Removal: Existing materials removed and not reinstalled or turned over to the Owner shall be immediately removed from the site and disposed of by the Contractor.
- I. Repairs: Any portion of the facility damaged, cut back or made inoperable by this Contractor shall be repaired with similar materials as the existing structure and/or damaged item as instructed by the Architect.

END OF SECTION 220505

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Piping and equipment hangers, supports, and associated anchors.
- B. Equipment bases and supports.
- C. Sleeves and seals.
- D. Flashing.

1.03 PRODUCTS FURNISHED BUT INSTALLED UNDER OTHER SECTIONS

- A. Furnish hanger and support sleeves for placement into formwork.

1.04 RELATED WORK

- A. Division 09 - Painting.
- B. Section 220500 – Common Work Results for Plumbing.
- C. Section 220553 – Identification for Plumbing Piping and Equipment.
- D. Section 220700 - Plumbing Insulation.
- E. Section 221000 – Plumbing Piping.
- F. Section 224000 - Plumbing Fixtures.

1.05 REFERENCES

- A. ASME B31.9 - Building Services Piping.
- B. ASTM F708 - Design and Installation of Rigid Pipe Hangers.
- C. ANSI/MSS SP58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
- D. ANSI/MSS SP69 - Pipe Hangers and Supports - Selection and Application.
- E. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practices.

1.06 REGULATORY REQUIREMENTS

- A. Conform to applicable code for support of plumbing piping.

1.07 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Provide manufacturers catalog data including load capacity. Indicate load carrying capacity of trapeze, multiple pipe, and riser support hangers.

PART 2 - PRODUCTS

2.01 PIPE HANGERS AND SUPPORTS

- A. Acceptable Manufacturers:
 - 1. Anvil.
 - 2. B-Line Systems, Inc.
 - 3. Erico.
 - 4. PHD Manufacturing, Inc.
 - 5. Tolco.
- B. Plumbing Piping - DWV:
 - 1. Conform to ANSI/MSS SP58.
 - 2. Hangers for Pipe Sizes ½ to 1-½ Inch: Malleable iron or carbon steel, adjustable swivel, split ring.
 - 3. Hangers for Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
 - 4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
 - 5. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
 - 6. Vertical Support: Steel riser clamp.
 - 7. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
 - 8. Copper Pipe Support: Carbon steel ring, adjustable, copper plated with neoprene isolation pad.
- C. Plumbing Piping - Water:
 - 1. Conform to ANSI/MSS SP58.

HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT
DIVISION 22
Section 220529

2. Hangers for Pipe Sizes ½ to 1-½ Inch: Malleable iron or carbon steel, adjustable swivel, split ring.
 3. Hangers for Cold Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
 4. Hangers for Hot Pipe Sizes 2 to 4 Inches: Carbon steel, adjustable, clevis.
 5. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
 6. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
 7. Vertical Support: Steel riser clamp.
 8. Copper Pipe Support: Carbon steel ring, adjustable, copper plated with neoprene isolation pad.
 9. Design hangers to allow installation without disengagement of supported pipe.
 10. Copper Plating: All hanger elements in metal-to-metal contact with copper pipe, except hanger rings with factory-applied 1/16 inch minimum thick plastic or tape cushion strip over all contact surfaces.
 11. Strut Type Pipe Hanging System: Unistrut P-1000 series; framing members shall be No. 12 gage formed steel channels, 1-5/8 inch square, conforming to ASTM A 570 GR33, one side of channel shall have a continuous slot with inturned lips; framing nut with grooves and spring 1/2 inch size, conforming to ASTM 675 GR60; screws conforming to ASTM A 307; fittings conforming to ASTM A 575; all parts enamel painted or electro-galvanized.
- D. Shield for Insulated Piping 1-½ Inches and Smaller: 18 gauge galvanized steel shield over insulation in 180° segments, minimum 12 inches long at pipe support.
- E. Shield for Insulated Piping 2 Inches and Larger: Hard block, calcium silicate insert, 180° segment, 12 inch minimum length, block thickness same as insulation thickness, flame resistant vapor barrier covering and 18 gauge galvanized shield.
- F. Shields for Vertical Copper Pipe Risers: Galvanized steel pipe.

2.02 HANGER RODS

- A. Steel Hanger Rods: Mild steel, threaded both ends, threaded one end, or continuous threaded. Minimum Hanger Rod Sizes:

PIPE AND TUBE SIZE (INCHES)	ROD SIZE (INCHES)
¼-4	3/8

2.03 INSERTS

- A. Inserts: Malleable iron case of steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.04 ANCHOR BOLTS

- A. Anchor (Expansion) Bolts: Shall be carbon steel to ASTM A 307; nut shall conform to ASTM A194; shall be drilled-in type. Design values for shear and tension shall be not more than 80 percent of the allowable load.

2.05 FLASHING

- A. Metal Flashing: 26 gauge minimum galvanized steel.

- B. Metal Counter Flashing: 22 gauge minimum galvanized steel.
- C. Flexible Flashing: 47 mil thick sheet butyl; compatible with roofing.

2.06 SLEEVES

- A. Sleeves for Pipes through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated sleeves including seals, UL listed caulking.
- B. Fire Stopping Insulation: Glass fiber type, non- combustible.
- C. Caulk: Fire stop sealant in compliance with ASTM E814 and UL 1479.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install pipe hangers in accordance with ANSI/MSS-SP-69.

3.02 PIPE HANGERS AND SUPPORTS

- A. Support plumbing piping in accordance with the latest adopted edition of the UPC.
- B. Support horizontal piping as follows:

MATERIALS	TYPES OF JOINTS	HORIZONTAL	VERTICAL
Cast-Iron Hub-less	Shielded Coupling	Every other joint, unless over 4 feet then support each joint ^{1,2,3,4}	Base and each floor, not to exceed 15 feet
Copper Tube and Pipe	Soldered or Brazed	1 ½ inches and smaller, 6 feet; 2 inches and larger, 10 feet	Each floor, not to exceed 10 feet ⁵

Notes:

¹ Support adjacent to joint, not to exceed 18 inches.

² Brace not to exceed 40 foot intervals to prevent horizontal movement.

³ Support at each horizontal branch connection.

⁴ Hangers shall not be placed on the coupling.

⁵ Vertical water lines shall be permitted to be supported in accordance with recognized engineering principles with regard to expansion and contraction, where first approved by the Authority Having Jurisdiction.

⁶ See the appropriate IAPMO Installation Standard for expansion and other special requirements.

⁷ See manufacturer installation instructions for additional requirements.

- C. Install hangers to provide minimum ½ inch space between finished covering and adjacent work.
- D. Place a hanger within 12 inches of each horizontal elbow.
- E. Use hangers with 1-½ inch minimum vertical adjustment.
- F. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

- G. Support riser piping independently of connected horizontal piping.
- H. Design hangers for pipe movement without disengagement of supported pipe.
- I. Provide copper plated hangers and supports for copper piping.
- J. Prime coat exposed steel hangers and supports. Refer to Division 09. Hangers and supports located in crawlspace, pipe shafts, and suspended ceiling spaces are not considered exposed.

3.03 INSERTS

- A. Provide inserts for placement in concrete formwork.
- B. Where inserts are omitted, drill through concrete slab from below and provide thru-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

3.04 EQUIPMENT BASES AND SUPPORTS

- A. Provide templates, anchor bolts, and accessories for mounting and anchoring equipment.
- B. Anchor (Expansion) Bolts: Install anchor bolts for all plumbing piping and equipment as required. Tightly fit and clamp base-supported equipment anchor bolts at all equipment support points. Provide locknuts where piping and equipment is hung. Install anchor (expansion) bolts in holes drilled in concrete where necessary to hang piping or equipment, or to anchor stationary equipment from existing concrete slabs.

3.05 FLASHING

- A. Provide flexible flashing and metal counter-flashing where piping penetrates weather or waterproofed walls, floors, and roofs. For pipes through outside walls, turn flanges back into wall and caulk, metal counter-flash and seal.
- B. Seal floor drains watertight to adjacent materials.

3.06 SLEEVES

- A. Set sleeves in position in construction. Provide reinforcing around sleeves.
- B. Where piping penetrates floor, ceiling, or wall, install sleeve, close off space between pipe or duct and adjacent work with fire stopping insulation and caulk seal. Use fire rated caulking where area or occupancy separation walls are penetrated. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- C. Install chrome plated steel escutcheons at finished surfaces.

END OF SECTION 220529

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

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

1.03 SUMMARY

- A. Section Includes identification of plumbing piping and equipment installed under Division 22.
- B. Related Sections:
 - 1. Division 09 - Painting and Coating: Execution requirements for painting specified by this section.

1.04 REFERENCES

- A. ANSI/ASME A13.1 - Scheme for the Identification of Piping Systems.

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 01.

1.06 QUALITY ASSURANCE

- A. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Seton.
- B. Marking Services Inc.
- C. Craftmark Identification Systems.
- D. Substitutions: Under provisions of Division 01.

2.02 MATERIALS

- A. Color: Unless specified otherwise, conform with ANSI/ASME A13.1.
- B. Plastic Nameplates: Laminated three-layer plastic with engraved black or white letters on contrasting background color. Plate size minimum $\frac{3}{4}$ " X 2- $\frac{1}{2}$ ".
- C. Plastic Tags: Laminated three-layer plastic with engraved black or white letters on contrasting background color. Tag size minimum 1- $\frac{1}{2}$ inch square.
- D. Metal Tags: Brass with stamped letters; tag size minimum 1- $\frac{1}{2}$ inch diameter with smooth edges.
- E. Stencils: With clean cut symbols and letters of following size:

Outside Diameter of	Length of	Size of
Insulation or Pipe	Color Field	Letters
$\frac{3}{4}$ " - 1- $\frac{1}{4}$ "	8"	$\frac{1}{2}$ "
1- $\frac{1}{2}$ " - 2"	8"	$\frac{3}{4}$ "
2- $\frac{1}{2}$ " - 6"	12"	1- $\frac{1}{4}$ "
Equipment	-----	2- $\frac{1}{2}$ "

- F. Plastic Pipe Markers: Factory fabricated, flexible, semi- rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed. Larger sizes may have maximum sheet size with spring fastener.
- G. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.
- H. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape of not less than 6 inch wide by 4 mil thick, manufactured for direct burial service.
- I. Ceiling Tacks: Steel with $\frac{3}{4}$ inch diameter color-coded head.
- J. Ceiling Labels: $\frac{3}{4}$ " x 2" vinyl label, 3.0 Mil self-adhesive vinyl similar to DuraLabel Pro. Label color shall be black text on a white background.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

- A. Install identifying devices after completion of coverings and painting.
- B. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive.
- C. Install labels with sufficient adhesive for permanent adhesion and seal with clear lacquer. For unfinished canvas covering, apply paint primer before applying labels.
- D. Install tags using corrosion resistant chain. Number tags consecutively by location.
- E. Install underground plastic pipe markers 6 to 8 inches below finished grade, directly above buried pipe.
- F. Identify valves in main and branch piping with tags showing service and valve number.
- G. Identify piping, concealed or exposed, with plastic pipe markers. Tags may be used on small diameter piping. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.
- H. Provide ceiling tacks to locate valves above T-bar type panel ceilings. Locate in corner of panel closest to equipment.
- I. Locations: Nameplates shall be located so as to be readily visible to maintenance personnel. Motor nameplates shall be readily visible on accessible, three phase motors, otherwise a duplicate motor nameplate shall be permanently affixed to the driven machinery in a visible locations.

END OF SECTION 220553

SECTION 220700 – PLUMBING INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Piping Insulation.
- B. Equipment Insulation.
- C. Jackets and Accessories.

1.03 RELATED WORK

- A. Section 220500 - Common Work Results for Plumbing.
- B. Section 220529 - Hangers and Supports for Plumbing Piping and Equipment.
- C. Section 220553 - Identification for Plumbing Piping and Equipment.
- D. Section 224000 - Plumbing Fixtures.

1.04 REFERENCES

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- B. ANSI/ASTM C533 - Calcium Silicate Block and Pipe Thermal Insulation.
- C. ANSI/ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.

- D. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
- E. ANSI/ASTM C547 - Mineral Fiber Preformed Pipe Insulation.
- F. ANSI/ASTM C552 - Cellular Glass Block and Pipe Thermal Insulation.
- G. ANSI/ASTM C553 - Mineral Fiber Blanket and Felt Insulation.
- H. ANSI/ASTM C578 - Preformed, Block Type Cellular Polystyrene Thermal Insulation.
- I. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
- J. ANSI/ASTM C612 - Mineral Fiber Block and Board Thermal Insulation.
- K. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
- L. ASTM C1427 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- M. ASTM B209 - Aluminum and Aluminum-alloy Sheet and Plate.
- N. ASTM E84 - Surface Burning Characteristics of Building Materials.
- O. ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- P. NFPA 255 - Surface Burning Characteristics of Building Materials.
- Q. UL 723 - Surface Burning Characteristics of Building Materials.

1.05 QUALITY ASSURANCE

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.
- B. Pipe insulation manufactured in accordance with ASTM C585 for inner and outer diameters.
- C. Materials: Flame spread/smoke developed rating of 25/50 in accordance with UL 723, ASTM E84, or NFPA 255.
- D. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

1.06 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include product description, thickness for each service, and locations.
- C. Submit manufacturer's installation instructions.

1.07 DELIVERY STORAGE AND HANDLING

- A. Division 01 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- C. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Johns Manville.
- B. Knauf.
- C. Owens-Corning.
- D. Nomaco.
- E. Pittsburgh - Corning.
- F. Substitutions: Under provisions of Division 01.

2.02 INSULATION - PIPING

- A. Type A: Glass fiber, rigid, molded, non-combustible insulation; ANSI/ASTM C547; 'k' value of 0.23 at 75° F, rated from 0° F to 850° F, vapor retarder jacket of Kraft paper bonded to aluminum foil, self-sealing lap and butt strips; Johns Manville "Micro-Lok" or approved equal.

2.03 FIELD APPLIED JACKET

- A. Vapor Barrier Jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.
- B. PVC Jackets and solvent welding adhesive: One piece, pre-molded type, Johns Manville "Zeston 2000", fitting covers and jacketing material. Johns Manville "Perma-Weld" solvent welding adhesive.

2.04 INSULATION ACCESSORIES

- A. Adhesives: Waterproof and fire-retardant type.
- B. Impale Anchors: Galvanized steel, 12 gauge, self-adhesive pad.

- C. Joint Tape: Glass fiber cloth, open mesh.
- D. FSK Joint Tape; ASTM C1136 Foil-Scrim-Kraft (FSK) lamination coated with solvent acrylic pressure sensitive adhesive; capable of adhering to fibrous and sheet metal surfaces; tri-directionally reinforced 2x3 squares per inch fiberglass scrim; 9.5 mils thick, - 40 to 240° F service temperatures; Venture Tape "1525CW" or approved equal.
- E. Tie Wire: Annealed steel, 16 gauge.
- F. Insulated pipe supports: Calcium silicate with galvanized steel jacket (min. 24 gauge); ANSI/ASTM C533; rigid white; 'k' value of 0.37 at 100° F, rated to 1,200° F; Thermal Pipe Shields "T-1000 Calsil" or equal.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Install materials after piping has been tested and approved.
- B. Clean surfaces for adhesives.
- C. Prepare surfaces in accordance with manufacturer's recommendations.

3.02 INSTALLATION - PIPING

- A. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- B. Continue insulation vapor barrier through penetrations except where prohibited by code.
- C. Locate insulation and cover seams in least visible locations.
- D. Neatly finish insulation at supports, protrusions, and interruptions.
- E. Provide insulated cold pipes conveying fluids below ambient temperature with vapor retardant jackets with self-sealing laps. Insulate complete system, including under fitting jackets.
- F. For insulated pipes conveying fluids above ambient temperature, secure jackets with self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges, and unions. Insulate complete system, including under fitting jackets.
- G. Provide insulated piping supports on piping 1-½" inches diameter and larger. Insulation inserts shall not be less than the following lengths:

1-½" to 2-½" pipe size	10" long
- H. For exterior applications, provide weather protection jacket or coating. Insulated pipe, fittings, joints, and valves shall be covered with PVC or metal jacket. Jacket seams shall be located on bottom side of horizontal piping.
- I. Fully insulate all piping including all spaces under jacketing.

J. Jackets:

1. Indoor, Concealed Applications: Insulated pipes shall have vapor barrier jackets, factory-applied. Vapor barrier PVC fittings may also be used provided joints are sealed with solvent welding adhesive approved by the jacket manufacturer.
2. For pipe exposed in finished spaces below 10 feet above finished floor, finish with PVC jacket and fitting covers or metal jacket.
3. Insulate all exposed trap arms, drains, and hot water supplies for handicap protection on handicap accessible fixtures.

3.03 SCHEDULE - PIPING

PIPING	TYPE	PIPE SIZE Inch	MINIMUM INSULATION THICKNESS Inch
Domestic Cold Water	A	All Sizes	1"
Domestic Hot Water Supply – Mains	A	All Sizes	1"
Domestic Hot Water Supply – Branch Lines	A	All Sizes	1"
Domestic Hot Water Recirculating	A	All Sizes	1"
Vent Through Roof	A	All Sizes	1"

END OF SECTION 220700

SECTION 221000 - PLUMBING PIPING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Sanitary Sewer Piping.
- B. Water Piping.
- C. Valves.
- D. Dielectric Connections.
- E. Cleanouts.
- F. Trap Primer Valves.

1.03 RELATED WORK

- A. Section 220500 – Common Work Results for Plumbing.
- B. Section 220529 – Hangers and Supports for Plumbing Piping and Equipment.
- C. Section 220553 – Identification for Plumbing Piping and Equipment.
- D. Section 220700 - Plumbing Insulation.
- E. Section 224000 - Plumbing Fixtures.

1.04 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61."

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include data on pipe materials, pipe fittings, valves and accessories.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Division 01.
- B. Store and protect products under provisions of Division 01.
- C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.01 SANITARY SEWER PIPING, BURIED

- A. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.

2.02 SANITARY SEWER PIPING

- A. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.
- B. Copper Pipe: ASTM B306, DWV. Fittings: ASME B16.3, cast bronze, or ASME B16.29, wrought copper. Joints: ASTM B32, solder, Grade 95TA; Flux: ASTM B813, or Press-Fit.

2.03 DOMESTIC WATER PIPING, ABOVE GRADE

- A. Copper Tubing: ASTM B88, Type L, hard drawn. Fittings: ASME B16.18, cast copper alloy, or ASME B16.22, wrought copper. Joints: ANSI/ASTM B32, solder, Grade 95TA; Flux: ASTM B813 or Press-Fit.

2.04 INTERIOR TRENCH EXCAVATION AND BACKFILL

A. General

1. This section describes general requirements, products, and methods of execution relating to excavation, back-fill, and compaction of inside trenches for mechanical work. Inside trenches are those which occur within an arbitrary, imaginary boundary five feet beyond the outside perimeter of the structure.
2. Provide all trench work for mechanical work of every description and of whatever substance encountered to the depth indicated, or to provide pipe slopes and elevations shown on the drawings. Excavate and backfill utility trenches. Place and compact bedding material. Compact backfill material.

B. Bedding Material

1. Select bedding material from trench excavation using care to separate it from unsuitable material. If suitable bedding material is not available from trench excavation, import it from sources approved by the Owner.
2. Use granular material, free from large stones, boulders, debris, and frozen material. Maximum aggregate size $\frac{3}{4}$ " minus to have less than 6% passing through a #200 sieve. Maintain moisture content within a range that will allow specified compaction.
3. Do not use any frost susceptible materials.

C. Trench Backfill

1. Backfill material shall be $\frac{3}{8}$ " pea gravel or smaller. In the case of cast iron drain, waste and vent piping, the backfill material shall be $\frac{3}{4}$ " gravel and earth or smaller.

2.05 FLANGES, UNIONS, AND COUPLINGS

- A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.
- B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping: 1/16 inch thick preformed neoprene bonded to fiber.
- C. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.06 ACCEPTABLE MANUFACTURERS - ALL VALVE TYPES

- A. Apollo.
- B. Hammond.
- C. Milwaukee.
- D. Nibco.
- E. Substitutions: Under provisions of Division 01.

2.07 GATE VALVES

- A. Not permitted.

2.08 GLOBE VALVES

- A. Not permitted. Use ball or butterfly valves for throttling service.

2.09 BALL VALVES

- A. Up to 2 Inches: Bronze two piece body, full port, forged brass, chrome plated ball, Teflon seats and stuffing box ring, lever handle, solder, threaded or press-fit ends.

2.10 BUTTERFLY VALVES

- A. Not Permitted.

2.11 BALANCE VALVE

- A. Straight pattern, calibrated balance valve for 400 psig maximum working pressure, with NSF-62 compliant lead free brass body, type 304 stainless steel ball, glass and carbon filled TFE seat rings, brass and EPT check valves, EPDM stem o-ring, plastic wheel handle for shut-off service, and lockshield key cap with set screw memory bonnet for balancing service. NPT or sweat ends. Bell & Gossett Circuit Setter Plus or approved equal.

2.12 ACCEPTABLE MANUFACTURERS - WATER HAMMER ARRESTORS

- A. J.R. Smith.
- B. Zurn.
- C. Mifab.
- D. Substitutions: Under provisions of Division 01.

2.13 WATER HAMMER ARRESTORS

- A. ANSI A112.26.1; sized in accordance with PDI WH-201, pre-charged suitable for operation in temperature range -100 to 300° F and maximum 250 psig working pressure; Series 5000 manufactured by J.R. Smith or approved equal.

2.14 ACCEPTABLE MANUFACTURERS - DIELECTRIC CONNECTIONS

- A. Elster Perfection - Clearflow.
- B. Substitutions: Under provisions of Division 01.

2.15 DIELECTRIC CONNECTIONS

- A. Dielectric Connections: ASTM standard F-1545 for continuous use at temperatures up to +225°F and for pressures up to 300 psi. IAPMO, UPC listed. Thread connections.

2.16 DRAIN VALVES

- A. Bronze body, chrome plated brass ball, RPTFE seals and stuffing box ring, stainless steel handle with vinyl cover. 3/4" NPT x 3/4" Hose thread, with duct cover and chain, sweat ends. Apollo 78-100 Series or approved equal.

2.17 ACCEPTABLE MANUFACTURERS - CLEANOUTS

- A. J.R. Smith.
- B. Zurn.
- C. Mifab.
- D. Substitutions: Under provisions of Division 01.

2.18 CLEANOUTS

- A. Interior Finished Floor Areas: Enamel paint coated cast iron, two piece body with double drainage flange, weep holes, reversible clamping collar, bronze plug, and adjustable round nickel bronze scoriated cover in service areas and round with depressed cover to accept floor finish in finished floor areas. J.R. Smith Model 4021 or approved equal.
- B. Interior Finished Wall Areas: Line type with lacquered cast iron body and round epoxy coated gasketed cover, bronze plug, and round stainless steel access cover secured with machine screw. J.R. Smith Model 4022 or approved equal.

2.19 ACCEPTABLE MANUFACTURERS – TRAP PRIMER VALVES

- A. Precision Plumbing Products, Inc.
- B. Mifab.
- C. Zurn.
- D. Substitutions: Under provisions of Division 01.

2.20 MANUAL TRAP PRIMER VALVE

- A. Valve: Machined of brass, containing no springs or diaphragms. "O" rings acceptable for -40°F to +450°F operation. Distribution Unit: Brass fitting with copper water reservoir. Clear plastic cover. Tappings for up to four drain taps. Precision Plumbing Model Prime-Rite or approved equal.

2.21 ACCEPTABLE MANUFACTURERS - MIXING VALVES

- A. Powers.
- B. Watts Regulator.
- C. Lawler Manufacturing Company.
- D. Symmons Industries Inc.

- E. Substitutions: Under provisions of Division 01.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

- A. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- B. Route piping in orderly manner and maintain gradient.
- C. Install piping to conserve building space and not interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Provide clearance for installation of insulation and access to valves and fittings.
- G. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.
- H. Slope water piping and arrange to drain at low points.
- I. Establish elevations of buried piping outside the building to ensure not less than 10 ft. of cover.
- J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- K. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting. Refer to Division 09.
- L. Establish invert elevations, slopes for drainage to 1/4 inch per foot 1/8 inch per foot if 4" or over, minimum. Maintain gradients.
- M. Install valves with stems upright or horizontal, not inverted.
- N. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with Teflon™ based thread lubricate. Ensure clearance at cleanout for rodding of drainage system.
- O. Install water hammer arrestors complete with accessible isolation valve.

3.03 APPLICATION

- A. Install unions downstream of valves and at equipment connections.
- B. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- C. Install balance valve valves for flow control services. (No globe valves permitted.)

3.04 TESTING

- A. Test all water piping in accordance with Section 609 of the UPC. Submit a signed statement to the Engineer stating testing dates, procedure and initials of tester.

3.05 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Flush, clean and disinfect the potable water system in accordance with Section 609 of the UPC. Submit a signed statement to the Engineer stating disinfection dates, procedure and initials of tester.

3.06 INTERIOR TRENCH EXCAVATION AND BACKFILL

A. Excavation

- 1. Place all excavated material suitable for back-fill in an orderly manner, and in conformance with safety codes.
- 2. Dispose of all material not suitable for back filling.
- 3. Form bell holes so pipelines rest on continuous undisturbed soil. If larger rocks or boulders are encountered, remove them. If trenches are below specified grade, backfill to required depth with select granular materials free from debris, rock, or frozen material, and compact to proper grade before installing piping.

B. Location

- 1. Locate trenches to accommodate utilities shown on the drawings.
- 2. Excavate trench with adequate width to allow compaction equipment to be used at the sides of pipes.
- 3. Make trench side slopes conform to prevailing safety code requirements.

C. Dewatering

- 1. Perform whatever work is necessary to prevent the flow and accumulation of surface or ground water in the excavation.

D. Timing

- 1. Do not back-fill until underground mechanical system has been properly tested, inspected and approved.
- 2. Coordinate with the work of others, and complete all trench work in a timely manner.

E. Bedding

- 1. Place bedding material under, around, and over the pipe in lifts not exceeding six inch in depth.

2. Work material around pipe by hand methods, taking care to keep any oversize or sharp stones out of contact with the pipe, and to provide uniform support for the pipe.
3. Cover pipe with bedding material to building sub-grade or to a minimum 12 inch depth before adding other backfill.

F. Backfilling

1. Continue placing backfill material until trench is completely filled to building sub-grade, or as shown on the drawings.
2. Place backfill material in lifts not to exceed 12 inch in depth.

G. Compaction

1. Compact bedding material to at least 95 percent of maximum density, taking care not to damage the pipe.
2. Compact backfill under footings, slabs, and other structures to 95 percent of maximum density or more, if required by the Owner. Where 95 percent compaction cannot be achieved, fill remaining voids with concrete.
3. Compact other areas to preclude future settlement, or at least to 85 percent of maximum density.

H. Finishing

1. After completion of backfilling, dispose of excess material and smooth the surface to grade.
2. Do not allow heavy equipment to be used over backfilled work that does not have sufficient cover to prevent pipe damage.

I. Special Precautions

1. Avoid unauthorized and unnecessary excavations.
2. Minimize number and size of excavations under footings or bearing walls.
3. Support footings, foundations, and walls with timbers and jacks if there appears to be any possible change of damage, and keep such precautions in place until work is completed and sufficient backfill is in place to eliminate possible damage.
4. Avoid damage to all existing underground services, cables, conduit lines or foundations. Repair any existing underground work damaged at no additional cost to the Owner.
5. Protect excavated materials from moisture during the period prior to reinstallation.

END OF SECTION 221000

SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Sinks.
- B. Eyewash.
- C. Floor Drains.
- D. Floor Sinks.

1.03 RELATED WORK

- A. Section 220500 - Common Work Results for Plumbing.
- B. Section 220529 - Hangers and Supports for Plumbing Piping and Equipment.
- C. Section 221000 – Plumbing Piping.

1.04 REFERENCES

- A. ANSI A112.21.1 - Floor Drains.

1.05 QUALITY ASSURANCE

- A. Manufacturer: For each product specified, provide components by same manufacturer throughout.
- B. Trim: By same manufacturer for each product specified throughout.

1.06 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include sizes, rough-in requirements, service sizes, and finishes.

1.07 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 01.
- B. Include fixture trim exploded view and replacement parts lists.
- C. Provide Manufacturer's parts list and maintenance information on specialties.

1.08 WARRANTY

- A. Provide manufacturer's warranty under provisions of Division 01.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS – SINKS

- A. Advance Tabco.
- B. Just.
- C. Elkay.
- D. Substitutions: Under provisions of Division 01.

2.02 ACCEPTABLE MANUFACTURERS -FIXTURE TRIM

- A. Delta.
- B. Moen.
- C. Chicago.
- D. Just.
- E. Fiat.
- F. Substitutions: Under provisions of Division 01.

2.03 PLUMBING FIXTURES

- A. Refer to plumbing schedules on mechanical drawings for basis of design fixture model numbers. Provide specified model and accessories or equivalent product from the acceptable manufacturers listed.

2.04 P-TRAP

- A. P-trap shall be chrome plated cast brass body, with 17 gauge seamless tubular wall bend, cast brass slip nuts. Reducing washers shall be used with reducing cast brass nut, chrome plated brass escutcheons.

2.05 ANGLE STOPS AND SUPPLY RISERS

- A. Quarter-turn lead free brass ball valve with convertible loose key handle, chrome plated copper, or braided stainless supply risers and chrome plated brass escutcheons.

2.06 ACCEPTABLE MANUFACTURERS - FLOOR DRAINS, FLOOR SINKS AND ACCESSORIES

- A. J.R. Smith.
- B. Zurn.
- C. Josam.
- D. Mifab.
- E. Substitutions: Under provisions of Division 01.

2.07 FLOOR DRAINS

- A. FD-1: ANSI A112.21.1; lacquered cast iron two piece body with double drainage flange, weep holes, reversible clamping collar, and round, adjustable nickel-bronze strainer and trap primer connection as indicated.

2.08 FLOOR SINKS

- A. FS-1: Square lacquered cast iron body with integral seepage pan, acid resistant coated interior, aluminum dome strainer, clamp collar, nickel bronze frame and $\frac{3}{4}$ grate.

2.09 ACCEPTABLE MANUFACTURERS – GREASE INTERCEPTOR

- A. Canplas.
- B. Schier.
- C. Substitutions: Under provisions of Division 01.

2.10 GREASE INTERCEPTOR

- A. Heavy duty Injection molded engineered thermoplastic, molded one piece tank, quick connect latching system and removable baffles for easy cleaning.
- B. Polypropylene: Maximum service temperature rated at 220 Degrees F.
- C. Cover incorporates tool free- easy open latch system, with flow direction markings and integrated pry points. CSA B481.0 Class L rated (2000lbs).
- D. Recessed silicone foam seal to prevents odors from escaping the interceptor.
- E. Open concept internal design, to minimize turbulence and enhance separation.
- F. UPC listed, PDI and ASME approved.

2.11 ACCEPTABLE MANUFACTURERS – EYEWASH

- A. Bradley.
- B. Guardian.
- C. Haws.
- D. Speakman.
- E. Substitutions: Under provisions of Division 01.

2.12 EYEWASH

- A. Wall mounted eye/face wash shall include a ABS plastic 11" bowl. The eye/face wash head shall feature inverted directional laminar flow supplied by an integral 3.7 gpm flow control, chrome-plated brass stay-open ball valve equipped with stainless steel ball and stem, and chrome-plated brass in-line 50 x 50 mesh water strainer. Unit shall also include cast-aluminum chromate protected wall bracket, yellow plastic pop-off dust cover for eyewash head, universal sign, 1/2" NPT inlet, and 1-1/4" NPT waste.
- B. Waste Trap: Chrome-plated brass trap with tailpiece. 1-1/2" NPT.
- C. Dust Cover: Stainless steel cover that protects the eyewash heads as well as the bowl.
- D. Tempering Valve: ANSI Z358.1 listed thermostatic mixing valve that mixes hot and cold water to supply tempered water to a single emergency eye/face wash fixture requiring flow up to 10 gpm. Unit employs a paraffin filled thermostatic mixing element. Cold Water Bypass flow rate of 3.8 gpm. Brass construction supplied with check valves, over-sized valve seats, and a funnel design to improve temperature control with better mixing at low flow rates. The outlet temperature factory setting shall be 85° F. Maximum operating pressure: 125 psi. Temperature adjustment range 60 - 90° F.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Coordinate cutting and forming of roof and floor construction to receive drains to required invert elevations.

3.02 INSPECTION

- A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
- B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- C. Install water hammer arrestors complete with accessible isolation valve.
- D. Verify adjacent construction is ready to receive rough-in work of this Section.

3.03 INSTALLATION

- A. Install each fixture with removable p-trap for servicing and cleaning.
- B. Provide angle stop and supply risers at each fixture. Provide chrome plated escutcheons for both hot and cold water supplies and waste piping.
- C. Install components level and plumb.
- D. Install and secure fixtures in place with wall or floor carriers, supports as per the manufacturer's instructions.
- E. Seal fixtures to wall and floor surfaces with silicone sealant, color to match fixture.
- F. Mount fixtures above finished floor in accordance with Architectural.
- G. Install specialties in accordance with manufacturer's instructions to permit intended performance.
- H. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- I. Install water hammer arrestors complete with accessible isolation valve.

3.04 ADJUSTING AND CLEANING

- A. Adjust stops, valves or flow control valves for intended water flow rate and temperature to fixtures without splashing, noise, or overflow.
- B. At completion remove all visible stickers and tags not intended to be left in place, thoroughly clean all surfaces of plumbing fixtures.

END OF SECTION 224000

SECTION 230923 - DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC CONTROLS**PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SCOPE OF WORK

- A. The Building Automation System (BAS) manufacturer shall modify existing controls installation as indicated on the drawings.
- B. All materials and equipment used shall be standard components, regularly manufactured for this and/or other systems and not custom designed specially for this project. All systems and components shall have been thoroughly tested and proven in actual use for at least two years.
- C. The BAS manufacturer shall be responsible for all BAS and Temperature Control wiring for a complete and operable system. All wiring shall be done in accordance with applicable local and national codes.

1.03 RELATED DIVISIONS

- A. Section 23 05 00 - Common Work Results for Plumbing
- B. Section 22 05 05 - Selective Demolition for Plumbing
- C. Division 26 - Electrical.

1.04 QUALITY ASSURANCE

- A. The BAS shall be designed, installed, commissioned and serviced by factory-trained personnel. The contractor shall have an in-place support facility within 50 miles of the site with technical staff, spare parts inventory and necessary test and diagnostic equipment. Distributors or licensed installing contractors are not acceptable.

1. The contractor shall provide a dedicated, experienced project manager for this work, responsible for direct supervision of the design, installation, start up and commissioning of the BAS.
 2. The contractor shall be regularly engaged in the manufacturing, installation and maintenance of building automation systems and shall have a minimum of ten (10) years of demonstrated technical expertise and experience in the manufacture, installation and maintenance of BAS systems similar in size and complexity to this project.
- B. Materials and equipment shall be the catalogued products of manufacturers that are regularly engaged in production and installation of automation systems and shall be the manufacturer's latest standard design that complies with the specification requirements.

1.05 WARRANTY

- A. Provide all services, materials and equipment necessary for the successful operation of the entire BAS system for a period of one (1) year after substantial completion.
- B. The adjustment, testing and repair of the system includes all computer equipment, transmission equipment and all sensors and control devices.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Siemens Industry, Inc.
- B. No Substitutions.

PART 3 - EXECUTION

3.01 SEQUENCE OF OPERATION

- A. Existing Kitchen Hood Exhaust Fan (EF-18)
1. Alarms:
 - a. Fan Failure
 2. Digital Control and Indication:
 - a. Fan On/Off Status.
 - b. Fan Switch On/Off Position.
 3. Automated Control:
 - a. Fan shall operate on/off based on existing wall mounted switch. Monitor fan and switch status, indicate alarm if fan switch is on and fan is not operational.

3.02 ELECTRICAL WIRING AND MATERIALS

- A. Install, connect and wire the items included under this Section. This work includes providing required conduit, wire, fittings, and related wiring accessories. All wiring in exposed or inaccessible areas shall be installed in EMT conduit. Plenum-rated cable may be used in concealed, accessible areas only.
- B. All wiring to be compliant with the Division 26 requirements and the NEC.

DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC CONTROLS
DIVISION 23
Section 230923

- C. Provide electrical wall box and conduit sleeve for all wall-mounted devices.

END OF SECTION 230923

SECTION 260126 - TESTING AND MAINTENANCE OF ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Receptacle Branch Circuit Test.
- B. Ground Fault Circuit Interrupter Test.
- C. Additional Testing and Maintenance Requirements in Individual Equipment and System Sections.

1.03 REFERENCES

- A. NETA ATS – Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- B. ANSI/TIA/EIA – 568-B.1 and Addendums, General Cabling System Requirements.

1.04 SUBMITTALS

- A. Submit data under provisions of Division 01 and Section 260500.
- B. Product Data: Submit technical information for each test instrument to include manufacturer, model number, serial number, ratings, accuracy, and National Institute of Standards and Technology (NIST) Traceable calibration certification.

1.05 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit Test Reports per Section 260500.

1.06 COORDINATION

- A. Provide written 72 hours advance notice of all tests to be performed to allow Owner's Representative to witness testing.

1.07 REQUIRED TEST INSTRUMENTS

A. BRANCH CIRCUIT ANALYZER:

1. Product Description: Branch circuit analyzer capable of receptacle testing of voltage drop under load, hot-neutral-ground conductor resistances, common mode (N-G) Voltage, and G.F.C.I. trip point.
2. Manufacturer: Ideal SureTest. Model: 61-156 ST-1THD Wiring/Harmonic Distortion Analyzer or approved equal.
3. Equipment Accuracy:
 - a. Accuracy 1% full scale $\pm$ 1 digit True RMS.

1.08 TEST INSTRUMENT CALIBRATION

- A. All test equipment shall be in good mechanical and electrical condition.
- B. Provide calibration for each test instrument directly traceable to the National Institute of Standards and Technology (NIST) of higher accuracy than that of the instrument tested.
- C. Provide calibration labels visible on all test equipment. Records, which show date and results of instruments calibrated or tested, shall be kept up-to-date.
- D. Calibrate instruments in accordance with the following frequency schedule:
 1. Field instruments: 12 months maximum.
 2. Up-to-date instrument calibration instructions and procedures shall be maintained for each test instrument with the equipment.

1.09 MINIMUM REPORT INFORMATION

- A. Report Criteria: After each test, promptly submit one copy of report to the Owner's Representative. Include information on the ASD report form where included within this specification otherwise. Provide form with the minimum following information:
 1. Date issued.
 2. Project title and number.
 3. Name and Model of Tester and witnesses.
 4. Date and time of sampling or inspection.
 5. Identification of product and specifications section.
 6. Type of inspection or test.
 7. Date of test.
 8. Results of tests.
 9. Indicate compliance or non-compliance with Contract Documents.

10. Final adjustment setting values where applicable.

B. Submit copy of all tests performed in the O&M manual.

1.10 GENERAL REQUIREMENTS

A. Submit test results within 3 working days of each test and included in the O&M manual.

B. Provide qualified personnel at site to perform all testing.

C. Perform specified testing of products in accordance with specified standards or as denoted in this specification whichever is more stringent.

D. Promptly notify Owner's Representative of irregularities or non-conformance of Work or products.

E. Perform additional tests when test is performed incorrectly, deemed inaccurate, or incorrectly documented.

F. The Contractor shall provide all forms, instrumentation and test equipment, loads, and other consumables required to demonstrate the systems to Owner's Representative satisfaction.

G. Perform and submit all testing prior to substantial completion and system acceptance.

H. Retest all material, cables etc that are disturbed after testing.

I. Replace and retest all material installed which does not meet or exceed the minimum acceptable limits set forth in this specification in accordance with the contract original requirements at no additional charge to Contract Sum/Price.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 RECEPTACLE GROUND FAULT CIRCUIT INTERRUPTER TEST

A. Test Criteria:

1. Use Branch Circuit Analyzer to perform test of each GFCI protected receptacle.
2. Record trip level in ma for each outlet.
3. Submit test results to Owner's Representative.

B. Test Values:

1. Trip Range: Between 6-9 mA.

END OF SECTION 260126

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL**PART 1 -GENERAL****1.01 DESCRIPTION OF WORK**

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. General Requirements specifically applicable to Division 26, in addition to Division 01 provisions.
- B. The electrical system equipment and installation shall comply with all provisions and requirements of this specification, as well as any and all applicable national, state and local codes and standards.

1.03 WORK SEQUENCE

- A. Construct Work in sequence under provisions of Division 01.

1.04 COORDINATION

- A. Coordinate the Work specified in this Division under provisions of Division 01.
- B. Prepare drawings showing proposed rearrangement of Work to meet job conditions, including changes to Work specified under other Sections. Obtain permission of Architect prior to proceeding.
- C. Coordinate system outages with Siemens, Guardian Security, Fire Department, ASD IT Department, and ASD Automation.

1.05 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code, latest adopted edition including all state and local amendments.
- B. NECA - Standard of Installation.
- C. Electrical Reference Symbols: The Electrical "Legend" on drawings is standardized version for this project. All symbols shown may not be used on drawings. Use legend as reference for symbols used on plans.
- D. Electrical Drawings: Drawings are diagrammatic; complimentary to the Architectural drawings; not intended to show all features of work. Install material not dimensioned on drawings in a manner to provide a symmetrical appearance. Do not scale drawings for exact equipment locations. Review Architectural and Mechanical Drawings and adjust work to conform to conditions shown thereon. Field verification of dimensions, locations and levels is directed.

1.06 REGULATORY REQUIREMENTS

- A. Conform to ANSI/NFPA 70.
- B. Conform to the latest adopted edition of the International Building Code and the International Fire Code including all state and local amendments thereto.
- C. Conform to ANSI/IEEE C2.
- D. Obtain electrical permits, plan review, and inspections from authority having jurisdiction.

1.07 SUBMITTALS

- A. Submit inspection and permit certificates under provisions of Division 01.
- B. Include certificate of final inspection and acceptance from authority having jurisdiction.
- C. Submittal review is for general design and arrangement only and does not relieve the Contractor from any requirements of Contract Documents. Submittal not checked for quantity, dimension, fit or proper operation. Where deviations of substitute product or system performance have not been specifically noted in the submittal by the Contractor, provisions of a complete and satisfactory working installation is the sole responsibility of the Contractor.
- D. In addition to requirements referenced in Division 01, the following is required for work provided under this division of the specification.
 - 1. Provide material and equipment submittals containing complete listings of material and equipment shown on Electrical Drawings and specified herein. Separate from work furnished under other divisions. Index and clearly identify all material and equipment by item, name or designation used on drawings and in specifications.
 - 2. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities;

wiring diagrams and controls; component parts; finishes; dimensions; and required clearances.

3. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
4. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
5. Coordinate submittals with requirements of work and of Contract Documents.
6. Certify in writing that the submitted shop drawings and product data are in compliance with requirements of Contract Documents. Notify Architect/Engineer in writing at time of submittal, of any deviations from requirements of Contract Documents.
7. Do not fabricate products or begin work which requires submittals until return of submittal with Architect/Engineer acceptance.
8. Equipment scheduled by manufacturer's name and catalog designations, manufacturer's published data and/or specification for that item, in effect on bid date, are considered part of this specification. Approval of other manufacturer's item proposed is contingent upon compliance therewith.
9. Submittals for Division 26 shall be complete and submitted at one time. Unless given prior approval, partial submittals will be returned un-reviewed.

1.08 SUBSTITUTIONS

- A. In accordance with the General Conditions and the General Requirements, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment.

1.09 PROJECT RECORD DRAWINGS

- A. Maintain project record drawings in accordance with Division 01.
- B. In addition to the other requirements, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all electrical work which will become permanently concealed. Show routing of work in permanently concealed blind spaces within the building. Show complete routing and sizing of any significant revisions to the systems shown.
- C. Record drawing field mark-ups shall be maintained on-site and shall be available for examination of the Owner's Representative at all times.
- D. Submit Final Project Record Documents to Engineer as part of Project Final Completion close-out.

1.10 DEMONSTRATION OF ELECTRICAL SYSTEMS

- A. During substantial completion inspection:
 1. Conduct operating test for approval under provisions of Division 01.
 2. Demonstrate installation to operate satisfactorily in accordance with requirements of Contract Documents.
 3. Should any portion of installation fail to meet requirements of Contract Documents, repair or replace items failing to meet requirements until items can be demonstrated to comply.

4. Have instruments available for measuring light intensities, voltage and current values, and for demonstration of continuity, grounds, or open circuit conditions.
5. Provide personnel to assist in taking measurements and making tests.

1.11 WARRANTY

- A. In addition to the requirements of Division 01, or as specified in other sections. Warrant all materials, installation and workmanship for one (1) year from date of acceptance.
- B. Copies of manufacturer product warranties for all equipment shall be included in the operation and installation manuals.

PART 2 -PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All Materials and Equipment shall be new.
- B. All Materials and Equipment shall be listed by Underwriter's Laboratories or equivalent third party listing agency for the use intended.
- C. Materials and Equipment shall be acceptable to the authority having jurisdiction as suitable for the use intended when installed per listing and labeling instructions.
- D. No materials or equipment containing asbestos in any form shall be used. Where materials or equipment provided by this Contractor are found to contain asbestos such items shall be removed and replaced with non-asbestos containing materials and equipment at no cost to the Owner.
- E. In describing the various items of equipment, in general, each item will be described singularly, even though there may be numerous similar items.

PART 3 -EXECUTION

3.01 WORKMANSHIP

- A. Install Work using procedures defined in NECA Standard of Installation and/or the manufacturer's installation instructions.

3.02 TESTS

- A. Perform tests in accordance with Section 260126 – Testing and Maintenance of Electrical Systems.
- B. Notify the Owner's representative at least 72 hours prior to conducting any tests.
- C. Perform additional tests required under other sections of these specifications.
- D. Perform all tests in the presence of the Owner's representative.

- E. The Contractor shall provide written notification to the Owner's representative and the State Electrical Inspector thirty days in advance of requests for rough-in and substantial completion inspections.

3.03 PENETRATIONS OF FIRE BARRIERS

- A. All holes or voids created to extend electrical systems through fire rated floors, walls or ceiling shall be sealed with an asbestos-free intumescent fire stopping material capable of expanding 8 to 10 times when exposed to temperatures 250° F or higher.
- B. Materials shall be suitable for the fire stopping of penetrations made by steel, glass, plastic and shall be capable of maintaining an effective barrier against flame, smoke and gases in compliance with the requirements of ASTM E814 and UL 1479.
- C. The rating of the fire stops shall be the same as the time-rated floor, wall or ceiling assembly.
- D. Install fire stopping materials in accordance with the manufacturer's instructions.

END OF SECTION 260500

SECTION 260519 - LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Building Wire.
- B. Cable.
- C. Wiring Connections and Terminations.

1.03 RELATED SECTIONS

- A. Section 260126 - Testing and Maintenance of Electrical Systems.
- B. Section 260533 – Raceway and Boxes for Electrical Systems.
- C. Section 260553 – Identification for Electrical Systems.

1.04 REFERENCES

- A. Federal Specification FS-A-A59544 – Cable and Wire, Electrical (Power, Fixed Installation).
- B. Federal Specification FS-J-C-30B – Cable Assembly, Power, Electrical.
- C. ANSI/NEMA WC 70-2009 – Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy.
- D. NETA ATS – Acceptance testing specifications for Electrical Power Distribution and Systems.

- E. NFPA 70 – National Electrical Code.
- F. NFPA 262 – Standard Method of test for flame travel and smoke of wires and cables for use in air-handling spaces.
- G. UL 62 – Flexible Cords and Cables.
- H. UL 83 – Thermoplastic Insulated Wire and Cable.
- I. UL 1063 – Standard for Machine and Tool Wire and Cable.
- J. UL 1424 – Standard for Cables for Power-Limited Fire Alarm.
- K. UL 1479 – Standard for Fire Tests of Through Wall Penetration Fire Stops.
- L. UL 1581 – Reference Standard for Electrical Wires, Cables and Flexible Cords.

1.05 QUALITY ASSURANCE

- A. Provide wiring materials located in plenums with peak optical density not greater than 0.5, average optical density not greater than 0.15, and flame spread not greater than 5 feet (1.5m) when tested in accordance with NFPA 262.

1.06 SUBMITTALS

- A. Submittals are not requested for this section.

PART 2 - PRODUCTS

2.01 BUILDING WIRE

- A. Thermoplastic-insulated Building Wire: NEMA WC 5.
- B. Feeders and Branch Circuits 6 AWG and Smaller: Copper conductor, 600 volt insulation, THHN/THWN or XHHW-2. 6 and 8 AWG, stranded conductor; smaller than 8 AWG, solid conductor.
- C. Branch Circuit Wire Color Code:
 - 1. Color code wires by line or phase as follows:
 - a. Black, red, blue and white for 120/208V systems.
 - 2. For conductors 6 AWG and smaller, insulation shall be colored. For conductors 4 AWG and larger, identify with colored phase tape at all terminals, splices, and boxes.
 - 3. Grounding conductors 6 AWG and smaller shall have green colored insulation. For 4 AWG and larger, use green tape at both ends and at all other visible points in between, including pull and junction boxes.
- D. Control Circuits: Copper, stranded conductor 600 volt insulation, THHN/THNN or XHHW-2.

2.02 WIRING CONNECTIONS AND TERMINATIONS

- A. For conductors 8 AWG and smaller:
 - 1. Dry interior areas: Spring wire connectors, pre-insulated "twist-on" rated 105 degrees C per UL 468C. Where stranded conductors are terminated on screw type terminals, install crimp insulated fork or ring terminals. Thomas & Betts Sta-Kon or equal.
 - 2. Motor connections: Spring wire connectors, pre-insulated "twist-on" rated 105 degrees C per UL 468C. Provide a minimum of 8 wraps of Scotch 33+ electrical tape around conductors and connector to eliminate connector back off.
 - 3. Wet or exterior: Spring wire connectors, pre-insulated "twist-on", resin filled rated for direct burial per UL 486D.

PART 3 - EXECUTION

3.01 GENERAL WIRING METHODS

- A. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 18 AWG for control wiring.
- B. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 75 feet.
- C. Splice only in junction or outlet boxes using split bolts with pvc endcaps with epoxy. Wirenuts are not permitted.
- D. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- E. Make Conductor lengths for parallel circuits equal.
- F. Wiring in lighting fixture channels shall be rated for 90° C minimum.
- G. Do not share neutral conductors. Provide a dedicated neutral conductor for each branch circuit that requires a neutral.
- H. Conductor connections in wet locations that are below grade to 12-inches above grade shall be resin encapsulated. Scotchcast resin or approved equal.
- I. Conductor connections in damp locations shall be terminated with listed weatherproof connectors. Polaris Insul-Tap or equal. Conductor connections #10awg or smaller may be Ideal UnderGround connectors or equal.

3.02 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Verify that raceway is complete and properly supported prior to pulling conductors.
- B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.
- C. Do not install XHHW-2 conductors when ambient temperatures are below -5 degrees C and THHN/THWN conductors when ambient temperatures are below 0 degrees C.

- D. Conductors shall be carefully inspected for insulation defects and protected from damage as they are installed in the raceway, and tested for continuity. Where the insulation is defective or damaged, the cable section shall be repaired or replaced at the discretion of the Owner and at no additional cost to the Owner.
- E. Place an equal number of conductors for each phase of a circuit in same raceway or cable.
- F. Route conductors from each system in independent raceway system and not intermix in the same raceway, enclosure, junction box, wireway, or gutter as another system unless otherwise shown on the plans.
- G. No more than six current carrying conductors shall be installed in any homerun unless otherwise indicated on the drawings or without prior approval from the Engineer.
- H. Completely and thoroughly swab raceway system before installing conductors.
- I. When two or more neutrals are installed in one conduit, identify each with the proper circuit number in accordance with Section 260553.

3.03 CABLE INSTALLATION

- A. Provide protection for exposed cables where subject to damage.
- B. Support cables above accessible ceilings with listed hangers and supports that are supported per Specification Section 260529; and do not rest on ceiling tiles and grid system. Use spring metal clips or cable ties to support cables from structure. Do not support cables from ceiling suspension system. Include bridle rings or drive rings.
- C. Use suitable cable fittings and connectors.

3.04 WIRING CONNECTIONS AND TERMINATIONS

- A. Splice only in accessible junction boxes.
- B. Thoroughly clean wires before installing lugs and connectors.
- C. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- D. Terminate spare conductors with twist on connectors or heat shrink insulation to proper voltage rating.
- E. Control systems wiring in conjunction with mechanical, electrical or miscellaneous equipment to be identified in accordance with wiring diagrams furnished with equipment.
- F. Code sound and signal systems wiring and any special equipment in accordance with manufacturer's diagrams or recommendations.
- G. Do not exceed manufacturer's recommended pull tensions.

3.05 FIELD QUALITY CONTROL

LOW VOLTAGE ELECTRICAL POWER CONDUCTORS

DIVISION 26

Section 260519

- A. Field inspection and testing will be performed under provisions of Division 01 and Section 260126.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Torque conductor connections and terminations to manufacturer's recommended values.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Power System Grounding.
- B. Electronic Safety and Security Grounding.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements, Section 260500 – Common Work Results for Electrical, Division 27.
- B. Section 260126 - Testing and Maintenance of Electrical Systems.
- C. Section 260519 – Low-Voltage Electrical Power Conductors and Cables.

1.04 REFERENCE STANDARDS

- A. ANSI/NFPA 70 – National Electrical Code.
- B. ASTM B 3 – Standard Specification for Soft or Annealed Copper Wire.
- C. IEEE Std 142 – Recommended Practice for Grounding of Industrial and Commercial Power System.
- D. UL 467 – Standard for Grounding and Bonding Equipment.

1.05 SYSTEM DESCRIPTION

- A. Provide a complete grounding system for services and equipment as required by State and Local Codes, NEC, applicable portions of other NFPA codes, and as indicated herein.

1.06 SUBMITTALS

- A. Product Data: Submit product data for all components provided, showing material type and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.

1.07 COORDINATIONS

- A. Division 01 – Administrative Requirements: Requirements for Coordination.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bonding Conductors: Solid bare copper wire for sizes No. 10 AWG and smaller diameter. Stranded bare copper wire for sizes No. 8 AWG and larger diameter. Conductors may be insulated conductors if used provide green insulation.
- B. Grounding Conductors: Copper conductor bare or green insulated.
- C. Mechanical Grounding and Bonding Connectors: Non-reversible crimp type lugs only. Use factory made compression lug for all terminations.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Provide a separate, insulated equipment-grounding conductor in all feeder and branch circuits. Terminate each end on a grounding lug, bus, or bushing. Multiple conductors on single lug not permitted. Each grounding conductor shall terminate on its own terminal lug.
- B. Grounding conductors for branch circuits shall be sized in accordance with NEC, except minimum size grounding conductor shall be No. 12 AWG.
- C. Grounding conductor is in addition to neutral conductor and in no case shall neutral conductor serve as grounding means.
- D. Bond together exposed non-current carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground connectors, and plumbing and fuel systems.
- E. Grounding conductors for branch circuits shall be sized in accordance with NEC, except minimum size grounding conductor shall be No. 12 AWG.
- F. Grounding conductor is in addition to neutral conductor and in no case shall neutral conductor serve as grounding means.

3.02 FIELD QUALITY CONTROL

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDED

- A. Conduit Supports.
- B. Formed Steel Channel.
- C. Spring Steel Clips.
- D. Sleeves.
- E. Mechanical Sleeve Seals.
- F. Firestopping Relating to Electrical Work.
- G. Firestopping Accessories.
- H. Equipment Bases and Supports.

1.03 RELATED WORK

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements, and Section 260500 – Common Work Results for Electrical.

1.04 REFERENCES

- A. International Building Code (IBC), Chapter 16 – Structural Design.
- B. ASTM International:
 - 1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 3. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops.
 - 4. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems.
- C. Underwriters Laboratories Inc.:
 - 1. UL 263 - Fire Tests of Building Construction and Materials.
 - 2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
 - 3. UL 1479 - Fire Tests of Through-Penetration Firestops.
 - 4. UL 2079 - Tests for Fire Resistance of Building Joint Systems.
 - 5. UL - Fire Resistance Directory.

1.05 DEFINITIONS

- A. Firestopping (Through-Penetration Protection System): Sealing or stuffing material or assembly placed in spaces between and penetrations through building materials to arrest movement of fire, smoke, heat, and hot gases through fire rated construction.

1.06 SYSTEM DESCRIPTION

- A. Firestopping Materials: ASTM E814 and UL 1479 to achieve fire ratings as noted on Drawings for adjacent construction, but not less than 1 hour fire rating.
 - 1. Ratings may be 3-hours for firestopping in through-penetrations of 4-hour fire rated assemblies unless otherwise required by applicable codes.

1.07 PERFORMANCE REQUIREMENTS

- A. Firestopping: Conform to UL for fire resistance ratings and surface burning characteristics.
- B. Firestopping: Provide certificate of compliance from authority having jurisdiction indicating approval of materials used.

1.08 SUBMITTALS

- A. Division 01: Requirements for submittals.
- B. Product Data:
 - 1. Firestopping: Submit data on product characteristics, performance and limitation criteria.

- C. Manufacturer's Installation Instructions:
 - 1. Firestopping: Submit preparation and installation instructions.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.09 QUALITY ASSURANCE

- A. Support systems shall be adequate for weight of equipment and conduit, including wiring, which they carry.
- B. Through Penetration Firestopping of Fire Rated Assemblies: UL 1479 or ASTM E814 with 0.10 inch water gage minimum positive pressure differential to achieve fire F-Ratings and temperature T-Ratings as indicated on Drawings, but not less than 1-hour.
 - 1. Wall Penetrations: Fire F-Ratings as indicated on Drawings, but not less than 1-hour.
 - 2. Floor Penetrations: Fire F-Ratings and temperature T-Ratings as indicated on Drawings, but not less than 1-hour.
 - 3. Floor Penetrations within Wall Cavities: T-Rating is not required.
- C. Perform Work in accordance with Municipality of Anchorage Standard Specifications.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Division 01: Environmental conditions affecting products on site.
- B. Do not apply firestopping materials when temperature of substrate material and ambient air is below 60 degrees F.
- C. Maintain this minimum temperature before, during, and for minimum 3 days after installation of firestopping materials.

PART 2 - PRODUCTS

2.01 CONDUIT SUPPORTS

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. Minerallac Fastening Systems.
 - 3. O-Z Gedney Co.
 - 4. Substitutions: per Division 01
- B. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
- C. Beam Clamps: Malleable Iron, with tapered hole in base and back to accept either bolt or hanger rod. Set screw: hardened steel.
- D. Conduit clamps for trapeze hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.

- E. Conduit clamps - general purpose: One-hole malleable iron for surface mounted conduits.
- F. Cable Ties: High strength nylon temperature rated to 185 degrees F. self-locking.

2.02 FORMED STEEL CHANNEL

- A. Manufacturers:
 - 1. B-Line Systems.
 - 2. Allied Tube & Conduit Corp.
 - 3. Unistrut Corp.
 - 4. Substitutions: per Division 01.
- B. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.

2.03 SLEEVES

- A. Sleeves through Non-fire Rated Floors: 18 gage thick galvanized steel.
- B. Sleeves through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.
- C. Sleeves through Fire Rated and Fire Resistive Floors and Walls, and Fire Proofing: Prefabricated fire rated sleeves including seals, UL listed.
- D. Fire-stopping Insulation: Glass fiber type, non-combustible.

2.04 MECHANICAL SLEEVE SEALS

- A. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

2.05 FIRE STOPPING

- A. Manufacturers:
 - 1. Dow Corning Corp.
 - 2. 3M Fire Protection Products.
 - 3. Fire Trak Corp.
 - 4. Substitutions: per Division 01.
- B. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
 - 1. Silicone Firestopping Elastomeric Firestopping: Single component silicone elastomeric compound and compatible silicone sealant.
 - 2. Foam Firestopping Compounds: Single component foam compound.
 - 3. Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.

4. Fiber Stuffing and Sealant Firestopping: Composite of mineral fiber stuffing insulation with silicone elastomer for smoke stopping.
5. Mechanical Firestopping Device with Fillers: Mechanical device with incombustible fillers and silicone elastomer, covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
6. Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.
7. Firestop Pillows: Formed mineral fiber pillows.

2.06 FIRESTOPPING ACCESSORIES

- A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.
- B. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
- C. General:
 1. Furnish UL listed products or products tested by independent testing laboratory.
 2. Select products with rating not less than rating of wall or floor being penetrated.
- D. Non-Rated Surfaces:
 1. Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling plates for covering openings in occupied areas where conduit is exposed.
 2. For exterior wall openings below grade, furnish modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill annular space between conduit and cored opening or water-stop type wall sleeve.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Division 01: Verification of existing conditions before starting work.
- B. Verify openings are ready to receive sleeves.
- C. Verify openings are ready to receive firestopping.

3.02 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.
- B. Remove incompatible materials affecting bond.
- C. Install damming materials to arrest liquid material leakage.
- D. Obtain permission from Owner's Representative before using powder-actuated anchors.
- E. Obtain permission from Owner's Representative before drilling or cutting structural members.

3.03 INSTALLATION - GENERAL

- A. Fasten hanger rods, conduit clamps, and outlet and junction boxes to building structure using precast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.
- B. Use toggle bolts or hollow wall fasteners in hollow masonry partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion anchor on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.
- C. Do not support raceways, low voltage pathways, cables, telecommunication pathways or boxes from ceiling suspension wires or suspended ceiling systems. Provide support from building structure independently to allow ceiling removal and replacement without removal of electrical system. If dedicated support wires are used, wires and wire clips must be painted or color-coded. Exception: Outlet boxes for ceiling-mounted light fixtures, speakers, motion sensors, and smoke detectors may be mounted in the ceiling system.
- D. Do not fasten supports to piping, ductwork, mechanical equipment, conduit, or ceiling suspension system.
- E. Do not penetrate by drilling or screwing into metal roof decking. All penetrations into metal roof decking must be approved by the Project Manager in writing.
- F. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- G. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- H. Securely fasten fixtures and equipment to building structure in accordance with manufacturer's recommendations and to provide necessary earthquake anchorage.
- I. Provide wall attached fixtures and equipment weighing less than 50 pounds with backing plates of at least 1/8" x 10" sheet steel or 2" x 10" fire retardant treated wood securely built into the structural walls. Submit attachment details of heavier equipment for approval.
- J. Earthquake Anchorages:
 - 1. Equipment weighing more than 50 pounds shall be adequately anchored to the building structure to resist lateral earthquake forces.
 - 2. Total lateral (earthquake) forces shall be 1.5 times the equipment weight acting laterally in any direction through the equipment center of gravity. Provide adequate backing at structural attachment points to accept the forces involved.
- K. Provide two minimum color-coded dedicated seismic support wires for each ceiling mounted light fixture weighing less than 50 pounds. Attach support wires to building structure independent from ceiling system and on opposing corners of the light fixtures to not allow fixture to drop more than 6 inches upon ceiling failure. Secure each end with three tight wraps within 1 inch at each end of the wire.

- L. Replace or repair any fireproofing damaged by the installation of supporting equipment or devices.
- M. Power-driven fasteners are prohibited for tension load applications (such as supporting luminaires or conduit racks from ceiling above). Use drilled-in expansion anchors, or drilled and screw-in anchors such as Kwik-Con II or Tapcon.

3.04 INSTALLATION - FIRESTOPPING

- A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.
- B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.
- C. Apply firestopping material in sufficient thickness to achieve required fire and smoke rating, to uniform density and texture.
- D. Place intumescent coating in sufficient coats to achieve rating required.
- E. Remove dam material after firestopping material has cured.
- F. Fire Rated Surface:
 - 1. Seal opening at floor, wall, partition, ceiling, and roof as follows:
 - a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
 - b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
 - c. Pack void with backing material.
 - d. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated.
- G. Where conduit penetrates fire rated surface, install firestopping product in accordance with manufacturer's instructions.
- H. Non-Rated Surfaces:
 - 1. Seal opening through non-fire rated wall, partition floor, ceiling, and roof opening as follows:
 - a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
 - b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
 - c. Install type of firestopping material recommended by manufacturer.
- I. Install escutcheons where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.

- J. Interior partitions: Seal pipe penetrations at computer rooms and data rooms. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.

3.05 INSTALLATION - SLEEVES

- A. Exterior watertight entries: Seal with adjustable interlocking rubber links.
- B. Conduit penetrations not required to be watertight: Sleeve and fill with silicon foam.
- C. Set sleeves in position in forms. Provide reinforcing around sleeves.
- D. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- E. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
- F. Where conduit or raceway penetrates floor, ceiling, or wall, close off space between conduit or raceway and adjacent work with appropriate insulation and caulk. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- G. Install chrome plated steel escutcheons at finished surfaces.

3.06 FIELD QUALITY CONTROL

- A. Division 01: Field inspecting, testing, adjusting, and balancing.
- B. Inspect installed firestopping for compliance with specifications and submitted schedule.

3.07 CLEANING

- A. Division 01: Requirements for cleaning.
- B. Clean adjacent surfaces of firestopping materials.

3.08 PROTECTION OF FINISHED WORK

- A. Division 01: Requirements for protecting finished Work.
- B. Protect adjacent surfaces from damage by material installation.

END OF SECTION 260529

SECTION 260533 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Metal Conduit.
- B. Flexible Metal Conduit.
- C. Liquidtight Metal Conduit.
- D. Electrical Metallic Tubing.
- E. Surface Metal Raceway.
- F. Fittings and Conduit Bodies.
- G. Wall and Ceiling Outlet Boxes.
- H. Pull and Junction Boxes.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions.
- B. Division 01 - General Requirements, Summary, Administrative Requirements.
- C. Division 08 - Openings: Access Doors and Frames.
- D. Section 260500 – Common Work Results for Electrical.

- E. Section 260519 – Low Voltage Electrical Power Conductors and Cables.
- F. Section 260526 – Grounding and Bonding for Electrical Systems.
- G. Section 260529 – Hangers and Supports for Electrical Systems.
- H. Section 260553 – Identification for Electrical Systems.
- I. Section 262726 – Wiring Devices.

1.04 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
 - 2. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 123 – Specification for Zinc Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strip.
- C. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 - 2. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
 - 3. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
 - 4. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
 - 5. UL651B – Continuous Length HDPE Conduit.
 - 6. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- D. National Fire Protection Association (NFPA):
 - 1. NFPA 70 - National Electrical Code.
- E. International Building Code (IBC):
 - 1. IBC chapters 16 and 17 seismic requirements.

1.05 RACEWAY AND BOX INSTALLATION SCHEDULE

- A. Raceway Minimum Size:
 - 1. Provide $\frac{3}{4}$ inch minimum, unless otherwise noted. Raceway may be reduced to $\frac{1}{2}$ inch for final connection of raceway up to 6 feet for connection to fixture or device where maximum conduit entry size is $\frac{1}{2}$ inch.
- B. In or through CMU walls:

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

Division 26

Section 260533

1. Raceway: Provide rigid steel conduit or intermediate metal conduit. EMT conduit may penetrate through CMU walls where the EMT is installed in a sleeve and does not come in direct contact with the CMU. All conduit in contact with concrete or block shall be rigid steel conduit half lapped wrapped with pipe wrap or be plastic-coated conduit.
 2. Boxes and Enclosures: Provide concrete tight cast and sheet metal steel metal boxes.
- C. Concealed Dry Locations:
1. Raceway: Provide rigid steel conduit, intermediate metal conduit, or electrical metallic tubing.
 2. Boxes and Enclosures: Provide sheet-metal boxes.
 3. Fittings: Provide galvanized malleable iron and steel.
- D. Exposed Dry Locations:
1. Raceway: Provide rigid steel conduit or intermediate metal conduit. EMT conduit may be used where exposed conduit is allowed where it is not subject to physical damage or where installed on the ceiling or a minimum of ten feet above the floor.
 2. Boxes and Enclosures: Provide sheet-metal boxes with raised steel covers.
 3. Fittings: Provide galvanized malleable iron and steel.
 4. Surface Raceway and Boxes. Where specifically noted on the Drawings, provide surface raceway and boxes.
- E. Equipment Connections: Provide short extensions (three feet maximum) of flexible metal conduit for connections to light fixtures, motors, vibrating equipment or equipment that requires removal for maintenance or replacement. Use Liquidtight flexible conduit and fittings for motors and equipment in damp or wet locations or subject to spilling of liquids as at pumps, in mechanical rooms, boiler rooms, pump rooms, etc.
- F. Liquidtight flexible nonmetallic conduit and electrical nonmetallic tubing are not approved raceway systems for this project.

1.06 DESIGN REQUIREMENTS

- A. Raceway Minimum Size:
1. Line Voltage Circuits: Raceway is sized on the drawings for copper conductors with 600-Volt type XHHW insulation, unless otherwise noted. Where a raceway size is not shown on the drawings, it shall be calculated to not exceed the percentage fill specified in the NEC Table 1, Chapter 9 using the conduit dimensions of the NEC Table 4, Chapter 9 and conductor properties of the NEC Table 5, Chapter 9.
- B. Box Minimum Size: Provide all boxes sized and configured per NEC Article 370 and as specified in this section.
- C. Seismic Support: Provide support in accordance with section 260529.

1.07 SUBMITTALS

- A. Section 01300 - Submittals and Section 260500 - Electrical General Provisions.

- B. Product Data: Submit data for products to be provided.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

PART 2 - PRODUCTS

2.01 RIGID METAL CONDUIT (RMC)

- A. Rigid Steel Conduit: ANSI C80.1, UL 6.
- B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; Galvanized malleable iron with threaded hubs for all conduit entries. Provide threaded connections and couplings only. Set Screw and running thread fittings are not permitted.
- C. Provide insulated throat bushings at all conduit terminations.

2.02 INTERMEDIATE METAL CONDUIT (IMC)

- A. Product Description: ANSI C80.6, UL 1242; Galvanized Steel Conduit.
- B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; use fittings and conduit bodies specified above for rigid steel conduit.
- C. Provide insulated throat bushings at all conduit terminations.

2.03 FLEXIBLE METAL CONDUIT (FMC)

- A. Product Description: UL 1, FS WW-C-566; galvanized or zinc-coated flexible steel, full-wall thickness. Reduced-wall flexible metal conduit is not acceptable.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron with insulated throat bushings. Die cast zinc or threaded inside throat fittings are not acceptable.

2.04 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Product Description: UL 360, flexible metal conduit with interlocked steel construction and PVC jacket.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; liquid tight steel or malleable iron with insulated throat bushings. Die cast fittings are not acceptable.

2.05 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3, UL 797; galvanized steel tubing.
- B. Fire Alarm EMT: Provide EMT with factory-applied red topcoating.
- C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron or compression type with insulated throat bushings. Zinc die cast, set screw, or indentor fittings are not acceptable.

- D. Maximum size shall be 2". Provide factory elbows on sizes 1-1/2" and larger.

2.06 SURFACE METAL RACEWAY

A. Single Channel

1. Manufacturers:
 - a. Wiremold, V700 series.
 - b. Mono Systems, SnapMark SMS700 series.
 - c. Hubbell, HBL750 series.
 - d. Substitutions: Under the provisions of Division 01.
2. Description: Single-channel surface metallic raceway with fitted cover.
3. Size: 3/4 inch wide x 1/2 inch deep single compartment.
4. Device Locations: As indicated on the drawings.
5. Channel Finish: White.
6. Fittings: Furnish manufacturer's standard couplings, entrance fittings, elbows, device brackets, end caps, seam covers, wire clips, device faceplates and connectors.
 - a. Conduit Connector: Wiremold #V5782, SnapMark #SMS5782, Hubbell #HBL5784IV.
 - b. Box Connector: Wiremold #V5781, SnapMark #SMS5781, Hubbell #HBL5781A.
 - c. Internal Elbow: Wiremold #V717, SnapMark #SMS717, Hubbell #HBL717IV.
 - d. External Elbow: Wiremold #V718, SnapMark #SMS718, Hubbell #HBL718IV.
 - e. 90 Flat Elbow: Wiremold #V711, SnapMark #SMS711, Hubbell #HBL711IV.
 - f. TEE: Wiremold #V5715, SnapMark #SMS5715, Hubbell #HBL5715.
 - g. Bushing: Wiremold #V702, SnapMark #SMS702, Hubbell #HBL702B.
 - h. Coupling: Wiremold #V5701, SnapMark #SMS5701, Hubbell #HBL5701C.
 - i. Supporting Clip: Wiremold #V5703, SnapMark #SMS5703, Hubbell #HBL5703IV.
 - j. Connection Cover (Where covers not squarely cut): Wiremold #V706, SnapMark #SMS706, Hubbell #HBL706IV.
 - k. Mounting Strap: Wiremold #V704, SnapMark #SMS704, #HBL704IV.
 - l. Shallow Box: Wiremold #V5747, SnapMark #SMS5747, #HBL5747IV.
 - m. Extra Shallow Box: Wiremold #V5748S, SnapMark SMS5748S, #HBL5748SIV.
7. Cuts: Perform all cuts with raceway base and cover shear specifically designed for installed raceway system. Wiremold #607, SnapMark #607, Hubbell #HBL607CUT.

2.06 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, UL514A galvanized steel, with plaster ring where applicable.
1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.
 2. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch male fixture studs where required. Minimum Size: 4 inches square or octagonal, 2-1/8 inches deep.

3. Telecommunications Outlets: Minimum size 4-11/16 inches square, 2-1/8 inches deep.
 4. Cut-In Boxes: Minimum size 2" x 3" x 2-1/2" deep. Provide cut-in outlet boxes where required for installation in existing walls.
- B. Vapor Barrier Boxes: Airtight box with vapor barrier flange and integral wire entry seal. Lessco, Nutek, Enviroseal, or approved equal.
- C. Cast Boxes: NEMA FB 1, Type FD, galvanized malleable iron. Furnish gasketed cover by box manufacturer. Furnish threaded hubs. "Bell" boxes are not acceptable.
- D. Wall Plates: As specified in Section 262726.

2.07 PULL AND JUNCTION BOXES

- A. Sheet Metal Pull and Junction Boxes: ANSI/NEMA OS 1, UL514A galvanized steel.
1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.
- B. Cast Metal Boxes for Outdoor and Wet Location Installations: NEMA 250, Type 4X; flat-flanged, surface mounted junction box, UL listed as raintight:
1. Material: Galvanized cast iron or copper-free cast aluminum.
 2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover and screws.

2.08 EXPANSION FITTINGS

- A. Galvanized malleable iron, galvanized with grounding bond jumper.

2.09 RACEWAY SEALING FITTINGS

- A. Galvanized malleable iron, galvanized filled with sealing compound.
1. Class 1 Division 1 boundary lines and isolation of arcing devices use Class 1 Division 1 sealing compound.

2.10 BUSHINGS

- A. Non-grounding: Threaded impact resistant plastic.
- B. Grounding: Insulated galvanized malleable iron/steel with hardened screw bond to raceway and conductor lug.

2.11 LOCKNUTS

- A. Threaded Electro Zinc Plated Steel designed to cut through protective coatings for ground continuity.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 260526.
- B. Provide seismic support and fasten raceway and box supports to structure and finishes in accordance with Section 260529.
- C. Identify raceway and boxes with origin and destination in accordance with Section 260553.
- D. Unless otherwise noted, do not inter-mix conductors from separate panelboards or any other system in the same raceway system or junction boxes.

3.02 INSTALLATION - GENERAL RACEWAY

- A. Install raceway for all systems, unless otherwise noted.
- B. Install an equipment grounding conductor inside of all flexible raceways containing line voltage conductors.
- C. Provide raceways concealed in construction unless specifically noted otherwise, or where installed at surface cabinets, motor and equipment connections and in Mechanical and Electrical Equipment rooms. Do not route conduits on roofs, outside of exterior walls, or along the surface of interior finished walls unless specifically noted on the plans.
- D. Raceway routing and boxes are shown in approximate locations unless dimensioned. Where raceway routing is not denoted, field-coordinate to provide complete wiring system.
- E. Do not route raceways on floor. Arrange raceway and boxes to maintain a minimum of 6 feet 6 inches of headroom and present a neat appearance. Install raceways level and square to a tolerance of 1/8" per 10 feet. Route exposed raceways and raceways above accessible ceilings parallel and perpendicular to walls, ceiling, and adjacent piping.
- F. Maintain minimum 6-inch clearance between raceway and mechanical and piping and ductwork. Maintain 12-inch clearance between raceway and heat sources such as flues, steam pipes, heating pipes, heating appliances, and other surfaces with temperatures exceeding 104 degrees F.
- G. Do not install raceway embedded in spray applied fire proofing. Seal raceway penetrations of fire-rated walls, ceilings, floors in accordance with the requirements of Section 260500.
- H. Where raceway penetrates fire-rated walls and floors, provide mechanical fire-stop fittings with UL listed fire rating equal to wall or floor rating, seal opening around conduit with UL listed firestop sealant or intumescent firestop, preserving the fire time rating of the construction. Install in accordance with manufacturers installation instructions.
- I. Raceways and boxes penetrating vapor barriers or penetrating areas from cold to warm shall be taped and sealed with a non-hardening duct sealing compound to prevent the accumulation of moisture, and shall include a vapor barrier on the outside.

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

Division 26

Section 260533

- J. Arrange raceway supports to prevent misalignment during wiring installation. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- K. Do not attach raceway to ceiling support wires or other piping systems and do not fasten raceway with wire or perforated pipe straps. Remove all wire used for temporary raceway support during construction, before conductors are pulled. Raceway shall be installed to permit ready removal of equipment, piping, ductwork, or ceiling tiles.
- L. Group raceway in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps, as specified in Section 260529. Provide space on each rack for 25 percent additional raceway.
- M. Cut conduit square; de-burr cut ends. Bring conduit to the shoulder of fittings and couplings and fasten securely. Where locknuts are used, install with one inside box and one outside with dished part against box.
- N. Use threaded raintight conduit hubs for fastening conduit to cast boxes, and for fastening conduit to sheet metal boxes in damp or wet locations. Sealing locknuts are not acceptable.
- O. Install no more than the equivalent of three 90-degree bends between boxes.
- P. Install conduit bodies to make sharp changes in direction, such as around beams. "Goosenecks" in conduits are not acceptable.
- Q. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2 inch size.
- R. Provide protective plastic bushings or insulated throat bushings at each raceway termination not installed to an enclosure. Bushings shall be threaded to the raceway end or connector.
- S. Avoid moisture traps; install junction box with drain fitting at low points in raceway system.
- T. Install fittings and flexible metal conduit to accommodate 3-axis movements where raceway crosses seismic joints.
- U. Install fittings designed and listed to accommodate expansion and contraction where raceway crosses control and expansion joints.
- V. Use cable sealing fittings forming a watertight non-slip connection to pass cords and cables into conduit. Size cable sealing fitting for the conductor outside diameter. Use Appleton CG series or equal cable sealing fittings.
- W. Use suitable caps to protect installed raceway against entrance of dirt and moisture.
- X. Provide nylon "jet-line" or approved equal pull string in empty raceway, except sleeves and nipples.
- Y. Paint all exposed conduit to match surface to which it is attached or crosses. Clean greasy or dirty conduit prior to painting in accordance with paint manufacturer's

instructions. Where raceway penetrates non-rated ceilings, floors or walls, provide patching, paint and trim to retain architectural aesthetics similar to surroundings.

- Z. Coat non-ferrous conduit threads prior to joining with conductive metallic grease antioxidant.

3.03 INSTALLATION – GENERAL BOXES

- A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance. All electrical box locations shown on Drawings are approximate unless dimensioned.
- B. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. Where installation is inaccessible, install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaires. Coordinate locations and sizes of required access doors with Division 08.
- C. Coordinate layout and installation of boxes to provide adequate headroom and working clearance. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- D. Align wall-mounted outlet boxes for switches, thermostats, and similar devices.
- E. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems and where normal and emergency power circuits occur in the same box.
- F. Adjust box location up to 6 feet prior to rough-in to accommodate intended purpose.
- G. Orient boxes to accommodate wiring devices oriented as specified in Section 262726.
- H. Unless otherwise specifically noted, locate outlet boxes for light switches within 6 inches of the door jamb on the latch side of the door.
- I. Position outlets to locate luminaires as shown on reflected ceiling plans.
- J. Locate and install boxes to maintain headroom and to present a neat appearance.
- K. Provide knockout closures for unused openings.
- L. Install boxes in walls without damaging wall insulation or reducing its effectiveness.
- M. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. For outlet boxes in walls with combustible finished surfaces such as wood paneling or fabric wall coverings, position box to be flush with finished surface per NEC requirements.
- N. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes. Accurately position bridges to allow for surface finish thickness.
- O. Do not install flush mounted boxes back-to-back in walls; install with minimum 6 inches separation.

- P. Install with minimum 24 inches separation in fire rated walls. Limit penetrations in fire rated walls to 16 square inches each and a maximum total combined penetration area of 100 square inches in any given 100 square feet of wall. Where penetrations are in excess of these requirements provided UL listed fire stop wrap acceptable to Authority having Jurisdiction.
- Q. Do not fasten boxes to ceiling support wires or other piping systems.
- R. Support boxes independently of conduit.
- S. Clean interior of boxes to remove dust, debris, and other material and clean exposed surfaces and restore finish.
- T. Provide blank covers or plates for all boxes that do not contain devices.

3.04 INSTALLATION – SURFACE RACEWAY

- A. Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings. Provide divider to keep power and data pathways separate at all times. Bond each section together to provide electrically continuous system.
- B. Close ends and unused openings in wireway and surface raceway.
- C. Where wall surface is uneven, installer shall fur out wall section to match Surface Raceway dimensions and Surface Boxes dimensions as required. Furring shall be painted to match surface raceway.
- D. Install Surface Raceway cover with no gaps, scratches, or deformities. Covers not acceptable to Owner shall be replaced by the Contractor.

END OF SECTION 260533

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Nameplates and tape labels.
- B. Wire and cable markers.
- C. Conduit color-coding.
- D. Wire markers.
- E. Conduit markers.

1.03 RELATED WORK

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements, and Section 260500 – Common Work Results for Electrical.
- B. Section 260519 – Low Voltage Electrical Power Conductors and Cables.
- C. Section 260533 – Raceway and Boxes for Electrical Systems.
- D. Section 262726 – Wiring Devices.

1.04 SUBMITTALS

- A. Division 01 and Section 260500 – Common Work Results for Electrical.

- B. Product Data:
 - 1. Submit manufacturer's catalog literature for each product required.
 - 2. Submit electrical identification schedule including list of wording, symbols, letter size, color-coding, tag number, location, and function.
- C. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.
- D. Prior to installation, submit power one-line diagram and panel map for review.
- E. Prior to Substantial Completion, submit copies of all panel schedules for review by the Owner. The Owner will note any changes to the room numbers/names and the Contractor shall provide revised typed panel schedules to reflect all changes, at no additional cost to the Owner.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Install labels and nameplates only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.

PART 2 - PRODUCTS

2.01 TAPE LABELS

- A. Product Description: Adhesive tape labels, with 3/16 inch Bold Black letters on clear background made using Dymo RhinoPro 5000 label printer or approved equal.
- B. Embossed adhesive tape will not be permitted for any application.

2.02 WIRE MARKERS

- A. Power Description: Machine printed heat-shrink tubing, wrap-on type, for all neutrals and Phase conductors.

2.03 FIRE ALARM CONDUIT AND BOX IDENTIFICATION

- A. Product Description: Red spray paint for fire alarm boxes.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. Degrease and clean surfaces to receive nameplates and tape labels.
- B. Install nameplates and tape labels parallel to equipment lines.
- C. Underground Warning Tape Installation: Install underground warning tape along length of each underground conduit, raceway, or cable 6 to 8 inches below finished grade, directly above buried conduit, raceway, or cable.

3.02

LABEL INSTALLATION

- A. Fire Alarm Device Labels: As specified in Section 283100.

3.03 WIRE IDENTIFICATION

- A. Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes, and at load connection. Identification shall be as follows:
1. Markers shall be located within one inch of each cable end.
 2. Each wire and cable shall carry the same labeled designation over its entire run, regardless of intermediate terminations.
 3. Color code phases, neutral, and ground per NEC requirements and Section 260519.
 4. Color-code all low-voltage system wires and cables in accordance with the individual sections in which they are specified.
 5. For power and lighting circuits, identify with branch circuit or feeder number.
 6. Control Circuits: Control wire number as indicated on schematic and shop drawings.
 7. Fire Alarm Circuits: Provide cable markers showing NAC or SLC loop identification number at all fire alarm junction boxes and pullboxes.
 8. Provide cable markers on each cable, indicating device designation (e.g. "Motion Sensor xx") for all security and intercom system devices. Cables shall be labeled at each end, as well as at any intermediate junction boxes or pullboxes.
- B. Provide pull string markers at each end of all pull strings. Marker shall identify the location of the opposite end of the pull string.

3.04 JUNCTION BOX IDENTIFICATION

- A. Fire Alarm: In accessible ceiling spaces, exposed ceiling spaces, mechanical/electrical rooms, and other non-public spaces, paint fire alarm junction boxes and pullboxes with red spray paint. In all finished spaces where fire alarm boxes are visible, they shall be painted to match the surrounding finish. If there are any questions as to whether fire alarm boxes shall be painted red in a specific area, the Contractor shall get clarification from the Owner prior to painting.
- B. Label each lighting and power junction box with the panelboard name and circuit number.
- C. Label all junction boxes for intercom and security systems with the type of system cables contained in the box.
- D. For junction boxes above ceilings, mark the box cover with the circuit or system designation using permanent black marker. For junction boxes in finished areas, mark the inside of the cover with the circuit or system designation using permanent black marker.

3.05 DEVICE PLATE IDENTIFICATION

- A. Label each receptacle device plate or point of connection denoting the panelboard name and circuit number.

- B. Install adhesive label on the top of each plate.

3.06 PANELBOARD IDENTIFICATION

- A. Provide typed panelboard directory for modified panelboards. Directory shall be accurate for all new and existing loads served by the panelboard.

END OF SECTION 260553

SECTION 260590 - SELECTIVE ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Electrical Demolition.

1.03 RELATED SECTIONS

- A. Division 01 - Alteration Project Procedures.
- B. Division 02 - Selective Demolition.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.

- C. Demolition Drawings are based on casual field observation and existing record documents. Report discrepancies to Architect/Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.
- B. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Demolish and extend existing electrical work under provisions of Division 01, Division 02, and this Division.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Remove abandoned wiring to source of supply.
- D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- E. Where abandoned conduit is installed below existing slab not scheduled for demolition, remove the conductors, cut conduit flush with floor, and patch surface.
- F. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
- G. Repair adjacent construction and finishes damaged during demolition and extension work. T-bar ceiling tiles damaged under normal construction conditions or having voids where junction boxes were removed shall be replaced by the Contractor.
- H. Maintain access to existing electrical installations which remain active.
- I. Extend existing installations using materials and methods as specified.
- J. Where materials or equipment are to be turned over to Owner or reused and installed by the Contractor, it shall be the Contractor's responsibility to maintain condition of materials and equipment equal to the existing condition of the equipment before the work began. Repair or replace damaged materials or equipment at not additional cost to the Owner.

3.04 EXISTING PANELBOARDS

- A. Ring out circuits in existing panel affected by the Work. Where additional circuits are needed, reuse circuits available for reuse. Install new breakers.
- B. Tag unused circuits as spare.

SELECTIVE ELECTRICAL DEMOLITION
DIVISION 26
Section 260590

- C. Where existing circuits are indicated to be reused, use sensing measuring devices to verify circuits feeding Project area or are not in use.
- D. Remove existing wire no longer in use from panel to equipment.
- E. Provide new updated directories where more than three circuits have been modified or rewired, or if panel schedule is on the plans.
- F. Where filler plates are missing, provide new filler plates that are approved for the specific panel.

3.05 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.
- B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions.

3.06 INSTALLATION

- A. Install relocated materials and equipment under the provisions of Division 01.

END OF SECTION 260590

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Receptacles.
- B. Device Plates and Box Covers.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 - General Requirements and Section 260500 – Common Work Results for Electrical.
- B. Section 260526 – Grounding and Bonding for Electrical Systems.
- C. Section 260533 – Raceway and Boxes for Electrical Systems.
- D. Section 260553 – Identification for Electrical Systems.

1.04 REFERENCE STANDARDS

- A. FS W-C-596 – Federal Specification for Electrical Power Connector, Plug, Receptacle, and Cable Outlet.
- B. FS W-S-896 – Federal Specification for Switches, Toggle (Toggle and Lock), Flush Mounted.
- C. NEMA WD 1 - General Color Requirements for Wiring Devices.

- D. ANSI/NEMA WD 6 – Wiring Devices – Dimensional Requirement.
- E. UL 498 - Attachment Plugs and Receptacles.
- F. UL 943 – Ground-Fault-Circuit-Interrupters.

1.05 SUBMITTALS

- A. Product Data: Submit product data for all components provided that are specified in this section showing configurations, finishes, and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.

1.06 CLOSEOUT SUBMITTALS

- A. Project Record Drawings: Indicate actual locations and mounting heights of all wiring devices on the project record drawings.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - RECEPTACLES

- A. Hubbell.
- B. Leviton.
- C. Pass & Seymour.
- D. Substitutions: Under provisions of Division 01.

2.02 RECEPTACLES

- A. Convenience and Straight-blade Receptacles: UL 498, NEMA WD 1 and Federal Specification FS W-C-596 industrial grade receptacle.
- B. Locking-Blade Receptacles: NEMA WD 5.
- C. Convenience Receptacle Configuration: NEMA WD 1; Type 5-20R, white nylon face.
- D. GFCI Receptacles: 20A, duplex convenience receptacle with integral class 'A' ground fault current interrupter, LED indicator lamp, white nylon face, and integral lockout function.
- E. Tamper-Resistant Receptacles: Complying with the requirements of UL 498 (section 131) and NEC 406.12-14. White nylon face.
- F. TVSS Receptacles: Receptacles fed from Panels CP1, CP2A, CP2B, and CL shall be provided with a blue nylon face.
- G. Standby Power Receptacles: Gray nylon face.36

2.03 ACCEPTABLE MANUFACTURERS – DEVICE PLATES

- A. Hubbell.
- B. Leviton.
- C. Pass & Seymour.
- D. Mullberry.
- E. Red Dot.
- F. Racor.
- G. Substitutions: Under provisions of Division 01.

2.04 DEVICE PLATES

- A. Decorative Cover Plate: Smooth 430 or 302 stainless steel with metal, counter sunk screws to match device plate.
- B. Weatherproof Cover Plate: UL listed, cast aluminum, hinged outlet cover/enclosure, with gasket between the enclosure and the mounting surface, suitable for wet locations while in use.
- C. Exposed Work Cover Plate: ½ inch raised, square, pressed, galvanized or cadmium plated steel cover plate supporting devices independent of the outlet box.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install convenience receptacles 18 inches above floor, 4 inches above counters or backsplash, grounding pole on bottom.
- B. Install specific-use receptacles at heights shown on Contract Drawings.
- C. Unless otherwise noted, mounting heights are for finished floor to center line of outlet.
- D. Install decorative plates on switch, receptacle, and blank outlets in finished areas. Use midsize or jumbo plates for outlets installed in masonry walls, where required to cover up imperfections in the wall opening.
- E. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.
- F. Install devices and wall plates flush and level.
- G. Ground receptacles to boxes with a grounding wire. Grounding through the yoke or screw contact is not an acceptable alternate to the ground wire.
- H. Install circuit label on each receptacle and light switch in accordance with Section 260553.

END OF SECTION 262726

SECTION 262913 - ENCLOSED CONTROLLER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Manual motor starters.

1.03 RELATED WORK

- A. Section 260529 – Hangers and Supports for Electrical Systems
- B. Section 260553 – Identification of Electrical Systems

1.04 REFERENCES

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements.
- B. ANSI/NEMA ICS 6 - Enclosures for Industrial Controls and Systems.
- C. NEMA AB 1 - Molded Case Circuit Breakers.
- D. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.

1.05 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Division 01.
- B. Provide product data on motor starters and combination motor starters, relays, pilot devices, and switching and overcurrent protective devices.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and protect products to site under provisions of Division 01.

PART 2 -PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - MOTOR STARTERS

- A. Square D.
- B. Allen Bradley.
- C. Siemens.
- D. Cutler Hammer.
- E. Substitutions: Under provisions of Division 01.

2.02 MANUAL MOTOR STARTERS

- A. Fractional Horsepower Manual Starter: NEMA ICS 2; AC general-purpose Class A manually operated, number of poles as required by the load served, full-voltage controller for fractional horsepower induction motors, with thermal overload unit, red pilot light, and toggle operator.
- B. Enclosure: ANSI/NEMA ICS 6; Type 1 or 3R, as shown on the Drawings.

PART 3 -EXECUTION

3.01 INSTALLATION

- A. Install motor control equipment in accordance with manufacturer's instructions.
- B. Select and install heater elements in motor starters to match installed motor characteristics.
- C. Motor Data: Provide neatly typed label inside each motor starter enclosure door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating.
- D. After final connections are made, check and correct the rotation of all motors.
- E. Field adjust the trip settings of all motor starter magnetic trip only circuit breakers to approximately 11 times motor full load current. Determine full load current from motor nameplate following installation.

END OF SECTION 262913

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. J-Hooks.

1.03 RELATED SECTIONS

- A. Section 260529 – Hangers and Supports for Electrical Systems.
- B. Section 260526 – Grounding and Bonding for Electrical Systems.
- C. Section 260533 – Raceway and Boxes for Electrical Systems.
- D. Section 271000 – Structured Cabling

1.04 REFERENCES

- A. National Electric Code (NFPA 70) Article 250 - Grounding.
- B. National Electric Code (NFPA 70) Article 800 - Communications Circuits.
- C. ANSI/TIA/EIA-568-B -- Commercial Building Telecommunications Cabling Standards.
- D. BICSI Telecommunications Distribution Methods Manual - Latest published edition.
- E. UL Standards - UL 94HB, UL 723, and UL 2043.

1.05 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Division 01.
- B. Indicate cable support type, dimensions, support points, and finishes.
- C. Submit manufacturer's installation instructions under provisions of Division 01.

1.06 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 01.
- B. Include cleaning and bolt-tightening procedures for cable tray.

PART 2 - PRODUCTS

2.01 J-HOOKS

- A. All cables not installed in conduit shall be supported using Caddy CableCat series or approved equal J-hooks with galvanized finish. J-hooks shall have a cable retainer strap to provide containment of cables within the hanger. The cable retainer strap shall be removable and reusable and be suitable for use in air handling spaces. The minimum J-hook size shall be equivalent to Caddy #Cat32. Size all J-hooks to support the quantity of cables installed, plus a minimum of 25% spare capacity. Fiber optic cables shall be routed in 1" innerduct that is supported on a separate J-hook above the J-hook supporting the copper cables.

PART 3 - EXECUTION

3.01 INSTALLATION – GENERAL

- A. Provide continuous pathway system for all low voltage cable systems. Where multiple cable systems (e.g. telecom, security, intercom) are installed along the same J-hook pathway, provide separate J-hooks for each system. J-hooks may utilize the same vertical support.
- B. Install all communication cabling in conduit for inaccessible ceilings. See Section 260533. Jhooks are only permitted above accessible ceilings and where cable type used is plenum-rated.
- C. Coordinate all pathway runs with other trades prior to installation. Report conflicts to ASD Project Manager.
- D. Maintain a minimum EMI separation clearance in conformance with Section 271000.
- E. Support pathway from building to support structure or sub structure in accordance with Section 260529. Do not support pathway from ceiling tiles, ceiling grid, hanger wires, ductwork, piping, or other equipment hangers that are not part of the cable pathway support system.

- F. In classrooms and other areas with accessible ceilings where cable is not installed in cable tray, provide J-hooks spaced every 4 to 5 feet, varying the distance between each support.
- G. Provide a minimum of 12 inches headroom above all types of cable supports.
- H. Provide a minimum of 3 inches clear vertical space above ceiling system at cable lowest point.
- I. Provide cable support within 18 inches of each transition of pathway system types. This includes transitioning from any one to any other of the following cable support systems such as raceway, sleeves, or J-hooks.
- J. Set J-hooks so that changes in direction do not exceed 45 degrees.
- K. Install firestopping in accordance with manufacturers installation instruction to sustain ratings when passing cable tray through fire-rated elements.

3.02 INSTALLATION – SPECIFIC

- A. Data cabling for DDC system shall be installed in conduit between data rack and DDC panel per Section 260533.

END OF SECTION 270528

SECTION 271000 - STRUCTURED CABLING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Requirements for the design and installation of a complete and functional telecommunications cabling system including communications cable, equipment racks, patch panels, telecommunications jacks, raceways, and other equipment or components as required to achieve the specified function.

1.03 RELATED SECTIONS

- A. Section 260529 – Hangers and Supports for Electrical Systems.
- B. Section 260533 – Raceway and Boxes for Electrical Systems.
- C. Section 260553 – Identification for Electrical Systems.
- D. Section 270528 – Pathways for Communications Systems.

1.04 PROJECT RECORD DOCUMENTS

- A. Submit documents under the provisions of Division 01.
- B. Accurately record location of jacks, pull boxes and equipment racks, routing of all telecommunications raceways and cables, numbering scheme and identification number of all cables and jacks.
- C. Submit test results for all cables prior to Substantial Completion.

1.05 LISTINGS AND STANDARDS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc. and suitable for purpose specified and indicated.
- B. Where a UL Standard is in effect equipment shall meet that standard and shall bear the UL label.

1.06 REFERENCE CODES AND STANDARDS

- A. The publications listed below form a part of the specification to the extent referenced. The publications are referred to in the text by basic designation only. The reference codes and standards are minimum requirements:
 - 1. ANSI/NFPA 70 National Electrical Code, latest adopted version.
 - 2. BICSI Telecommunications Distributions Methods Manual, current version.
 - 3. TIA/EIA 568-C Commercial Building Telecommunications Cable Standard, current version.
 - 4. TIA/EIA 569-C Commercial Building Standard for Telecommunications Pathways and Spaces, current version.
 - 5. TIA/EIA 606-A Administration Standards for the Telecommunications Infrastructure of Commercial Buildings, current version.
 - 6. J-STD-607-A Commercial Building Grounding and Bonding Requirements for Telecommunications, current version.

1.07 QUALITY ASSURANCE

- A. Install all work in accordance with the above reference standards and codes. The Owner reserves the right to reject all or a portion of the work performed either on technical or aesthetic grounds.
- B. All workmen employed for installation of equipment and cabling specified under this section shall be specifically trained and certified in the installation of the specified Category 6 UTP cabling systems, and shall have at least three years' experience installing, terminating, and testing Category 6 UTP on this size and complexity of project.
- C. The intended function of the telecommunications cable system is to transmit voice and data signals from a central location to individual telecommunications outlet locations. Upon completion of the work, the UTP cable system shall be capable of transmitting a data signal that meets and exceeds the following requirements:
 - 1. Category 6: Supports data rates up to and including 1 Gb/s.
 - 2. Multimode Fiber: Supports data rates of 10 Gb/s at 850 nm and 1300 nm up to 300 meters. The loss of each strand of fiber shall not exceed 3.5/1.5 dB per kilometer at 850/1300 nm and the loss of each connector pair shall not exceed .75 dB.

1.08 SUBMITTALS

- A. Submit product data under provisions of Division 01. Provide factory test results for cables and connectors. Provide product data for the following products:
 - 1. Telecommunications Rack and Associated Rack Hardware.
 - 2. UTP and Fiber Telecommunications Cable.
 - 3. UTP Telecommunications Jacks and Faceplates.
 - 4. Fiber Connectors.

5. UTP Modular Patch Panel.
6. Fiber Connector Housings and Panels.
7. UTP and Fiber Patch Cables.
8. Cable Management Panels.
9. UTP and Fiber Telecommunications Cable Tester.
10. UTP and Fiber Sample Test Report (with all required testing parameters shown).

B. Submit qualifications and certifications to install the specified cabling system.

1.09 LABELING SYSTEM

A. Labeling shall conform to ANSI/TIA/EIA-606-B standards, Section 260553, and this Section.

B. Telecommunications Outlets:

1. Labels on all outlets shall have minimum 1/8-in. high characters and shall be installed behind recessed clear plastic covers on faceplate.
2. Label room outlets with two labels on the faceplate as follows:
 - a. Top Label: Shows the telecommunication room the cable is run to (TR1, TR2, etc), followed by rack number (1, 2, etc.) followed by patch panel identification expressed as a letter (A), followed by port in patch panel the outlet is located (xx). Example: TR1-2B:38 (where TR1 indicates closet, 2 is the second rack, B is the second patch panel in the rack, 38 is the port in patch panel).
 - b. Bottom Label: Shows the room number (room 103), followed by the jack/outlet number (J2) from the left when entering the room, followed by the quantity of ports within the outlet faceplate (1-6). Example: 103 J2:1 (where 103 is the room number, J2 is the 2nd jack/outlet from the left in the room, and 1 is the single port in the faceplate). Where the faceplate has multiple ports, the last part of the ID shall indicate the quantity. Example: 103 J2:1-4 (where 103 is the room number, J2 is the 2nd jack/outlet from the left in the room, and 1-4 represents the four ports in the faceplate).

C. Telecommunications Patch Panels:

1. Label each port on the patch panels with a 1-line identifier as follows:
 - a. Show the room number (room 103), followed by the jack/outlet number (J2) from the left when entering the room, followed by the port number within the outlet faceplate (1-6). Example: 103 J2:3 (where 103 is the room number, J2 is the 2nd jack/outlet from the left in the room, and 3 is the 3rd port in the faceplate).

D. Telecommunications Closet:

1. Label cable with wire number to denote the station outlet with appended cable number at each end. Cable ID tags shall be attached within 2 inches of cable end so that ID tag is visible within box.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS – STRUCTURED CABLING SYSTEM

- A. Throughout this specification, specific manufacturers and manufacturer's catalog numbers are cited. These citations are for the purpose of establishing quality and performance criteria and are not intended to be proprietary. All products in the structured cabling system shall be provided from one of the approved manufacturing partnerships listed below, or an alternate system shall be substituted under the provisions of Division 01. All decisions regarding approval of non-specified manufacturers and products will be at the discretion of the Owner.
1. Ortronics/Superior Essex.
 2. Belden.
 3. Corning Cable Systems (fiber products).
 4. Hubbell/Mohawk.
 5. TE Connectivity (formerly ADC/Krone/Amp).
 6. CommScope Uniprise.
 7. Leviton/Berk-Tek.
 8. Substitutions: Under provisions of Division 01.
- B. Structured Category 6 cabling systems shall include, but not be limited to, UTP telecommunications cable, UTP jacks, faceplates, modular patch panels, and UTP patch cables.

2.02 UTP TELECOMMUNICATIONS CABLE

- A. All Horizontal UTP telecommunications cables that stay within the building envelope shall be UL listed, plenum-rated CL2P, Category 6, 4 pair, 23-24 AWG, solid copper conductor, blue jacket.
1. Superior Essex "DataGAIN" CMP or approved equal.
- B. All UTP telecommunications cables that exit the building envelope or are run in underslab raceway shall be UL listed, outside plant rated, Category 6, 4 pair, 23-24 AWG, solid copper conductor cable, injected with water-resistant flooding compound and jacketed with UV-resistant polyethylene jacket.
1. Superior Essex "OSP Cat 6" or approved equal.

2.03 UTP TELECOMMUNICATIONS JACKS

- A. All UTP telecommunications jacks shall be Category 6, T568A/B, 8P8C, single, telecommunications jack with flush exit. Unless otherwise noted on the drawings, install each telecommunications jack in a single gang faceplate at each telecommunications outlet. The quantity of faceplate openings shall match the quantity of jacks at each location. All jacks shall be wired using the T568B wiring configuration.
- B. UTP Jacks:
1. Ortronics "TracJack Clarity 6" #OR-TJ600 or approved equal.
- C. Jack Color:

1. Data Network: Blue
2. Wireless Network: White
3. Security Camera: Green
4. Intercom: Yellow
5. Voice: Black

D. Unused spaces shall be provided with blanks: Ortronics #OR-HDJB20 or approved equal.

2.04 TELECOMMUNICATIONS OUTLET FACEPLATES

A. All faceplates shall be a four-port single-gang plastic faceplates with white finish. The number of jacks in each faceplate shall match the jack count of each outlet shown on the Drawings.

1. Ortronics "TracJack" #OR-40300546 or approved equal.

2.05 UTP PATCH CABLES

A. All patch cables shall be factory manufactured to match the applicable cable/connectivity solution (i.e. the Ortronics/Superior Essex system shall use Ortronics manufactured patch cords, etc.).

B. Projector Connections: Provide 9-foot Category 6 patch cable with blue jacket for installation between the data jacks in each telecommunications outlet and the Owner-provided computers.

1. Ortronics #OR-MC609-06 or approved equal.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work.

3.02 GENERAL INSTALLATION

A. Follow cable manufacturer's specification regarding handling methods, retaining/support methods, bending radius and maximum pulling tension limitations. Where manufacturer does not provide bending radius information, minimum bending radius shall be 10 times the diameter of the cable. Use a tension-monitoring device to ensure that the maximum pulling tension that may be applied to the cable to be pulled into a conduit section is not exceeded. Provide replacement cable if cable manufacturer's maximum pulling tension is exceeded at any time during a pull.

B. Cable shall be carefully inspected for sheath defects or other irregularities as it is paid out from the reel. When defects are detected, pulling shall stop immediately and the cable section shall be repaired or replaced at the discretion of the Owner. A system of communications shall be maintained between pulling and feed locations so that pulling can be stopped instantly, when required.

C. Adequate care shall be exercised when handling and storing reels of cable to prevent damage to the cable. Cable with dents, flat spots, or other sheath distortions shall not be installed.

- D. Install termination backboards plumb, and attach securely at each corner
- E. Store a maximum of one foot of slack UTP cable for each UTP jack at each telecommunications outlet.
- F. In the telecommunications closet, ten feet of slack UTP cable shall be provided at the racks. Route the service loop around the cable runway above the racks. No cables shall encroach or interfere with rack equipment space. All cables shall be protected from physical damage and should not be routed on the floor. Coiling the slack cable adjacent to the rack is not acceptable. The intent of this installation method is to provide slack cable for future work without causing increased inductance by coiling the cables.
- G. All cabling shall be run continuous with no splices from each telecommunications jack to the cable connector at the patch panels. Telecommunications cables shall be terminated at each end on their respective jack. No cable run shall exceed 90 meters (295 feet) in length from the jack on the peripheral end to the patch panel.
- H. All cable shall be routed in such a way as to minimize EMI and RFI interference. Cables shall be routed to maintain the following minimum distances from noise producing devices:
- I. All cable shall be routed in such a way as to minimize EMI and RFI interference. Cables shall be routed to maintain the following minimum distances from noise producing devices:
 - 1. Open or Nonmetallic Communications Pathways:
 - a. 12 inches from electrical equipment and power lines of 3 kVA or less.
 - b. 18 inches from fluorescent and HID ballasts.
 - c. 36 from electrical equipment and power lines greater than 5 kVA.
 - d. 48 inches from transformers and motors.
 - 2. Grounded Metal Conduit Communications Pathways:
 - a. 3 inches from electrical equipment and power lines of 2 kVA or less.
 - b. 6 inches from electrical equipment and power lines of 2 kVA to 5 kVA.
 - c. 12 inches from 5 kVA or greater power lines.

3.03 TERMINATIONS

- A. The jacket of UTP cables shall be maintained to a point within one inch of the telecommunications jack. The twists on the individual pairs shall be maintained as close as possible to the contacts of the termination points but shall in no case exceed 1/2 inch.
- B. Pairs from each cable shall be terminated sequentially from left to right, top to bottom starting with the lowest assigned number at the upper left-hand corner of the panel.
- C. Terminations shall be coordinated with ASD IT Department prior to work. Provide 3 days notice to ASD IT Department prior to termination.

3.04 PATHWAYS AND RACEWAYS

- A. Unless otherwise noted, all cables shall be installed in conduit from the telecommunications jack to the space above the accessible ceiling, within 18" of the J-

hook pathway. Portions of cables not installed in conduit shall be supported in accordance with TIA/EIA standards at intervals not exceeding four (4) feet in length using J-hooks. The cable shall not be supported from ducts, pipes, conduits, ceiling grid hangar wires, etc. At any point where the cable changes direction, slack shall be provided to prevent rubbing or binding on the corner supports. Extreme care shall be taken to ensure that the cable is not compressed, kinked or otherwise deformed during installation. Any cable that is stretched, compressed, kinked or otherwise deformed shall be replaced at no cost to the Owner.

- B. Cables to be installed in raceway or J-hooks (as specified above) for the entire length of each cable. Provide raceway through areas that will not be accessible for future cable replacement or additions.
- C. For dedicated equipment data drops, install cable in separate conduit from data jack to equipment rack.
- D. Provide pathway capacity throughout entire system for each telecommunication outlet served, sized to accommodate a minimum of four 4-pair cables from each outlet location to the designated telecommunication room, as shown on the plans.
- E. Telecommunication cables shall not be installed in the same raceway or pathway as power cables.
- F. Install all telecommunications outlets in outlet boxes under the provisions of Section 260533. Unless otherwise noted on the Drawings or in the Specifications, outlets shall be mounted at 18 inches above floor, 4 inches above counters or backsplash, with the jacks oriented in the standard "pins down" position.
- G. Support raceways, cable tray, outlet boxes, junction boxes and equipment racks under the provisions of Section 260529.

3.05 LABELING

- A. Furnish and install labels and documentation to identify all cables, jacks, and connections in accordance with TIA/EIA standards, as shown on the Drawings, and under the provisions of Section 260553. As a minimum each jack in each faceplate shall have a unique identifier that matches the identifier at the patch panel. Identifiers shall be installed on the front of the telecommunications faceplate, on the cable behind the faceplate, and on the front of the patch panel at the associated jack.

3.06 CABLE ACCEPTANCE TESTING

- A. Each UTP cable shall be tested for compliance with TIA/EIA 568C Category 6 standards after installation using a Fluke #DTX or approved equal tester that has been calibrated within the last 30 days. At a minimum, the Contractor shall perform the following tests with the maximum frequency of the tester set at 350MHz:
 - 1. Signal Attenuation / Insertion Loss.
 - 2. Near End Cross Talk (NEXT).
 - 3. Power Sum Near End Cross Talk (PS-NEXT).
 - 4. Equal Level Far End Cross Talk (ELFEXT).
 - 5. Power Sum Equal Level Far End Cross Talk (PS-ELFEXT).
 - 6. Attenuation to Crosstalk Ratio (ACR).
 - 7. Power Sum Attenuation to Crosstalk Ratio – Near End (PSACR-N).
 - 8. Power Sum Attenuation to Crosstalk Ratio – Far End (PSACR-F).

9. Propagation Delay.
 10. Delay Skew.
 11. Return Loss.
 12. Wiremap.
 13. Overall Cable Length.
- B. Test, analyze, and record compliance for the following network protocols:
1. 10 Base-T.
 2. 100 Base-T.
 3. 1000 Base-T (1 Gb/s).
 4. 10 Gb/s (fiber).
- C. The Contractor shall provide 100% testing for each “permanent link” (i.e. from the work area outlet to the patch panel). Provide test results for all tests noted above in the form of printouts from the test equipment and provide an electronic copy of the test data for each cable on CD. If proprietary software is used, the submitted CD shall include any necessary software required to view test results. If the results are delivered in a standard format such as Excel or Access, the viewing software need not be provided. At the front of the test report, the Contractor shall provide an index showing the pass/fail results of each cable, along with the cable length and a corresponding cable label.
- D. Where any portion of the system does not meet the Specifications, the Contractor shall correct the deviation and repeat any applicable testing at no additional cost to the Owner.
- E. Provide three working days advance notice of tests. The Owner's Representative shall reserve the right to be present during the testing of any or all cables in the system. Submit a copy of the test report for each cable prior to substantial completion of the project.
- F. Acceptance of the telecommunications system shall be based on the results of the above tests, functionality, and the receipt of documentation.

END OF SECTION 271000

SECTION 275123 - INTERCOMMUNICATION SYSTEMS**PART 1 - GENERAL****1.01 DESCRIPTION OF WORK**

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.
- B. Notification of Child Occupied Facility: Portions of this building are classified as a Child Occupied Facility in accordance with 40 CFR 745 and lead-based paints may be present on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745, including training, work practices and cleaning of the work area. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of lead materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Intercommunication System.

1.03 RELATED WORK

- A. Section 260500 – Common Work Results for Electrical.
- B. Section 260519 – Low Voltage Electrical Power Conductors and Cables.
- C. Section 260533 – Raceway and Boxes for Electrical Systems.
- D. Section 260553 – Identification for Electrical Systems.
- E. Section 271000 – Structured Cabling.

1.04 SUMMARY AND SYSTEM DESCRIPTION

- A. General: Furnish and install all equipment, accessories, and materials in accordance with these specifications and drawings to provide a complete and operating extension to the existing Integrated Communications system.
- B. This Section specifies requirements for an intercom, public address, and program system which includes, but is not limited to, the following:
 - 1. Wall mounted speaker assemblies.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. All systems shall comply with applicable federal, state, and local building codes. Conduit and wire installation shall comply with all of the provisions of Division 26, with the requirements of Article 725 of the National Electrical Code for Class 2 Signaling Systems, and with manufacturer's wiring diagrams.
- C. All equipment and assemblies shall be Underwriters Laboratories listed and classified if applicable. All of the communications system equipment, including controllers, intercoms, clocks, power supplies, and sound system components shall be listed by Underwriters Laboratories as conforming to UL 1076 and UL 294.

1.06 QUALITY ASSURANCE

- A. All items of equipment including wire and cable shall be designed by the manufacturer to function as a complete system and shall be accompanied by the manufacturer's complete service notes and drawings detailing all interconnections.
- B. The Contractor shall be an established communications and electronics contractor that has had and currently maintains a locally-run and operated business for at least five years. The Contractor shall utilize an authorized distributor of the equipment supplied for this project location with full manufacturer's warranty privileges.
- C. The Contractor shall show satisfactory evidence, upon request, that the Supplier maintains a fully equipped service organization capable of furnishing adequate inspection and service to the system. The Supplier shall maintain at his facility the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being supplied.
- D. Except where specifically noted otherwise, all equipment supplied shall be the standard product of a single manufacturer.

1.07 SUBMITTALS

- A. Product data under the provisions of Division 01 and 26.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in factory containers. Store in clean, dry space in original containers. Protect products from fumes and construction traffic. Handle carefully to avoid damage.

1.09 WARRANTY

- A. Warrant all materials and equipment to be new and free from defects in material and workmanship for a period of one year under provisions of Division 01. Warranty service shall be provided by a trained specialist of the equipment manufacturer.

PART 2 - PRODUCTS

2.01 PRODUCT SPECIFICATIONS

- A. Throughout this specification, specific manufacturers and manufacturer's catalog numbers are cited. These citations are for the purpose of establishing quality and performance criteria and are not intended to be proprietary.

2.02 ACCEPTABLE MANUFACTURERS – INTEGRATED COMMUNICATIONS SYSTEM

- A. Existing intercom system: Dukane Starcall Plus. All new equipment shall be fully compatible with the existing headend equipment.
- B. No substitutions.

2.03 SPEAKERS, BAFFLES, ENCLOSURES

- A. Interior Speakers, Baffles, and Backboxes.
- B. Surface-Mount Wall Speakers: Provide Rauland #ACCWB5 with painted steel backbox, 8".

2.04 PERIPHERAL EQUIPMENT

- A. Intercom Call-In Switch: Rauland #TCPVY or approved equal call-in switch with normal and emergency capability.

2.05 UTP COMPONENTS

- A. As specified in Section 271000.

2.06 CABLING

- A. Intercom Cable: New speakers and call-in switches: 20AWG, stranded, copper, with one twisted unshielded pair and an overall plenum jacket. West Penn #2522 or approved equal.
- B. Intercom Cross-Connect Patch Cables: Factory-terminated 7foot Category 6 patch cable with yellow jacket. See Section 271000.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions, with the Installer present, for compliance with requirements and other conditions affecting the performance of the Integrated Communications System.
- B. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. General: Install extension to the existing intercom system in accordance with NFPA 70 and other applicable codes. Install equipment in accordance with manufacturer's written instructions.
- B. Wiring Methods: All low-voltage speaker and intercom cables shall be installed in raceway (concealed or exposed locations), and via jhooks (above accessible ceilings). All Line-voltage wiring shall be installed as specified in Section 260519.
- C. Impedance and Level Matching: Carefully match input and output impedance's and signal levels at signal interfaces. Provide matching transformers where required.

- D. Mounting Heights: Existing heights..
- E. Control Circuit Wiring:
 - 1. Install control circuits in accordance with NFPA 70 and as indicated. Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.
 - 2. All the communications wires shall be laid down on terminal punch blocks and identified by the actual room location served, in accordance with Section 260553.
 - 3. All labels shall match the numbering scheme shown on the shop drawings and project record drawings.
 - 4. Make installation in strict accordance with approved manufacturer's drawings and instructions.
- F. Wiring Within Enclosures:
 - 1. Provide adequate length of conductors. Bundle, lace, and train the conductors to terminal points with no excess. Provide and use lacing bars.
 - 2. Provide physical isolation from each other for speaker-microphone, line-level, speaker-level, and power wiring. Run in separate raceways, or where exposed or in same enclosure, provide 12 inch minimum separation between conductors to speaker-microphones and adjacent parallel power and telephone wiring. Provide physical separation for other conductors, as recommended by equipment manufacturer.
- G. Splices, Taps, and Terminations: Make splices, taps and terminations on numbered terminal punch blocks in junction, pull, and outlet boxes, terminal cabinets and equipment enclosures. All splices shall be labeled at each termination point with the station or room designation.
- H. Identification of Conductors and Cables: As specified in Section 260553.
- I. Speaker Taps: Coordinate with ASD Project Manager for exact tap settings of all speakers.

3.03 CABLE INSTALLATION

- A. Follow cable manufacturer's specification regarding handling methods, retaining/support methods, bending radius and maximum pulling tension limitations. Where manufacturer does not provide bending radius information, minimum bending radius shall be 10 times the diameter of the cable. Use a tension-monitoring device to ensure that the maximum pulling tension that may be applied to the cable to be pulled into a conduit section is not exceeded. Provide replacement cable if cable manufacturer's maximum pulling tension is exceeded at any time during a pull.
- B. Cable shall be carefully inspected for sheath defects or other irregularities as it is paid out from the reel. When defects are detected, pulling shall stop immediately and the cable section shall be repaired or replaced at the discretion of the Owner. A system of communications shall be maintained between pulling and feed locations so that pulling can be stopped instantly, when required.
- C. Adequate care shall be exercised when handling and storing reels of cable to prevent damage to the cable. Cable with dents, flat spots, or other sheath distortions shall not be installed.

- D. All cabling shall be run continuous with no splices between termination points.
- E. All cable shall be routed in such a way as to minimize EMI and RFI interference. Cables shall be routed to maintain the following minimum distances from noise producing devices:
- 5 inches from power lines of 2 kVA or less.
 - 12 inches from LED drivers and fluorescent and HID ballasts
 - 36 inches from 5 kVA or greater power lines
 - 40 inches from transformers and motors

3.04 GROUNDING

- A. Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk, and other impairments.
- B. The contractor shall provide necessary transient protection on the AC power feed, as recommended by the manufacturer. The contractor shall note the type and location of these protection devices as well as all wiring information on the shop drawings and project record drawings.

3.05 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a factory-authorized service representative for this project location to supervise the field assembly and connection of components and the pre-testing, testing, and adjustment of the system.
- B. Inspection: Make observations to verify that units and controls are properly labeled, and interconnecting wires and terminals are identified. Provide a list of final tap settings of paging speaker line matching transformers.
- C. Testing: Rectify deficiencies indicated by tests and completely re-test work affected by such deficiencies at Contractor's expense. Verify by the system test that the total system meets the Specifications and complies with applicable standards.
- D. Cleaning: Prior to final acceptance, clean system components and protect from damage and deterioration.

END OF SECTION 275123

