PROJECT MANUAL
FOR
2022 RESTROOM UPGRADES
(Lovejoy, Hanawalt, Oak Park, Hubbell,
Pleasant Hill, Woodlawn, North, Hoover)

Bid No: B8722

Hanawalt Elementary
225 56th Street
Des Moines, Iowa 50312

Hoover High School
4800 Aurora Avenue
Des Moines, Iowa 50310

Hubbell Elementary
800 42nd Street
Des Moines, Iowa 50312

Lovejoy Elementary
801 East Kenyon Avenue
Des Moines, Iowa 50315

North High School
501 Holcomb Avenue
Des Moines, Iowa 50313

Oak Park Elementary
3928 6th Avenue
Des Moines, Iowa 50313

Pleasant Hill Elementary
4801 East Oakwood Drive
Pleasant Hill, Iowa 50327

Woodlawn School
4000 Lower Beaver Road
Des Moines, Iowa 50310

Owner
Des Moines Independent Community School District
2100 Fleur Drive
Des Moines, Iowa 50321

Architect
Farnsworth Group
14225 University Avenue
Suite 110
Waukee, Iowa 50263
**ARCHITECTURAL**
I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed architect under the laws of the State of Iowa.

<table>
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<th>SARAH HUSTON, AIA</th>
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**MECHANICAL/PLUMBING/FIRE PROTECTION**
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed professional engineer under the laws of the State of Iowa.

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<th>ELIZABETH A. OHL, P.E.</th>
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**ELECTRICAL**
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NOTICE IS HEREBY GIVEN: Sealed proposals will be received by the Supply Chain Analyst of the Des Moines Independent Community School District at his office, Des Moines Independent Community School District, 1917 Dean Avenue, Des Moines, Iowa 50316 until three o'clock p.m. on the 16th day of December 2021, for the construction/repair and/or installation of the following improvement(s):

Bid No. B8722 2022 RESTROOM UPGRADES

Commencing November 10, 2021 copies of the plans and specifications for the Project are on file with and available from Beeline and Blue 2507 Ingersoll Avenue, Des Moines, Iowa 50312. Plans may also be inspected at the following locations: Construction Update Internet plan room; F. W. Dodge Corporation scan services; or at the school district’s facility management office 1917 Dean Avenue, Des Moines, Iowa 50316. Bids must be submitted on the approved bid form available in the plans and specifications. No oral, facsimile, telegraphic or telephonic bids or modifications will be considered.

Bidders will be required to provide a security deposit, in the form of an approved Bid Bond, cashier's or certified check, or certified share draft in the amount of five percent (5%) of the amount of each bid, in a separate attached envelope.

A Pre-Bid Conference will be held at 11:00 AM on Tuesday November 16, 2021 in the Harper Conference Room at the DMPS Operations Center located at 1917 Dean Avenue, Des Moines, Iowa 50316.

Lump-sum bids will be received under one contract as described in the specifications. Bids will be opened and read aloud immediately after specified closing time for receiving bids. All interested parties are invited to attend.

Consideration of the bids received and the award of contract or other action may be made by the Board of Directors of the Des Moines Independent Community School District upon the proposals received in accordance with the law and the plans and specifications at its meeting to be held at 6:00 p.m. on January 4, 2022 in the District Board Room at 1800 Grand Avenue Des Moines Iowa or at any other published and/or posted location of the Board meeting.

The Board of Directors may make the award to the lowest responsive, responsible bidder meeting specifications. The right is reserved to reject any or all bids, or any part thereof, and to waive informalities, and to enter into such contract or contracts as shall be deemed in the best interests of the Des Moines Independent Community School District.

By virtue of statutory authority, a preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor.

All bids will be governed by applicable provisions in the Iowa Code and Board Policies.

Secretary of the Board
Des Moines Independent Community School District
PART 1 - GENERAL

Des Moines Independent Community School District, State of Iowa, hereinafter called the “Owner,” has advertised for bids to be submitted for the construction work specified in the advertisement. Proposals to be entitled to consideration shall be in accordance with the following:

1.1 DEFINITIONS

A. Bids are sums stipulated in Proposals for which Bidders propose to perform the Work.

B. Unit Prices are sums included in Proposals as Bids per unit measure of materials and/or services, as required in the Bidding Documents.

C. Proposals are complete, properly executed forms including all information requested by the Owner.

D. Bidders are qualified contractors who submit Proposals to the Owner for Work as Prime Contractors on the Project.

E. Alternate Prices are lump sum prices included in the Proposals for labor, materials and/or services that are not included in the base bid.

1.2 EXAMINATION OF SITE and DOCUMENTS

Each Bidder shall visit the site of the proposed work and shall completely inform himself relative to construction hazards, procedure, labor, and all other conditions and factors, local and otherwise, which would affect prosecution and completion of the work and its cost. All visits to the site shall be coordinated through the Owner’s Representative. Such considerations shall include, without limitations, the arrangement and condition of existing structures and facilities; the procedure necessary for maintenance of uninterrupted, safe operation, use and occupancy of existing facilities; the availability and cost of labor; and facilities for transportation, handling and storage of materials and equipment. All such factors shall be properly investigated and considered in the preparation of the bid. Each bidder shall so fully examine the plans and specifications and acquaint himself with their requirements and with the conditions surrounding the construction on the site that he shall be fully familiar with and informed of all facilities, difficulties, and problems associated with or which might be incurred in the prosecution of the work. In case of disagreement between drawings and specifications or within either document itself, the better quality or greater quantity of work shall be figured in the bid (see GC. 6.04). It shall be the responsibility of the Bidder to direct the attention of the Architect and Owner in writing and at least seventy-two (72) hours prior to the time set for the opening of the bids, any seeming inconsistencies, ambiguous requirements, omissions, or any other matter which seems to require explanation, and to request clarification. The submission of a bid shall be taken as prima facie evidence of compliance with this requirement and as an acknowledgment that the Bidder has received all the required documents and has visited the site. There will be no subsequent financial adjustment for lack of such prior information.

1.3. INTERPRETATION

No oral interpretations will be made by anyone to any Bidder as to the true meaning or requirements of any part of the drawings, specifications or other proposed Contract Documents. Every request for an interpretation shall be made in writing and addressed and forwarded to the Owner’s Representative not later than seven (7) calendar days before the date fixed for opening of bids. The person submitting the request shall be responsible for its prompt delivery. Every interpretation made to a Bidder will be in the form of an addendum to the Contract Documents, which, if issued, will be sent as promptly as is practicable to all persons to whom the drawings, specifications, and other proposed Contract Documents
have been issued. All such addenda shall become part of the Contract Documents and their receipt shall be acknowledged in the Bid Proposal. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

1.4 PROPOSAL FORMS

Proposal forms included in the specification may be copied and used for submitting proposals. Proposals shall be made upon the forms provided therefore. Refer to Document 00311 Proposal Form Instructions, and Document 00311 Proposal Form. Any Proposal NOT submitted on required forms may be rejected.

Attention is directed to the fact that the Contract Documents contain one complete set of bidding and contract forms; these are sample forms included for the information of Bidders. They are not to be detached from the Contract Documents, filled out or executed.

Special attention is directed to the Form of Bid Bond (Document 00410) included in the bidding documents. Additional copies of this form may be secured from the Owner’s Representative, but the use of this particular form is not mandatory. Any similar standard form of a recognized responsible surety which contains the same stipulations and guarantees, the same execution of the contract and indemnification of the Owner in case of default, will be acceptable.

1.5 PREPARATION OF PROPOSAL FORMS

All proposal forms must be prepared in single copy and in conformity with and be based upon and submitted subject to all requirements of the Contract Documents. They must be fully completed with all blanks appropriately filled in. Each bid shall be legibly written or printed in ink on the separate form provided. No alterations in bids, or in the printed forms therefore, by erasures, interpolations, or otherwise will be acceptable unless each such alteration is signed or initialed by the Bidder; if initialed, the Owner may require the Bidder to identify any alteration so initialed. No alteration in any bid, or in the form on which it is submitted, shall be made after the bid has been submitted.

It will be the Bidder’s responsibility to secure any and all addenda from the Architect. The Bidder will be required to acknowledge receipt of all addenda. Owner reserves the right to reject any bid which is received which has not been based upon all addenda issued by the Architect.

No Bidder may submit more than one bid. Multiple bids under different names will not be accepted from one firm or association.

The Bidder is required to bid on all alternates and complete all blanks on the bid form. If alternates are called for on a type or method of construction as to which the Bidder does not desire to bid, the Bidder shall insert the words “NO BID.” In case the Bidder desires to bid on an alternate, it shall set forth in the space provided therefore, the amount to be added or deducted from the base bid or in the event that the Bidder does not desire to make a change from the base bid, it shall so indicate by using the words “NO CHANGE.” In the selection of alternates, the Owner reserves the right to select or reject any or all alternates in the proposal if, in the judgment of the Board of Directors, or its designees, the best interest of the School District will be so served.

1.6 BID PERFORMANCE GUARANTIES

Bid security (single copy) in the form of a certified or cashier’s check, certified share draft, money or surety bond in the amount of at least five (5%) percent of the bid price, payable without condition or qualification to Des Moines Independent Community School District, shall accompany each bid in the OUTER envelope, as evidence of good faith and as a guarantee that if awarded the contract, the Bidder
will execute the Contract and give bond as required. The Bidder assumes all responsibility for furnishing acceptable bid security.

Bid security in the form of a bond (see Document 00410) will be accepted only if from a regularly established firm licensed to write such surety in the State of Iowa.

The bid security of each unsuccessful Bidder will be returned when the Construction Agreement is fully executed. The bid security will be voided but retained by the Owner, if, after the Notice of Contract Award, the Bidder shall enter into a Contract and file a satisfactory performance bond, labor and material payment bond, and certificates of required insurance, all within ten (10) calendar days after the date such notice is given by the Owner. The bid security of the second and third lowest responsible Bidders may be retained for not to exceed forty-five (45) days after opening, pending the execution of the Construction Agreement and submission of bond by the successful Bidder.

This bid security may be retained by the Owner as liquidated damages, if the bid is accepted and a contract thereon is awarded but the successful Bidder fails to enter into a contract in the form prescribed with legally responsible sureties, within ten (10) calendar days after date of Notice of Contract Award is given by the Owner.

The Owner shall require the Bidder to whom a Contract is awarded to furnish to the Owner both Performance and Labor and Material Payment bonds in the amount of one hundred (100%) percent of the Contract price, covering the faithful performance of the Contract and the payment of all obligations arising thereunder, and the Bidder will further provide warranties as required by the specifications or General Conditions.

The bonds shall be executed on the forms included with the Contract Documents (forms shall not be removed from the Contract Documents; Bidders may use copies of the bond forms included in the specifications). Accompanying each bond form shall be a “Power of Attorney” authorizing the attorney in fact to bind the surety company and certified to include the date of the bond.

1.7 LIST OF SUBCONTRACTORS AND SUPPLIERS OF LABOR AND MATERIAL

The lowest bidder for each contract shall, within twenty-four (24) hours following the bid opening, provide the Owner with the signed List of Subcontractors and Suppliers of Labor and Material on the form provided in Section 00100 Instructions to Bidders. Subcontractor is any entity performing 1-1/2% or more of the contract value. The List shall detail the quotations used in the preparation of the bid and whose services are proposed to be used in construction of the project. The List must be complete showing all sections in the Construction Documents. Failure to submit the List may preclude the bid from further consideration by the Owner. The Owner reserves the right to either disclose or not disclose the List of the successful Bidder.

Each Bidder shall identify and fully disclose on the List all those subcontractors and suppliers proposed for the work with which the Bidder is connected either directly or indirectly as part owner, participant in profits and losses or in any other manner financially or economically.

1.8 BACKGROUND INFORMATION

The lowest bidder for each contract shall, within twenty-four (24) hours following the bid opening, provide the Owner with the Background Information included in Section 00100 Instructions to Bidders. The Contractor must complete and fully disclose all information requested in the Background Information. Failure to submit the Background Information may preclude the bid from further consideration by the Owner.
The Owner may make such investigations as deemed necessary to determine the ability and qualification of the Bidder. Bidders shall submit within twenty-four (24) hours, if requested by the Owner, such evidence of the Bidder’s competency and practical knowledge to do the particular work covered by his proposal and of the Bidder’s financial responsibility, resources, experience, organization and equipment to complete the proposed work. Failure to comply with this requirement may result in the rejection of consideration of such bid.

In determining the Bidder’s qualifications, the following factors, among others, will be considered: work previously completed by the Bidder; the qualifications of the proposed subcontractors for their work; Bidder references; and whether the Bidder (a) maintains a permanent place of business; (b) has adequate plant and equipment to do the work properly and expeditiously; (c) has the financial resources to meet all obligations incident to the work; (d) has appropriate technical experience; and (e) has adequate, competent, experienced staff and supervisors who will be committed to the work until completion.

Each Bidder may be required to show that he has handled former work and that no just claims have been prosecuted or are pending against such work. No bid will be accepted from a Bidder who is engaged on any work which would impair his ability to perform or finance this work or other work in progress.

The Owner reserves the right to reject any bid if the Owner determines, in its sole and absolute discretion, that the Bidder is not properly qualified to carry out the obligations of the Contract and/or to complete the work contemplated by the contract. Conditional bids will not be accepted.

1.9 PERMITS AND FEES

The School District shall secure and pay for the general building permit. Trade contractors will be responsible to obtain and pay for their specialty permits. The Owner is exempt from paying certain fees and it will be the contractor’s responsibility to acquaint himself with the laws and regulations governing said fees. Attention is directed to the requirements of the General Conditions regarding obtaining permits. The contractor shall obtain and pay for all fees associated with work in the Department of Transportation right of way.

1.10 TAXES

Sales and use taxes shall be excluded from the bid for all items incorporated into the final project. The Owner will provide sales tax exemption certificates as appropriate. See section 00700 General Conditions paragraph 12.04 for additional requirements.

1.11 SIGNATURE OF BIDDERS

Each Bidder shall sign and notarize the bid form, on the last page of the form and the bid bond. If the Bidder is an individual, the Bidder must sign in individual capacity. Bids by partnerships shall be signed with the partnership name followed by the signature and designation of one of the partners or other authorized representative. Bids by corporations shall be signed with the name of the corporation followed by the signature and designation of the president or other person authorized to bind the corporation and attested to by the secretary with corporate seal (if available). Bids by joint ventures shall be signed by each participant in the joint venture or by an authorized agent of each participant. The names of all persons signing should also be typed or printed below the signature. A bid by a person who affixes to his signature the word “president,” “secretary,” “agent,” or other designation without disclosing his principal may be held to be the bid of the individual signing. When requested by the Owner, evidence of the authority of the person signing shall be furnished.
1.12 SUBMISSION OF BIDS

Bid Documents shall be enclosed in two envelopes (OUTER and INNER), each of which shall be sealed and clearly labeled “BID DOCUMENTS” and identified with the description of the work to which the proposal applies; the name of the project; the name and address of the Bidder; and the time of opening bids; all in prominent lettering so as to guard against opening prior to the stipulated time. The INNER envelope shall include the form of proposal (Document 00311) and shall be marked “BID ENCLOSED”. The “OUTER envelope” shall include the Bid Bond (Document 00410), along with the INNER envelope. If the OUTER envelope does NOT include the required document, the INNER “BID ENCLOSED” envelope will NOT be opened. No responsibility shall attach to any employee of the Owner for the premature opening of any bid not prominently identified. The Bidder shall be responsible for placing his firm name and the name and number, if applicable, of the project and the time of the bidding on the outside of such bid envelope.

The Bid Documents shall be submitted at the time and location as noted in the Invitation to Bid. Bids received after the specified time of closing will be returned unopened.

1.13 WITHDRAWAL OF BIDS

Any Bidder may withdraw his bid if written request for withdrawal signed in the same manner and by the same person who signed the Bid Form is received by the individual of the School District requesting the bids prior to the time established for the opening of the bids.

No Bidder may withdraw his bid for forty-five (45) days after the scheduled time set for the opening thereof, or before award of the Contract, unless said award is delayed for a period exceeding forty-five (45) calendar days.

1.14 MODIFICATIONS

No oral, telephonic, or telegraphic modifications will be considered.

1.15 ACCEPTANCE OF BIDS

The Owner reserves the right to accept the bid which in its judgment is the most responsive responsible and best bid or to reject any and all bids and alternatives and to waive or disregard irregularities or informalities in any bid as it may deem to be in the best interest of the School District. The Board of Directors or its designees may consider as irregular any bid on which there is an alteration of, or departure from, the bid form. All proposals received after the specified time of closing shall be returned unopened.

Final determination of compliance with specifications will rest with the Owner.

1.16 APPLICABLE LAWS AND REGULATIONS

Each Bidder shall familiarize himself with all state and local laws, codes, ordinances, and regulations which might in any manner affect the work to be done; the materials to be supplied; the taxes, permits and fees to be paid; or the labor to be employed in and about the work. Any claim of misunderstanding or ignorance on the part of any successful Bidder will not in any way excuse such Bidder from the necessity of full compliance with every such law, code, ordinance, or regulation. All state laws, codes and regulations and local ordinances, which are applicable, shall be complied with including but not limited to those specified in these documents.
1.17 INSURANCE
Throughout the life of the contract, the Contractor will be required to carry the types and amounts of insurance named in the General Conditions.

1.18 CONTRACTOR'S LICENSE
Any successful Bidder may be required by the Owner to obtain the necessary and applicable Contractor’s License from all appropriate governmental authorities and if required, shall not allow any subcontractor to commence work on his subcontract until all similar provisions required of the subcontractor have been obtained and approved.

1.19 POST-BID INTERVIEWS
Bidders in contention for contract awards may be asked to attend Post-Bid Interviews, submit Post-Bid Submittals in rough draft for review. (See Document 00500.)
BACKGROUND INFORMATION

All questions must be answered, and the data given must be clear and comprehensive. If necessary, questions may be answered on separate attached sheets. The bidder may submit any additional information.

1. When Organized ____________________________

2. If Corporation, Where Incorporated ____________________________

3. How many years have you been engaged in the contracting business under your present firm or trade name? ____________________________

4. List all of the surety/bonding companies you have utilized in the last five (5) years ______

5. Have you ever been declared in default under a performance bond in the last five (5) years? __________ If so, describe the circumstances and which surety/bonding company was involved. Include the name and contact person of the owner(s). ________________

6. Have you ever been previously found to be a non-responsive or non-responsible bidder under Iowa Code Chapter 26, Iowa Code Section 73A or other applicable law or governing authority? __ __________ If yes, please describe the circumstances __________________

7. List all the projects over one million dollars ($1,000,000) you are currently under contract for, including the contract value, the scheduled completion date, contact person and phone number. Also list any experience in school construction similar to this project of any value.

8. Are you currently being investigated for or previously been found to have violated in the last five years any of the following state or federal laws: Iowa Minimum Wage Act, Iowa Non-English Speaking Employees Act, Iowa Child Labor Act, Iowa Labor Commissioner’s Right to Inspect Premises, Iowa Compensation Insurance Act, Employment Security Act, Iowa Competition Act, Iowa Income, Corporate and Sales Tax Code, a ‘willful’ violation of the Iowa or Federal Occupational Safety and Health Act, Iowa Employee Registration Requirements, Iowa Hazardous Chemical Risks Act, Iowa Wage Payment Collection Act, Federal Income and Corporate Tax Code, The National Labor Relations Act, The Drug-Free Workplace Act, The Employee Retirement Insurance Security Act, The Fair Labor Standards Act) Yes __________ No __________ If yes, please explain: ________________
9. Do you currently have any legal action pending which could impact your ability to perform this Project? ________ If yes, please explain: ________

No actions will be made on the basis of answers to the above questions without an inquiry and an opportunity to be heard regarding the circumstances of the matters reported.

The undersigned hereby authorizes and requests any person, firm or corporation to furnish any credit history and financial condition or other information required by the District in verification of the recitals comprising this statement of Background Information. The undersigned further authorizes the District to conduct any and all necessary investigations of the undersigned’s federal and state Occupational Safety and Health Act (OSHA) Compliance, including access to State and Federal records.

I hereby certify that the above information is true and correct to the best of my knowledge and that the District may rely on the information provided.

**THIS STATEMENT MUST BE NOTARIZED.**

NAME OF CONTRACTOR: ________________________________

BY: ________________________________

Signature

Title

______________________________

Type/Print Name

Date

STATE OF IOWA, ____________ COUNTY, ss:

Subscribed and sworn to before me by the said ___________________________ on this ___ day of ___

_____________________, 20__. 

______________________________

Notary Public in and for the State of Iowa
LIST OF SUBCONTRACTORS AND SUPPLIERS OF LABOR AND MATERIAL

PROJECT: ________________________________

CONTRACTOR NAME: ________________________________

Pursuant to the provisions set forth in the Instructions to Bidders, The General Conditions, and the Proposal Form, the above-named contractor hereby designates below the names and locations of the place of business of each subcontractor. District may request subcontractor license number.

<table>
<thead>
<tr>
<th>SUBCONTRACTOR</th>
<th>BUSINESS ADDRESS</th>
<th>WORK TO BE DONE</th>
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<tbody>
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Comments:__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

END OF DOCUMENT
PART 1 - GENERAL

1.1 TIME OF COMPLETION

A. It is to be understood that time is of the essence for this Contract and the Contractor will be required to perform the Work within the allowable time set forth in the Contract. In this connection, attention is directed to the provisions of the General Conditions and Supplementary General Conditions, if any, relative to delays, extensions of time, and liquidated damages. The successful bidder/contractor shall, within ten (10) days after the Notice of Contract Award, prepare and submit for the Owner's approval, a Preliminary Construction Schedule. The schedule shall indicate the time of performance and the completion dates of the various portions of the Work, and the dates upon which the Owner may expect to be allowed to occupy all or portions of the Project.

B. The Owner and the Contractor shall agree mutually on any changes in either the schedule or the rate of performance of the Work which might either favorably or adversely affect such schedule dates. No additional compensation or fee shall be paid by the Owner, for any completion of all or any portions of the Work earlier than scheduled unless otherwise specifically noted in Bid Documents.

1.2 PRELIMINARY CONSTRUCTION SCHEDULE

A. The Preliminary Construction Schedule indicates planned Substantial Completion dates for significant activities during the construction period. Substantial Completion of an activity is considered to be when the work of subsequent activities can proceed in accordance with the Project Construction Schedule.

1.3 CONSTRUCTION PROGRESS SCHEDULE

A. A detailed Construction Progress Schedule shall be submitted by the Contractor prior to the submission of the first request for payment. No partial payment on account of work performed shall be made until such detailed Construction Progress Schedule has been approved by the Owner. Refer to Section 01310 for format requirements. Construction sequence or timing of schedules received from contractors may be adjusted in the Project Construction Progress Schedule by the Owner’s Representative to facilitate sequencing and coordination of the overall Project.

B. During the construction period the Contractor is required to regularly provide information and input on scheduling and coordination of his work. The Construction Progress Schedule will detail the Contractor’s performance between Project milestone dates. Construction Progress Schedules will be required with each Contractor’s Application for Payment.

C. The mandatory Project milestones are listed in this section.

PROJECT MILESTONES

A. Bids Due: December 16, 2021
B. Notice of Award: January 4, 2022
C. Construction Start: June 6, 2022
D. Substantial Completion: August 14, 2022
E. Final Completion: November 1, 2022
F. Definitions:

1. Construction Start date: Established date on which the Contractor shall actively begin the Work on site to be completed under this contract. The construction start date may be amended to permit the Contractor to begin work sooner than established herein, upon approval of the Owner.

2. Substantial Completion date: Established date on which the Work, or designated portion(s) thereof, has been sufficiently completed in accordance with the Contract Documents so as to permit the owner to safely and legally occupy or utilize the Work for its intended use, subject only to minor punch list items the absence of completion which does not interfere with the Owner’s intended use of the project.

3. Final Completion date: Established date on which all outstanding items of the Work – including activities established in the Contract Documents, punch lists and established closeout documentation – have been fully executed and submitted to the Owner.

1.5 LIQUIDATED DAMAGES

A. Substantial Completion: The Owner and the Contractor agree that this Agreement shall not provide for the imposition of liquidated damages based on the date of Substantial Completion.

1. The contractor understands that if the date of Substantial Completion established by this Agreement (as may be amended by subsequent approved changes) is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The contractor agrees that if the Date of Substantial Completion is not attained, the Contractor shall pay the Owner actual damages, as determined by actual Owner expenses, to provide for the Project’s intended purpose after the established date of Substantial Completion, up to the date of actual Substantial Completion.

B. Final Completion: The Owner and the Contractor agree that this agreement shall not provide for the imposition of liquidated damages based on the Date of Final Completion.

1. The Owner, at its election, may choose to execute the completion of outstanding punch list items remaining after the established date of Final Completion. All costs incurred by the Owner for Work completed after the Final Completion date will be deducted from the final payment owed to the contractor.

1.6 PHASING PLAN

Phasing of work associated with this Project is not anticipated; however, the District will work with the General Contractor awarded to the Project to define the final detailed schedule of when work will be permitted and is required to occur.
GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL INCLUDE THE NECESSARY PROJECT MANAGEMENT, LABOR, OVERTIME OR DOUBLE SHIFT REQUIREMENTS TO MEET THE PROJECT’S SUBSTANTIAL COMPLETION DATE. WITHIN LIMITATIONS NOTED BELOW, THE BUILDING IS AVAILABLE 24/7.

General notes:

- Limited numbers of staff and students will be present in each building during the project. Contractor shall coordinate with the Owner to phase the work to insure that during construction, an adequate number of restrooms are available for all genders. Contractor shall make provisions to provide alternate restroom facilities for building occupants if all building restrooms are temporarily not in service.

- Work can be done on all days.

- All hauling of equipment and materials in/out and debris removal must insure the safety of the students, staff and visitors. Station personnel at areas of conflict when material or equipment is transferred in and out.

- The contractor may utilize the school parking lot during the summer break.

- Work to be coordinated through the Owner’s representative.

- All existing utility and communication services and distribution systems shall remain active during this work. Should a system be affected due to this work, the contractor shall make any required repairs to the system affected. Systems to maintain include in part: heating and ventilating, plumbing, electrical, temperature controls, fire alarm, security, intercoms, data / communications, and clock systems.

- Temporary security barriers and interior construction barriers shall be installed to separate the school and public from the work areas when rooms with work cannot be secured. All partitions shall be constructed per Section 01500 and shall be from floor to structure above. Maintain and remove the partitions when no longer required. Patch adjacent surfaces as required.

- Emergency exiting as required by the City of Des Moines code officials must be kept available while work continues for the renovation. The contractor shall phase the work around the exits to maintain a level unobstructed path of travel at all times to the public right of way.

- Close Out: Completion of Closeout Documents and punch list. – August 15, 2022 – November 1, 2022. All punch list work shall occur after school hours.

END OF DOCUMENT
1.1 INFORMATION AVAILABLE TO BIDDERS

The following reports are available to bidders for information:

A. Abatement report available by request. Abatement will be performed by owner.

B. The Contractor is hereby notified that some or all of the buildings covered by this Construction Agreement may contain lead-based paint. Some or all of the buildings covered by this Construction Agreement may be considered child occupied facilities as that term is used by the United States Environmental Protection Agency ("EPA") and the Iowa Department of Public Health ("IDPH"). Starting April 2010, federal and state law will require contractors that disturb lead-based paint in homes, child care facilities and schools, built before 1978 to be certified and follow specific practices to prevent lead contamination. Further information regarding these requirements is available on the Iowa Department of Public Health website.

The Contractor is solely and fully responsible for the compliance with all applicable law and regulations regarding lead-based paint, including but not limited to those of EPA, IDPH and OSHA.

1.2 USE OF INFORMATION

A. All these documents made available by the Owner are for information only and are not a warranty of existing conditions.

B. Bidders may purchase a copy at cost of reproduction.

C. The data contained in the above items have been utilized in the preparation of construction documents. The Contractor may rely on the accuracy of the technical data contained in the report, but not upon non-technical data, interpretations or opinions contained therein, or for the completeness thereof for the Contractor's purposes.

D. Except as indicated in the preceding paragraph, Contractor has full responsibility with respect to subsurface conditions at the site.
PART 1 - GENERAL

1.1 PROPOSAL FORMS

A. Bidders are required to use the Proposal Form provided in Document 00311 or submit bid on the DMPS electronic portal. Contact the DMPS Senior Supply Chain Analyst at 515-242-7649 to become registered to submit a bid electronically. Additional proposal forms may be copied from this manual or obtained from the Owner’s Representative.

PART 2 - PROPOSAL FORMAT

2.1 BID PROPOSALS

A. The Proposal consists of all the following required documents:

1. Proposal Form (Document 00311) Inner Envelope.

B. Bid documents shall be enclosed in two envelopes (OUTER and INNER), each of which shall be sealed and clearly labeled “BID DOCUMENTS” and identified with the name and Bid Number of the project; the name and address of the Bidder; and the time or opening bids. The INNER envelope shall contain the Bid Proposal. The OUTER envelope shall contain the Bid Bond and INNER envelope. If all supporting documents are not included, the inner envelope will not be opened.

All information shall be in prominent lettering so as to guard against opening prior to the stipulated time. No responsibility shall attach to any employee of the Owner for the premature opening of any bid not prominently identified. The Bidder shall be responsible for placing his firm name and number, if applicable, of the project and the time of the bidding on the outside of such bid envelope.

C. All spaces provided on the Proposal Forms shall be filled in. If any space provided is not utilized by the Bidder, that space shall be filled in with the notation "NA" (Not Applicable).

D. The Proposal Forms shall be typewritten or manually printed in ink.

E. Where indicated, all amounts shall be expressed in words and in figures. In case of discrepancy, the words shall govern.

F. Bidders shall not make unsolicited notations or statements on the Proposal Forms. Alteration of the Proposal Forms is not permitted and may result in the proposal being considered non-responsive.

G. The person who signs the Proposal shall initial all changes to and erasures of the Bidder’s entries on the Proposal Forms.

H. Each Proposal shall include the legal name of the Bidder and a statement regarding whether the Bidder is a sole proprietor, a partnership, a corporation, or other type of legal entity. Proposals submitted by corporations shall have the state of incorporation noted. Any Bid submitted by an agent shall have a current Power of Attorney attached, certifying the agent’s power to bind the Bidder.

PART 3 - COMPLETION OF PROPOSAL FORMS

3.1 PROPOSAL FORM (DOCUMENT 00311)

A. Submit only one Proposal Form. Copies of the Proposal Form may be made.

B. Fill in the numbers and dates of all Addenda received and considered in the Proposal. Proposals must include acknowledgement of all Addenda issued prior to the Bid Date.
C. Type or print the signer’s name and title in the spaces provided below the signature.
D. Date the Form in the spaces provided.
E. Place the Contractor’s name at the bottom of each page in the space provided.
F. Have the Bid Proposal Notarized.
G. Completed Proposal form to be included in the INNER envelope.

3.2 TSB (Targeted Small Business Participation) FORM (DOCUMENT 00312)
Indicate participation on bid form. Low bidder to provide participation documents along with 24 HR information.

A. Program Description
1. In accordance with the Code of Iowa, Articles 73.15 through 73.21 and as amended by Sec. 223 of House File 479, the Board of Education of the Des Moines Independent Community School District seeks to provide opportunities for Iowa Targeted Small Businesses in the award of all contracts. The Certified Iowa Targeted Small Business participation target is ten percent (10%) of the base bid.

B. Definitions
1. Targeted Small Business (TSB) means a small business which is fifty-one percent or more owned, operated, and actively managed by one or more women or minority persons. Certified in the above context means the TSB has been certified by the Iowa Department of Inspections and Appeals. A complete listing of all certified TSB’s may be secured from the Iowa Department of Economic Development (515) 242-4700.
2. Small business means any enterprise located in this state which is operated for profit under a single management, and which has an annual gross income of less than three million dollars computed as the average of the three preceding fiscal years.
3. Minority person(s) means an individual who is Black, Hispanic, Asian or Pacific Islander, American Indian or Alaskan native.
4. Actively managed means exercising the power to make policy decisions affecting the business.
5. Operated means actively involved in the day-to-day management of the business.

C. Performance and Payment Bond Waiver
1. If Contractor is a TSB, the contractor may be eligible to receive a waiver of the performance and payment bond requirements pursuant to the provisions of the Iowa Satisfaction and Performance Bond Program, Section 12.44 of the Code of Iowa.
2. Certification of eligibility to participate in the Iowa Satisfaction and Performance Bond Program is determined by the Iowa Department of Inspection and Appeals.
3.3 NON-COLLUSION AFFIDAVIT (DOCUMENT 00313)

By signing bid form, bidder acknowledges non-collusion.

A. Submit the Non-Collusion Affidavit on the form provided. Copies may be made.
B. Type or print the signer’s name and title in the spaces provided.
C. Place the Contractor’s name at the bottom of the page in the space provided.
D. Have the Non-Collusion Affidavit Notarized.
E. Completed Non-Collusion Affidavit to be included by low bidder with the 24 HR. information.

3.4 BIDDERS STATUS FORM (DOCUMENT 00314)

Indicate on bid form, bidders residency status.

A. Submit the fully completed Bidders Status Form on the form provided. Copies may be made.
B. Place the Contractor’s name at the bottom of the page in the space provided.
C. Sign and date the Form in the space provided.
D. Completed Bidders Status Form to be included by low bidder along with the 24 Hr. information.

3.5 PERSONNEL ACKNOWLEDGEMENT AND CERTIFICATION (DOCUMENT 00315)

By signing, bidder acknowledges commitment to compliance with all applicable rules, regulations, and restrictions regarding the employment of personnel as defined therein.

A. Submit an executed copy of the Personnel Certification and Acknowledgement form. Copies may be made.
B. Sign and date the Form in the space provided.
C. Completed Bidders Status Form to be included by low bidder along with the 24 Hr. information.

3.6 SUBMISSION OF PROPOSALS

A. Bidders shall bear full responsibility for delivering Proposals to the location for receipt of Proposals by the time and date for receipt of Proposals.
B. Owner will not provide telephones for use by Bidders when preparing their bid.
C. Telephone, faxed or oral bids will not be accepted.
3.7 MODIFICATION OR WITHDRAWAL OF PROPOSALS

A. Any Bidder may withdraw his bid if written request for withdrawal signed in the same manner and by the same person who signed the Bid Form is received by the individual of the School District requesting the bids prior to the time established for the opening of the Bids.

B. No Bidder may withdraw his bid for forty-five (45) days after the scheduled time set for the opening thereof, or before award of the Contract, unless said award is delayed for a period exceeding forty-five (45) calendar days.

C. Proposals that are withdrawn may be resubmitted before the time and date designated for the receipt of Proposals.

D. No oral, telephonic, telegraphic or FAXED modifications will be considered.

END OF DOCUMENT
DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT

PROPOSAL FOR: 2022 RESTROOM UPGRADES

Contractor Name

PROPOSAL FORM TO BE SUBMITTED IN INNER ENVELOPE

Awarded contractor will be required to break out costs for each school for contract purpose.

TO: Des Moines Independent Community School District

Operations Center, Supply Chain Analyst, 1917 Dean Avenue

Des Moines, Iowa 50316

COVERING BID NO: B8722

SUBMITTED BY: ____________________________

Name of Bidder

Members of the Board:

The undersigned has carefully examined the site, the proposed Contract Documents prepared by Studio Melee pertinent to the construction of the above referenced Project. Further, being familiar with all other conditions affecting the Work, the undersigned hereby proposes and agrees to furnish and provide all labor, materials, supervision, transportation, tools, equipment, services and other facilities necessary and required for the expeditious completion of the Work indicated above in strict conformity with said conditions and Contract Documents.

The undersigned has reviewed the work outlined in the Bidding Documents and fully understands the scope of work required in this Proposal. The undersigned acknowledges that the Proposal includes the work of all trades required for the work and understands the Owner Representative function as described in the Contract Documents. The undersigned understands that each bidder who is awarded a Contract shall be in fact a Prime Contractor, not a Subcontractor to the Des Moines Independent Community School District. The undersigned agrees that the proposal, if accepted by the Owner, will be the basis for a contract with the Owner to enter into such a contract in accordance with the intent of the Contract Documents.

The undersigned agrees to complete the work required, within the time indicated in the Contract Documents, subject to Liquidated Damages as specified in Documents 00210 and 00700.

The undersigned acknowledges the Iowa - Targeted Small Business program and actively pursued participation (document 00312). Yes ___ No ___ Low bidder to submit completed form with 24 HR. information.

The undersigned certifies that bidder has read and adheres to the terms of the Non-Collusion Affidavit (document 00313). Low bidder to submit completed form with 24 HR. information.

The undersigned has completed the Bidders Status worksheet (document 00314) and certifies the firm to be an Iowa:

Resident Bidder _____ Non-resident Bidder _____ Low bidder to submit completed form with 24 HR. information.

Enclosed in a separate envelope is a Bid Security for five percent (5%) of the amount of the Base Bid, made payable to the order of Des Moines Independent Community School District. It is to be left in escrow with the Owner as a guarantee that the undersigned will enter into a Contract and will furnish the specified insurance and bonds. The undersigned has notified the Owner Representative of any discrepancies or omissions, or of any doubt about the meaning of any of the Contract Documents, and has contacted the Owner Representative before bid date to verify the issuing of any clarifying Addenda.

Contractor Name

PROPOSAL FORM TO BE SUBMITTED IN INNER ENVELOPE
The undersigned further acknowledges receipt of the following Addenda:

<table>
<thead>
<tr>
<th>NO.</th>
<th>DATE</th>
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BASE BID - BID NO. B8722  2022 RESTROOM UPGRADES

The undersigned proposes to provide and construct the Work required, in accordance with said Contract Documents for

the lump sum price of:

$_____________________________ Dollars

($_____________________________), EXCLUDING ALL SALES TAXES. (Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern).

SCHEDULE OF ALTERNATES – NONE

LIST OF SUBCONTRACTORS AND SUPPLIERS OF LABOR AND MATERIAL

The lowest bidder for each contract shall, within twenty-four (24) hours following the bid opening, provide the Owner with the List of Subcontractors and Suppliers of Labor and Material. Subcontractor is any entity performing 1-1/2% or more of the contract value. The List shall detail the quotations used in the preparation of the bid and whose services are proposed to be used in construction of the project. The List must be complete showing all sections in the Construction Documents. Failure to submit the List may preclude the bid from further consideration by the Owner. The Owner reserves the right to either disclose or not disclose the List of the successful Bidder.

Each Bidder shall identify and fully disclose on the List all those subcontractors and suppliers proposed for the work with which the Bidder is connected either directly or indirectly as part owner, participant in profits and losses or in any other manner financially or economically.

The forms for the List of Subcontractors and Suppliers of Labor and Materials are included in the Instruction to Bidders, Section 00100.

AGREEMENT

It is understood and agreed that if written notice of the Owner's acceptance of this proposal is mailed, telegraphed, or delivered to the undersigned after the opening of the bid, and within forty-five (45) days, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the Owner an Agreement in accordance with the bid as accepted. The undersigned will also furnish and deliver to the Owner the Payment Bond, Performance Bond and Certificate of Insurance as specified in the Contract Documents, all within ten (10) working days after receipt of Notice of Contract Award. The work under the Contract shall be commenced by the undersigned bidder, if awarded the Contract, on the date to be stated in a Notice to Proceed, issued to the Contractor and shall be completed by the Contractor in the time specified in the Contract Documents. In the event the bidder to whom an award is made fails or refuses to execute the Contract within the specified time frame; the Owner may declare the bidder's bid security forfeited as damages caused by the failure of the bidder to enter into the Contract.

______________________________
Contractor Name

PROPOSAL FORM TO BE SUBMITTED IN INNER ENVELOPE
DES MOINES INDEPENDENT
COMMUNITY SCHOOL DISTRICT
2022 RESTROOM UPGRADES

If this proposal is determined to be (preliminarily) the lowest responsible bid, the undersigned shall submit a listing of subcontractors and major materials suppliers in accordance with G.C. – 27.00 and the Instructions to Bidders within 24 hours of being notified of such finding by the Owner Representative.

The undersigned acknowledges the fact that the Owner reserves the right to accept or reject any and all proposals, to waive any informality in receipt of this proposal, with or without cause or reason, and award the Contract on the basis stated in the Instructions to Bidders.

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth below, together with the signatures of authorized officers or agents. If bidder is a partnership, the true name of the firm shall be set forth below together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership. If bidder is an individual, his signature shall be placed below.

SUBMITTED BY: ____________________________________________

Name of Bidder

Address: ___________________________________________________

Phone #: __________________________ Fax #: _______________________

Contractors, License No.: _______________________________ Signature

License Expiration Date: _______________________________ Position

If Corporation: State of Incorporation: ________________

AFFIX CORPORATE SEAL HERE ➔

(IF APPLICABLE)

THIS STATEMENT MUST BE NOTARIZED.

STATE OF IOWA, _________________ COUNTY, ss:

Subscribed and sworn to before me by the said ______________________ on this ______ day of ____________, 202__.

____________________________________
Notary Public in and for the State of Iowa
If bidder is awarded the contract for this project, the bidder proposes for owner approval the award of a subcontract to the following certified Iowa TSB’s:

(if more room is needed, supply same information on second sheet and attach to this form)

1. ____________________________________________  ____________________________  $ ____________________  
   TSB Company Name  Address  
   Description of Work  Dollar Amount  

2. ____________________________________________  ____________________________  $ ____________________  
   TSB Company Name  Address  
   Description of Work  Dollar Amount  

3. ____________________________________________  ____________________________  $ ____________________  
   TSB Company Name  Address  
   Description of Work  Dollar Amount  

Bidder’s Company Name  Telephone No.  

________________________________  ____________________________  ____________________________  
Address  City  State  Zip  

________________________________  
Signature (Same person who signs proposal)  Title  

________________________________  
Type/Print Name  Date  

THIS STATEMENT MUST BE NOTARIZED.  

STATE OF _______________, ______________ COUNTY, ss:  
Subscribed and sworn to before me by the said ________________________________ on this _______ _______ day of ______________, 202_.  
Notary Public in and for the State of __________  

_____________________________  
Contractor Name  

Low bidder to submit form with 24 HR information
Bidder **is** / **is not** a certified Iowa Targeted Small Business, (TSB).

If bidder **did not** contact any certified Targeted Small Businesses, then state why:

**The following TSB’s were contacted and declined to participate:**

(If more room is needed, supply same information on second sheet and attach to this form)

<table>
<thead>
<tr>
<th>TSB Company Name</th>
<th>Address</th>
<th>Contact Name</th>
<th>Date Contacted</th>
<th>Telephone No.</th>
<th>Reason given for declining participation</th>
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</table>

**Contractor Name**

Low bidder to submit form with 24 HR information
NON-COLLUSION AFFIDAVIT

The Contractor and/or the sub-contractors, as applicable, shall provide this affidavit:

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID IN OUTER ENVELOPE.

State of Iowa )
               ) ss.
County of Polk )

being first duly sworn, deposes and says that he or she is ___________________________ of ___________________________,

the party making the foregoing bid that the bid is not made in the interest of, or on the behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereto to effectuate a collusive or sham bid.”

The undersigned certifies under penalty of perjury that the foregoing is true and correct;

THIS STATEMENT MUST BE NOTARIZED.

NAME OF CONTRACTOR: ________________________________

BY: ____________________________________________

Signature                                      Title

______________________________

Type/Print Name                                      Date

STATE OF __________________, COUNTY, ss:

Subscribed and sworn to before me by the said __________________________ on this ______ day of ____________, 202_

______________________________________________

Notary Public in and for the State of______________

LOW BIDDER TO SUBMIT FORM WITH 24 HR INFORMATION

______________________________
Bidder Status Form

To be completed by all bidders

Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
   (To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company’s office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders

Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ / _____ / ______ to _____ / _____ / ______ Address:
   City, State, Zip: ______________________

Dates: _____ / _____ / ______ to _____ / _____ / ______ Address:
   City, State, Zip: ______________________

Dates: _____ / _____ / ______ to _____ / _____ / ______ Address:
   City, State, Zip: ______________________

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders

Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

2. Does your company’s home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered “Yes” to question 2, identify each preference offered by your company’s home state or foreign country and the appropriate legal citation.

   __________________________

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: __________________________

Signature: __________________________ Date: __________________________

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

309-6001 (09-15)
Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes  ☐ No  My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes  ☐ No  My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes  ☐ No  My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes  ☐ No  My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes  ☐ No  My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes  ☐ No  My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes  ☐ No  My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes  ☐ No  My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes  ☐ No  My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes  ☐ No  My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes  ☐ No  My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

Low Bidder to submit form with 24 HR information.
Acknowledgment & Certification

("Company") is providing services to the Des Moines Independent Community School District ("District") as a Contractor, vendor, supplier, provider or sub-provider and/or is operating or managing the operations of a Contractor, vendor, supplier or provider. The services provided by the Company may involve the presence of the Company’s employees upon the real property of the District.

The Company acknowledges that Iowa law prohibits a sex offender who has been convicted of a sex offense against a minor from being present upon the real property of the District. The Company further acknowledges that, pursuant to Iowa law, a sex offender who has been convicted of a sex offense against a minor shall not operate, manage, be employed by, or act as a Contractor or volunteer at the District.

The Company hereby certifies that no one who is an owner, operator or manager of the Company has been convicted of a sex offense against a minor. The Company further certifies and agrees that it shall not permit any person who is a sex offender convicted of a sex offense against a minor to provide any services to the District in accordance with the prohibitions set forth above.

The Company further certifies that the Company has completed a satisfactory background check on the Company’s employees. The Company hereby agrees to provide the District with the Company’s background screening procedures including specific context and infractions that are reviewed by the Company. The District reserves the right to, but does not have the obligation to, conduct a District background check on Company employees as determined by the District in its sole discretion. The District reserves the right to restrict access of any Company employee upon the real property of the District if such employee does not clear the District’s background check.

The District reserves the right, but does not have the obligation to, to audit the Company’s background screening program at any time, whether announced or unannounced. The Company hereby agrees that the Company shall, upon request, permit an authorized District representative to review background screening records, including those of individual Company employees, in order to conduct a compliance review, audit or investigation, to the fullest extent permitted by law.

The Company shall ensure that the provisions of this Acknowledgement and Certification are extended to any and all subcontractors, consultants, or others the Company may engage if such engagement involves their presence upon the real property of the District.

The Company understands and agrees that violation of any of the provisions of this Acknowledgement and Certification shall constitute sufficient grounds for termination of any contract or subcontract without damages or penalty to the District.

This Acknowledgment and Certification is to be construed under the laws of the State of Iowa. If any portion hereof is held invalid, the balance of the document shall, notwithstanding, continue in full legal force and effect.

In signing this Acknowledgment and Certification, the person signing on behalf of the Company hereby acknowledges that he/she has read this entire document that he/she understands its terms, and that he/she not only has the authority to sign the document on behalf of the Company, but has signed it knowingly and voluntarily.
Signed:______________________________________________

Print Name:__________________________________________

Title:________________________________________________

Date:______________________________________________
Draft Policy Regarding Background Checks of Applicants for Employment

The Des Moines Independent Community School District’s primary function is the education and care of the District’s students. The District considers student safety and well-being to be of paramount importance. Because of the requirements of Iowa law, and in order to further these compelling interests, the District’s hiring process includes requests for information regarding an applicant’s past criminal conviction(s). Background checks will be conducted as required by law and District policy/practice. Backgrounds checks will not be performed until a recommendation to hire has been made by the hiring team, after the interview process has occurred.

The District is also committed to equity in its entire employment process, including its hiring process. In order to achieve an equitable process with respect to the consideration of criminal convictions, while promoting the compelling interests of student safety and well-being, the District will consider an applicant’s criminal record in light of the following:

1. All applications will be considered on a case-by-case basis. While the District will endeavor to consider each applicant’s individual situation, it will also attempt to achieve equitable results between similarly-situated applicants.

2. Because honesty and candor are essential to the employer-employee relationship, failure of an applicant to disclose past criminal convictions on their application for employment and/or failure to cooperate with requests from the District to provide additional information necessary to the hiring process will generally result in a denial of employment.

3. Where an applicant’s application and/or background check result in a finding that the applicant has one or more criminal convictions, the District will issue a Pre-Adverse Action Notice to the employee, requesting that the employee provide the District with additional information relating to the conviction(s) prior to the District making a decision relating to the applicant’s employment. The applicant’s cooperation and candor are important if the applicant fails to provide additional information within the time requested, the District will make a decision based on the information available to it. Applicants should be aware that failure to promptly and voluntarily provide additional information will weigh heavily against hiring that applicant.

4. Once the District has received all available information relating to the applicant’s criminal background, the District will analyze all available information on a case-by-case basis. Factors examined by the District may include, but are not necessarily limited to all considerations that are job-related and consistent with business necessity, including specifically:
   a. The gravity of the offense/conduct,
   b. Whether the individual has a record of multiple convictions or a documented pattern indicating disregard or the law,
   c. Time since the offense(s),
   d. Whether there are any pending charges at the time of application,
   e. Nature of the job sought,
   f. How the offense(s) relates to the job,
   g. The population the applicant may interact with,
   h. Where applicable, evidence of rehabilitation

5. If the District determines not to move forward with employment, the applicant will receive a Final Adverse Action notice.
6. If an application is rejected due to an applicant’s past criminal conviction(s), that employee may be considered for employment no sooner than seven (7) years from the date of the most recent offense. All decisions will be made based on all information available to the District at the time of the subsequent application.
BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we _____________________________ as Principal, and _____________________________ as Surety, are held and firmly bound to the Des Moines Independent Community School District, hereinafter called the "School District," in the penal sum of _____________________________ Dollars ($___________________), in lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly, by these presents. The condition of this obligation is such that whereas the Principal has submitted the accompanying Bid, dated __________________ for the project:

__________________________________________________________________________

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within forty-five (45) days after said opening, and shall, within the period specified therefore, or, if no period be specified, within seven (7) days after the prescribed forms are presented for signature, enter into a written Contract with the School District, in accordance with the bid, as accepted, and give bond with good and sufficient Surety or Sureties, as may be required for the faithful performance and proper fulfillment of such Contract, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

By virtue of statutory authority, the full amount of this Bid Bond shall be forfeited to the School District in liquidation of damages sustained in the event that the afore described bidder, Principal, fails to execute the Contract and provide the bond as provided in the Specifications or by law.

IN WITNESS WHEREOF, the parties have executed this instrument under their several seals this the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by the undersigned representatives pursuant to authority of the governing bodies.

(date) Principal
By: _____________________________

(date) Surety
By: _____________________________

(Attach Power of Attorney of agent executing Bond)

END OF DOCUMENT

PROPOSAL FORM TO BE SUBMITTED IN OUTER ENVELOPE
PART 1 - GENERAL

1.1 OWNER/CONTRACTOR AGREEMENT

A. The Agreement between the Owner and each Contractor will be written on the Owner's standard Owner/Contractor Agreement Form. A sample of this form appears as Document 00510.

B. The Owner/Contractor Agreement Form will be completed by the Owner and will be sent to the selected Contractor. A minimum of three (3) copies will be prepared for signing.

C. The executed Owner/Contractor Agreement, along with the Contract Documents as defined in Document 00700, will be the entire, integrated Contract between the Owner and each Contractor.

D. Upon receipt of an Owner/Contractor Agreement, the successful Bidder shall review it for completeness and accuracy, execute it, and return it to the Owner.

E. The Owner will execute each Owner/Contractor Agreement after the Bidder and after all required post-bid documents, (see 1.2.C. below), have been submitted.

1.2 NOTICE OF CONTRACT AWARD

A. The Owner shall issue a Notice to Proceed prior to the commencement of work under the Owner/Contractor Agreement.

B. No Contractor shall commence work until all required bonds (Documents 00600, 00610 and 00620) and insurance (Document 00650) have been submitted to and accepted by the Owner.

C. Upon receipt of a Notice to Proceed, and receipt of requisite bid documents, each Contractor shall commence work in accordance with the conditions contained in the Notice to Proceed.

END OF DOCUMENT
CONSTRUCTION AGREEMENT

THIS AGREEMENT, made and entered into this ___ day of ______, 202__ by and between DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT (hereinafter designated as the “Owner”), and ________________, (hereinafter designated as the “Contractor”), in connection with the construction of __________ complete with all work appurtenant thereto.

In consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties agree as follows:

CA - 1.00 SCOPE OF THE WORK

The Contractor will furnish all tools, equipment, machinery, supplies, superintendence, insurance, transportation and other construction accessories, services and facilities specified or required to be incorporated in and form a permanent part of the completed work. In addition, the contractor shall provide and perform all necessary labor in a good, firm, substantial workmanlike manner and in accordance with the conditions and prices stated in the Bid Proposal and the requirements, stipulations, provisions and conditions of the Contract Documents as defined in the attached General Conditions. Said documents form the contract and are as fully a part thereof as if repeated verbatim herein. The Contractor shall perform, execute, construct and complete all things mentioned as to be done by him in the Contract Documents, the Owner’s official award of this contract to the Contractor being based on the acceptance by the Owner of the Contractor’s bid, or part thereof.

CA - 2.00 THE CONTRACT DOCUMENTS

The Contract Documents shall consist of this written Agreement, which shall incorporate by this reference all of the instruments set out in Article 1 of the General Conditions as fully as if they were set out in this Agreement in full. All of the said documents and instruments are incorporated into this Agreement by the signature of the parties hereto.

CA - 3.00 TIME OF COMPLETION

The Contractor agrees to commence work under this Agreement by no later than ___________ and to substantially complete all work by no later than ___________.

CA - 4.00 LIQUIDATED DAMAGES

The Contractor understands and agrees that the completion of the entire project within the time provided is an essential feature of this Agreement. The Owner will sustain substantial damages, the amount of which is not possible to accurately determine at this time, if the work is not so completed. The Contractor, therefore, agrees to proceed with due diligence, taking all precautions and making all necessary arrangements to insure the completion of the work within the prescribed time. The Contractor further agrees that should he fail to finally and fully complete the work within the time stipulated, the Owner shall be entitled to collect liquidated damages for the cost of delay, in accordance with the General Conditions of the Contract and as defined in the Contract Documents.

CA - 5.00 CONTRACT SUM

The Owner shall pay to the Contractor for performance of the work encompassed by this Agreement, and the Contractor will accept as full compensation therefor the lump sum of:

See Attachment “A”
subject to adjustment as provided by the Contract Documents, to be paid by progress payments in cash or its equivalent in the manner provided for in the Contract Documents.

CA - 6.00  ACCEPTANCE AND FINAL PAYMENT

A.) Early Release of Retained Funds - Upon Substantial Completion the Contractor may apply for a partial or full release of retained funds. The Contractor, the Architect, and the Owner shall inspect the work covered by the portion of funds requested. When the work is found to be acceptable under the Agreement, including the satisfactory completion of all items covered by the request, the Architect shall promptly certify such to the Owner, over his own signature. The certification shall state that that portion of work provided for in this Agreement has been completed in accordance with the Contract Documents and is accepted by the Architect under the terms and conditions therefore. The Owner shall have the right to withhold 1) an amount equal to 200% of the value of labor and materials yet to be provided on the project as determined by the Owner and its authorized representative and 2) an amount equal to 200% of the value of any Chapter 573 claims currently on file at the time the request for release of retained funds is approved. The balance found to be due the Contractor, and noted in said certificate, shall be due and payable. Approval of the retained balance will be made by resolution of the Owner’s Board of Directors within thirty (30) days, unless otherwise agreed to by the parties.

B) Final Payment of Retained Funds - Upon receipt of written notice that the work is ready for final inspection and acceptance, the Contractor, the Architect, and the Owner shall inspect the work. When the work is found to be acceptable under the Agreement, and the Agreement fully performed, including the satisfactory completion of all punch list items, the Architect shall promptly certify such to the Owner, over his own signature. The certification shall state that the work provided for in this Agreement has been completed in accordance with the Contract Documents and is accepted by the Architect under the terms and conditions therefor. The entire balance found to be due the Contractor, and noted in said final certificate, shall be due and payable. Before issuance of the Owner's Letter of Acceptance, the Contractor shall submit evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work has been or will promptly be paid.

CA - 7.00  REPRESENTATIONS

The Contractor shall not extend the credit or faith of the Owner to any other persons or organizations.

CA - 8.00  ASSIGNMENT

The Contractor shall not assign all of his rights or obligations under this Agreement without the express written consent of the Owner. Upon any assignment even though consented to by the Owner, the Contractor shall remain liable for the performance of the work under this Agreement.

CA - 9.00  PARTIAL INVALIDITY

If any provisions of this Agreement are in violation of any statute or rule of law of the State of Iowa, then such provisions shall be deemed null and void to the extent that they may be in violation of law without invalidating the remaining provisions hereof.

CA - 10.00  WAIVER

No waiver of any breach of any one of the agreements, terms conditions or covenants of this Agreement by the Owner shall be deemed or imply or constitute a waiver of any other agreement, term, condition or covenant of this Agreement. The failure of the Owner to insist on strict performance of any
agreement, term, condition or covenant, herein set forth, shall not constitute, or be construed as a waiver of the Owner's rights thereafter to enforce any other default; neither shall such failure to insist upon strict performance be deemed sufficient grounds to enable the Contractor to forego or subvert or otherwise disregard any other agreement, term, condition or covenant of this Agreement.

CA - 11.00 ENTIRE AGREEMENT

The within Agreement, together with the Contract Documents as defined in Article 2.00 herein, constitute the entire agreement of the parties hereto. No modification, change, or alteration of the within Agreement shall be of any legal force or effect unless in writing, signed by all the parties hereto.

CA - 12.00 COUNTERPARTS

This Agreement may be executed in several counterparts and each such counterpart shall be deemed an original.

CA - 13.00 GOVERNING LAW

Venue for any and all legal actions regarding or arising out of the transaction covered herein shall be solely in the District Court in and for Polk County, State of Iowa. This transaction shall be governed by the laws of the state of Iowa.

CA - 14.00 ATTORNEYS' FEES

In the event it becomes necessary for either party to enforce any provisions or breach of this Agreement by commencing litigation, the prevailing party in such action shall be entitled to collect, as part of any judgment entered, its reasonable expert witness and attorneys' fees and costs.

CA - 15.00 NOTICES

All notices, requests, demands and other communications given or to be given under this Agreement shall be in writing. They shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

If to Owner: DMPS Executive Director of Operations

If to Contractor, then to the individual at the address set forth in the signature block below.

Either party may change its address for purposes of notice by giving written notice to the other party in accordance with this paragraph.

CA - 16.00 BONDS

The Contractor shall furnish both a performance bond and a payment bond and shall pay the premium thereon. The performance bond shall guarantee the full performance of the contract.

CA – 17.00 DESIGNATED REPRESENTATIVE

The OWNER will designate a District representative who will be its authorized representative with the CONTRACTOR under this AGREEMENT.
IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written, and shall extend to and bind the parties, their successors, assigns and personal representatives.

DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT

By: ________________________________
President, Board of Directors

ATTEST: ___________________________
Secretary, Board of Directors

_______________________________
Contractor Firm & Address:

_______________________________
Contractor Signature
As recorded in the meeting minutes of the Board of Directors held on _____________, the following is a description of the base bid and alternates proposed by ________________ and accepted by the Board of Directors:

Base Bid:

Alternate

(Contractor Name). bid:

Base Bid: $  
Total Contract Amount: $
1.1 BONDS

A. The Owner shall require the Bidder to whom a Contract is awarded to furnish both Performance and Labor and Material Payment bonds in the amount of one hundred percent, (100%), of the Contract price. Bonds shall cover the faithful performance of the Contract and the payment of all obligations arising thereunder. The Bidder will further provide warranties as required by the specifications or General Conditions.

B. The bonds shall be executed on the forms included with the Contract Documents (forms shall not be removed from the Contract Documents; Bidders shall obtain original copies of the bond forms from the Owner’s Representative). Accompanying each bond form shall be a “Power of Attorney” authorizing the attorney in fact to bind the surety company and certified to include the date of the bond.

C. Performance Bond shall be in the amount of one hundred percent (100%) of the total amount of work covered by this contract. It shall guarantee the faithful performance of the Contractor or manufacturer; and it shall insure the District during the work required by any Contract and for a period of one (1) year from the date of final acceptance of the work, against faulty or improper materials and/or workmanship that may be discovered during that time. If required, warranties extending beyond one years, such as for roofing, shall be as specified in the individual specification sections.

D. Payment Bond shall be in the amount of one hundred percent (100%) of the total amount of work covered by this contract; and shall be in accordance with the law of the State of Iowa to secure the payment of all claims for labor and materials used or consumed in the performance of this Contract.

E. Payment Bonds and Performance Bonds shall include:
   1. Full name and address of Contractor, Surety and Owner
   2. The Contract Date
   3. The exact amount of the Contract
   4. Signature of Contractor
   5. Corporate Seal if applicable
   6. Notarization of Contractor and Surety
   7. Power of Attorney
   8. Local contact for Surety, with name, phone number, and address to which legal notices may be sent.

1.2 BOND COSTS IN BIDS

A. Include all costs for Payment Bonds or Performance Bonds in the bid amounts.
LABOR AND MATERIAL PAYMENT BOND

Bond No. _____________

(This Bond is issued simultaneously with a Performance Bond in favor of the Owner conditioned on the full and timely performance of the Contract.)

KNOW ALL MEN BY THESE PRESENTS that ______________________________ as Principal (the “Principal”), _______________________________, a corporation organized and existing under the laws of the State of _______________________________, and authorized to transact business in the State of Iowa, as Surety (the “Surety”), jointly and severally bind themselves, their heirs, personal representatives, successors, and assigns, to the DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT, 2100 Fleur Drive, Des Moines, Iowa 50321, as Obligee (the “Owner”), for the use and benefit of it and the claimants as defined below, in the principal amount of _______________________________ ($________________) as adjusted by approved change orders (not to exceed 10 percent of the principal amount of this Bond unless expressly approved by the Surety, which approval shall not be unreasonably withheld) and interest as provided by law, for the payment of all amounts which become due under the Contract described below.

The Principal and the Owner have entered into a written Construction Agreement dated ______________________________, 202__, together with related “Contract Documents” as defined therein (all of which are collectively referred to as the “Contract” and incorporated herein by this reference), for the following Project:

__________________________________________________________________________

The condition of this obligation is such that, if the Principal shall at all times promptly make payment of all amounts, claims, or demands lawfully due to all persons, firms, associations, or corporations supplying or furnishing to the Principal or its subcontractors labor or materials, supplies, or equipment which are used, provided, or performed in the prosecution of the work provided for in the Contract and any and all duly authorized modifications of the Contract that may hereafter be made, then this obligation shall be null and void; otherwise, the Surety shall pay the full value of all such claims or demands and shall indemnify and hold the Owner harmless from all payments which the Owner may be required to make under the Contract or applicable law in excess of the Contract price not exceeding the amount of this obligation, together with interest as provided by law, as well as attorneys’ fees and costs incurred by the Owner in the resolution of any claim. All such subcontractors, laborers, and materialmen shall have rights under the within Bond as are set forth in the statutes and laws of the State of Iowa.

Further, each and every claimant, who institutes a lawsuit for compensation or payment under the terms payment under the terms hereof, as part of any court award, shall be entitled to reasonable attorneys’ fees and costs.

The undersigned Surety for value received hereby agrees that no extension of time, change in, addition to, or other modification of the terms of the Contract or work to be performed thereunder, or of the specifications, or of the Contract Documents, shall in any way affect its obligation on this Bond and the Surety hereby waives notice of any such extension of time, change, addition, or modification.
Any notice which any party desires or is required to provide another shall be in writing and shall be effective upon receipt when delivered or transmitted by personal delivery, certified (return receipt) mail, or express mail service to the addresses set forth herein.

IN WITNESS WHEREOF, said Principal and Surety have executed this Bond, this ______ day of _______________________, 20__________________.

ATTEST:

__________________________________________
Principal
By:_______________________________________
Address:__________________________________
(SEAL)

ATTEST:

__________________________________________
(Surety)
By:_______________________________________
Address:__________________________________
(SEAL)

Claims Telephone Number: ______________________
Claims Fax Number:___________________________

The fully executed Bond form must be accompanied by a current Power of Attorney.

END OF DOCUMENT
DES MOINES INDEPENDENT
COMMUNITY SCHOOL DISTRICT
2022 RESTROOM UPGRADES

PERFORMANCE BOND
Bond No. _____________

KNOW ALL MEN BY THESE PRESENTS That __________________________ as Principal (the "Principal"), and __________________________, a corporation organized and existing under the laws of the State of __________________________, and authorized to transact business in the State of Iowa, as Surety (the “Surety”), jointly and severally, bind themselves, their heirs, personal representatives, successors, and assigns to the DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT, 2100 Fleur Drive, Des Moines, Iowa 50321, as Obligee (the “Owner”), in the principal amount of __________________________ ($________________________) as adjusted by approved change orders (not to exceed 10 percent of the principal amount of this Bond unless expressly approved by the Surety, which approval shall not be unreasonably withheld) and interest as provided by law (collectively referred to herein as the “Penal Sum”), for the performance of the Construction Agreement between the Principal and the Owner, dated __________________________, 2022, for the following (Project):

____________________________________________________________________________

together with the obligations of the Contract Documents, as defined in the Construction Agreement, all of which documents are collectively referred to herein as the "Contract" and are incorporated by this reference.

The condition of this obligation is such that, if the Principal shall at all times duly, promptly, and properly perform all the terms and conditions of the Contract and any authorized modifications thereof during the original term of the Contract, any extensions thereof that may be granted by the Owner, and during the term of any guarantee or warranty required under the Contract, the Principal and Surety shall have no obligation under this Bond, otherwise it shall remain in full force and effect.

The Surety for value received agrees that no extension of time, change in, addition to, or other alteration or modification of the terms of the Contract or work to be performed thereunder, or any other forbearance on the part of either the Owner or the Principal to the other shall in any way release or affect the Surety's liability or obligation on this Bond, and the Surety hereby waives notice of any such extension of time, change, addition, modification, alteration, or forbearance.

Whenever the Owner terminates the Contract in accordance with the terms thereof, the Surety shall, within fifteen (15) calendar days after written notice of such termination, notify the Owner in writing of its election to complete the Contract in accordance with its terms, or notify the Owner that the Surety elects not to complete the Contract. If the Surety fails to give the written notice so required within such fifteen (15) calendar day period, then it will be deemed to have elected not to complete the Contract. Should the Surety elect to complete the Contract, then it shall, within fifteen (15) additional calendar days following written notice of such election, obtain a contractor, subject to approval by the Owner in writing, to complete the original Contract in accordance with its terms and conditions and thereafter proceed with the work with due diligence and make available as the work progresses sufficient funds to pay the cost of completion less the balance of the Contract price. The Surety may not engage the Principal to complete the Contract, without the prior written consent of the Owner, which consent may
be withheld in the Owner’s sole discretion. If the Surety elects to complete the Contract, then it shall be entitled to receive the balance of the Contract price, less (i) any amounts paid by the Owner to the Principal; (ii) costs incurred by the Owner in correcting any defective work; (iii) any additional legal, design professional, and other costs incurred by the Owner resulting from the Principal’s default; and (iv) liquidated damages caused by delayed performance or nonperformance of the Principal. Any progress payments, less retainage, due but not paid at the date of termination shall be paid to the Surety so long as the Surety has agreed to indemnify the Owner for the amount thereof and no other claims have been made to such funds by subcontractors or suppliers in accordance with the Contract or applicable law.

In the event the Surety elects not to complete the Contract, the Owner may then have the work completed by such means and in such manner, by contract with or without public bidding, or otherwise, as it may deem advisable. The Surety in such event shall at all times make available, as work progresses under the Contract between the Owner and its new contractor, sufficient funds, not to exceed the Penal Sum, to pay the cost of the completion of the Contract pursuant to its terms, together with the other amounts set forth in (i) through (iv) above, but in no event shall the Surety be responsible for the payment of any sums to the Owner until the Owner has paid in full its total obligation under the terms of the original Contract, plus change orders, less deductions and claims chargeable by law or by the Contract, if any, and less the retainage which will be disbursed as provided by the Contract Documents and applicable law.

The procedures set forth herein shall apply should there be a default and termination or a succession of defaults and terminations in fulfilling the terms and conditions of the work under the original Contract.

In the event there are negotiations between the Principal and/or the Surety and the Owner subsequent to the date of termination, each party shall appoint an authorized representative with authority to represent it during the negotiations. All written communications and official discussions between the parties shall be conducted by these authorized representatives. Any notice which any party desires or is required to provide another shall be in writing and shall be effective upon receipt when delivered or transmitted by personal delivery, certified (return receipt) mail, or express mail service to the addresses set forth herein.

Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work is located and shall be instituted before the expiration of three (3) years from the date on which final payment under the contract is made; provided, however, that this period may be extended by one (1) additional year by the Owner’s giving written notice to the Surety within the three (3) year period of a potential claim. Any judgment recovered hereunder by the Owner shall include interest at the legal rate, together with reasonable attorneys' fees and costs.
No right action shall accrue under this Bond to or for the use of any person or entity other than the Owner or its successors and assigns.

IN WITNESS WHEREOF, the Principal and Surety have signed this Performance Bond as of the __________ day of __________________, 202__.

ATTEST: __________________________________________

Principal

By: __________________________________________

Address: __________________________________________

(SEAL)

___________________________________________

ATTEST: __________________________________________

(Surety)

By: __________________________________________

Address: __________________________________________

(SEAL)

___________________________________________

Claims Telephone Number: ________________________

Claims Fax Number: ________________________________

The fully executed bond form must be accompanied by a current Power of Attorney.
1.1 INSURANCE CERTIFICATES
A. Each Contractor shall provide insurance certificates to the Owner indicating that all required insurance coverage is in force prior to beginning work on the project.
B. Use a standard Insurance Certificate Form such as the "Acord" Form available from your insurance agent. Also include the Owner, the Architect, and their agents, representatives and employees to be added to the original certificate as additional named insurers.

1.2 CONTRACTOR'S LIABILITY INSURANCE
A. The Contractor shall purchase and maintain liability insurance to protect the Owner and the Architect, and their agents, representatives and employees from claims set forth below which may arise out of or result from the Contractor's operations under the contract whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable. The insurance required shall include contractual liability insurance applicable to the Contractor's obligations. Insurance requirements are set forth in the General Conditions, Paragraph GC-25.00.
B. The insurance required shall be primary and non-contributory to any insurance possessed or procured by the Owner and limits of liability shall be not less than those set forth.
C. Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the work.

1.3 PROPERTY INSURANCE
A. The Owner will provide property insurance for losses and damages in excess of $100,000.00 in accordance with the General Conditions, Paragraph 25.03 of the contract documents. The contractor shall be responsible for and pay all losses and damages under $100,000.00.
B. The Owner will provide an endorsement listing the Architect as additional insured under all such policies of insurance.

END OF DOCUMENT
# GENERAL CONDITIONS OF THE CONTRACT

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The Work shall be accomplished in accordance with the Contract Documents which shall be included in this Contract and shall consist of the Invitation to Bid, Instructions to Bidders, Bid Security, Proposal, Notice of Contract Award, Insurance Policies and Certificates, Notice to Proceed, Performance Bond, Labor and Material Payment Bond, Construction Agreement, the General Conditions of the Contract, Supplementary General Conditions, drawings and specifications, tests and engineering data, approved change orders, Contractor’s Requests for Payment, Architect’s Certificates, and all addenda issued by the Owner or Architect prior to the awarding of the Contract.

WORDS, PHRASES, AND OTHER EXPRESSIONS USED IN THESE CONTRACT DOCUMENTS SHALL HAVE MEANINGS AS FOLLOWS:

2.01 “Contract” or “Contract Documents” shall include the items enumerated above under CONTRACT DOCUMENTS.

2.02 “Owner” shall mean the Des Moines Independent Community School District, named and designated as such in the Contract Documents acting through its duly authorized representatives.

2.03 “Contractor” shall mean the corporation, company, partnership, firm, entity, or individual named and designated as such in the Contract Documents which has entered directly into this Contract with the Owner for the performance of the Work covered thereby, and any persons or entities acting on its behalf.

2.04 “Subcontractor” shall mean and refer to a corporation, partnership, entity, or individual having a direct contract with the Contractor or another subcontractor for performing work and/or furnishing labor or material which is incorporated into the Work at the request of the Contractor or other subcontractor.

2.05 “Architect” shall mean the architects or engineers designated, appointed, or otherwise employed or delegated by the Owner, or its duly authorized representatives, acting within the scope of the particular duties entrusted to them in each case.

2.06 "Owner's Representative" shall mean the person(s) designated by the District, acting within the scope of the particular duties entrusted to them, to provide services toward the management and implementation of the Work as the Owner's designated representative.

2.07 “Notice to Proceed” shall be deemed to have been duly served if made in writing and delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if sent by registered or certified mail to the last known business address.

2.08 “The Work” shall mean the equipment, supplies, materials, labor, and services to be furnished under the Contract and the carrying out of all obligations imposed or required by the Contract Documents.
2.09 “The Project” is the total construction designed by the Architect of which the work performed under the Contract Documents may be the whole or a part.

2.10 All time limits stated in the Contract Documents are of the essence of the Contract and must be strictly adhered to.

2.11 The Contract shall be governed by the laws of the State of Iowa.

2.12 The date of Final Completion of a Project is the date when construction is certified by the Architect to be finally completed in accordance with Contract Documents, as modified by any change orders agreed to by the parties and when the Owner has fully accepted the Project for the use for which it was intended. Such date will be set forth on a Letter of Final Acceptance issued by the Owner.

2.13 “Drawings” or “plans” shall mean all (a) graphic and pictorial portions of the Contract furnished by the Owner and/or Architect as a basis for the award of Contract; (b) supplementary drawings furnished by the Owner and/or Architect to clarify and to define in greater detail the intent of the Contract drawings and specifications; (c) drawings furnished by the Owner to the Contractor during the progress of the Work; and (d) engineering data and drawings submitted by the Contractor during the progress of the Work, provided such drawings are acceptable to the Architect.

2.14 “Specifications” are the written technical information concerning materials, components, systems, and equipment as indicated on the drawings or plans and which state the quality, performance, characteristics, and installations to be achieved by application of construction methods.

2.15 “Substantial Completion” is:

2.15.1 Established date on which the Work or designated portions thereof has been sufficiently completed in accordance with the Contract Documents so as permit the Owner to safely and legally occupy or utilize the Work for its intended use, subject only to minor punch list items the absence of completion which does not interfere with the Owner’s intended use of the Project.

2.15.2 as defined in Iowa Code Chapter 26 for purposes of early release of retainage only.

GC - 3.00 ORAL STATEMENTS

It is understood and agreed that the written terms and provisions of the Contract Documents shall supersede all oral statements of representatives of the Owner, and oral statements shall not be effective or be construed as being a part of this Contract.

GC - 4.00 REFERENCE STANDARDS

Reference to the standards of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative standard adopted and published at the date of the Contract Documents unless specifically stated otherwise.

GC - 5.00 ITEMS COVERED BY CONTRACT PRICE
Unless otherwise specifically provided herein, the Contractor shall accept the compensation stated in the Construction Agreement as full payment for furnishing all materials, transportation, apparatus, temporary structures, equipment, services, fuel, energy, light, water, labor, tools and all risks and losses of every kind and description connected with the prosecution of the Work, and all other things necessary for the complete and proper execution of the Work contemplated by or reasonably implied from the Contract Documents, within the time limits indicated therein.

GC – 6.00 EXECUTION, CORRELATION, INTENT, AND INTERPRETATION OF CONTRACT DOCUMENTS AND COMPLETION DATE

6.01 Execution. The Contract Documents shall be signed in multiple copies as directed by the Owner. Within ten (10) days of Notice of Contract Award, the Contractor shall submit to the Owner a minimum of five (5) fully executed original sets of the Construction Agreement; Performance Bond and Labor and Material Payment Bond with original Power of Attorney; and certificates of required insurance coverages. The date of the Contract for purposes of these documents shall be the date of the Notice of Contract Award letter. The Owner will execute the Construction Agreement, assemble all copies, and distribute the Contract Documents. The Contractor shall not commence the Work until he receives the Notice to Proceed.

6.02 Correlation. By submitting the bid, 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.

6.03 Intent. The intention of the Contract Documents is to include all labor and materials, tools, equipment, construction equipment, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work. Materials or work described in words which as applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

The organization of the specifications into divisions, sections, and articles, as the case may be, 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 any trade.

It is intended that even though Work is not covered under any heading, division, section, article, branch, class, or trade of the specifications, it shall nevertheless be supplied if it is required elsewhere in the Contract Documents or is reasonably inferable there from as being necessary to produce the intended results.

The specifications and drawings are intended to supplement but not necessarily duplicate each other/ Any work exhibited in one and not the other shall be executed as if it had been set forth in both, so that the Work will be constructed according to the complete design.

6.04 Interpretation. Should anything necessary for a clear understanding of the Work be omitted from the specifications and drawings, or should the requirements appear to be in conflict, the Contractor shall secure written interpretations or instructions from the
DES MOINES INDEPENDENT
COMMUNITY SCHOOL DISTRICT
2022 RESTROOM UPGRADES

2022 RESTROOM UPGRADES

Architect before proceeding with the Work affected thereby. It is understood and agreed that the Work shall be performed according to the true intent of the Contract Documents.

Where a conflict occurs between or within standards, specifications, and drawings, the more stringent or higher quality requirements shall apply. The precedence of the Construction Documents is in the following sequence:

1. Addenda to the drawings and specifications take precedence over the original Construction Documents.

2. Specifications take precedence over drawings, except in cases of error.

3. In the drawings, the precedence shall be drawings of larger scale over those of smaller scale and noted materials over graphic indications.

4. Any work mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications shall be of like effect as if shown or mentioned in both. The Contractor shall examine the specifications and drawings and check all dimensions and notify the Architect and the Owner of any discrepancies between the specifications and drawings and any deficiencies, omissions, or errors before any work is commenced.

6.05 All work on the Project shall be finally completed within the times indicated in the construction documents.

GC - 7.00 DRAWINGS AND SPECIFICATIONS

7.01 Copies Furnished. Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of drawings and specifications and addenda reasonably necessary for the execution of the Work.

7.02 Ownership of Drawings. All drawings, specifications, and copies thereof furnished by the Architect are the property of the Owner, whether the work for which they are made is executed or not and are not to be used on other work except by written agreement with the Owner.

7.03 Drawings and Specifications Available on the Site. The Contractor shall maintain at the site for the Owner and the Architect one copy of all drawings, specifications, addenda, approved shop drawings, change orders, and other modifications, in good order and marked to record all changes made during construction. The Contractor shall also keep on the site all applicable standards, codes, manufacturer’s or other specifications referenced in the Contract Documents. The drawings, marked to record all changes made during construction, shall be delivered to the Architect for the Owner upon completion of the Work.

7.04 Figured Dimensions to Govern. Dimensions and elevations shown on the drawings shall be accurately followed. Where dimensions are not indicated, Contractor shall immediately request clarification from the Architect so as not to delay the Work and
Contractor shall not proceed with such work until the necessary dimensions have been obtained from the Architect.

7.05 **Contractor to Check Drawings and Schedules.** The Contractor shall check all dimensions, elevations, and quantities shown on the drawings and furnished by the Architect, and shall notify the Architect in a timely manner of any discrepancy between the drawings and the conditions on the ground, or any error or omission in drawings, or in the layout as given by stakes, points, or instructions, which he may discover. Before ordering any material or doing any work, the Contractor shall verify all measurements at the building and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and measurements taken in the field. Any difference which may be found shall be submitted to the Architect in a timely manner for consideration before proceeding with the Work. The Contractor will not be allowed to take advantage of any error or omission in the drawings or Contract Documents. Full instructions will be furnished by the Architect should such error or omission be discovered and the Contractor shall carry out such instructions as if originally specified.

7.06 **Detail Drawings and Instructions.** Upon the contractor’s written report, the Architect shall furnish, within 10 working days, additional instructions by means of drawings or otherwise, necessary for the proper execution of the Work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The Work shall be executed in conformity therewith, and the Contractor shall do no work without proper drawings and instructions.

7.07 **Project Record Drawings.** The Contractor shall maintain a Contract set of drawings at the site with all changes or deviations from the original drawings neatly marked thereon in a contrasting color. The Contractor shall also maintain a Contract set of specifications at the site, noting therein by appropriate section, the names, models, and other distinguishing characteristics of the products actually incorporated into the Work. This set of drawings and specifications shall be updated daily as the job progresses and shall be made available to the Owner and Architect for inspection at all times. Upon completion of the Work and before final payment, this Project Record set of drawings and specifications shall be delivered to the Architect.

7.08 **Contractors’ Review of Drawings, Plans and Specifications.** Contractor’s review of drawings, plans and specifications developed by the Architect and/or the Design Team under this Agreement shall be made in Contractor’s capacity as a contractor and not as a licensed design professional.
8.01 **Shop Drawings.** Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, manufacturer's literature, product data, and any other information which are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor, and which illustrate some portion of the Work. Said drawings will be submitted in a format agreeable to the Owner and Owner’s Representative.

8.02 **Samples.** Samples are physical examples furnished by the Contractor to illustrate materials, finishes, equipment, or workmanship, and to establish standards by which the Work will be judged.

8.03 **Subcontractor.** The Contractor shall require each subcontractor to prepare, stamp with approval, and submit to the Contractor with reasonable promptness and in orderly sequence so as to cause no delay in the Work or in the work of any other subcontractor, all shop drawings and samples on all shop fabricated items and on all matters, required by the Contract Documents or subsequently by the Architect as covered by modifications. Shop drawings and samples will properly identify specified items. At the time of submission, the subcontractor shall inform the Contractor, the Architect and the Owner’s Representative in writing of any deviation in the shop drawings or samples from the requirements of the Contract Documents. Substitutions will be allowed only in accordance with the provisions of Section 36.00 hereinafter.

The Contractor shall also require each subcontractor to prepare and transmit sufficient sets of sepia transparencies, reverse printed, and prints of all shop drawings which are specially drawn for this Project, including detailed fabrication and erection drawings, setting drawings, diagrammatic drawings, material schedules, and samples to the Contractor to meet the Project construction schedule and the subcontractors’ Contract schedule, or shall present, in writing, valid reasons for any delay. Sepias shall not be folded, but shall be rolled and transmitted in a tube suitable for mailing.

All shop drawings for all equipment and/or materials in a given system shall be submitted at one time, each complete set in a separate brochure. Complete maintenance/warranty data are to be submitted to the Contractor for distribution to the Owner’s Representative for review by the Architect and final acceptance by the Owner.

Each sheet of shop drawings shall identify the Project, subcontractor, and fabricator or manufacturer and the date of the drawings. All shop drawings shall be numbered in sequence and each sheet shall indicate the total number of sheets in the set.

The shop drawings shall indicate types, gauges, and finish of all materials. Where a shop coat of paint is required, its brand name, manufacturer's identification number, and type shall be indicated. Sufficient data in each set of shop drawings shall be included to permit a detailed study of the system submitted and its conformance to the Contract Documents and design intent.

The Contractor will review, approve, stamp, and then submit the sepia transparencies, prints, and samples to the Owner’s Representative and Architect for approval with copies.
to the Owner. After review, the Owner’s Representative will then return the sepia transparencies to the Contractor with the Owner’s Representative’s and Architect’s appropriate comments. Those returned for correction shall be corrected and resubmitted. Upon receiving the approved sepia sets from the Owner’s Representative, the Contractor will make requested sets of prints for distribution to appropriate subcontractors, fabricators, manufacturers, and suppliers who require them for coordination of their work.

8.04 Verification. By approving and submitting shop drawings and samples, the Contractor thereby represents that it has determined and verified all field measurements, field construction criteria, dimensions, elevations, quantities, materials, catalog numbers, and similar data, as shown on the drawings and specifications furnished by the Architect and that he has checked and coordinated each shop drawing and sample with the requirements of the Work and of the Contract Documents.

8.05 Architect Review. The Architect will review and approve shop drawings and samples with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Architect’s approval of a separate item shall not indicate approval of an assembly in which the item functions. On the completion of the Work, the Owner’s Representative shall be furnished three corrected copies of all shop or setting drawings showing the as-built condition of the Work. The Owner’s Representative, after the Architect’s review, will furnish one of these copies to the Owner. Architect will keep one copy.

8.06 Corrections. The Contractor shall make any corrections required by the Architect and shall resubmit the required number of corrected copies of shop drawings or new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections requested by the Architect on previous submissions.

8.07 Contractor’s Responsibility. The Architect’s approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing in a separate letter attached to the submittal of such deviation at the time of submittal and the Architect has given written approval to the specific deviation, nor shall the Architect’s approval relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.

8.08 Architect Approval Required. No portion of the Work requiring the submission of a shop drawing or sample shall be commenced until such submittal has been approved by the Architect. All such portions of the Work shall be in accordance with approved shop drawings and samples. All material finishes and samples will be approved at one time. The Contractor shall submit all items requiring approval of finishes, color, material, etc., with sufficient lead time to allow simultaneous consideration and preparation of complete finish Color Schedule. No approvals of single items will be considered.

GC - 9.00 MATERIALS, LABOR, FACILITIES, AND STORAGE
Contractor’s Responsibility. Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, tools, equipment, machinery, transportation, and other facilities necessary for the proper execution and completion of the Work. The Contractor shall provide and pay for all the temporary facilities required to supply all the power, light, water, and heat needed by him and the subcontractors for their work and shall install and maintain all such facilities in such manner as to protect the public and workers and conform with any applicable laws and regulations. If temporary heat and/or protection is required for the expeditious prosecution of the Work and before the permanent heating apparatus is available for use, the temporary heating apparatus shall be installed and operated in such a manner that the finish work and/or construction will not be damaged thereby.

Unless otherwise specified, the Contractor shall pay for all the power, light, and water used by him and the subcontractors, without regard to whether such items are metered by temporary or permanent meters. The cutoff date on permanent meters shall be either the agreed date of full occupancy by the Owner or the date of final acceptance of the Project, whichever shall be the earlier date. Upon completion of the Work, the Contractor shall remove all such temporary facilities from the site.

Materials. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of the highest quality. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials. Samples shall be furnished, when specified, and the work shall be in accordance with those samples which have been approved.

Facilities and Storage. The Contractor shall provide and maintain, in a neat and sanitary condition, adequate temporary toilet facilities for the use of any and all employees engaged on the Work, in strict compliance with the requirements of all applicable codes, regulations, laws, and ordinances. In no event may present toilet facilities of any existing building at the site of the Work be used by employees of the Contractor or subcontractors. Upon completion of the Work, he shall remove all such temporary facilities from the site and disinfect the premises.

The Contractor shall provide suitable temporary facilities and quarters for workmen and shall maintain on premises water-tight storage shed or sheds, tool houses for storage of building materials and tools which may be damaged by weather. The Contractor shall allow space for the erection of sheds and provide similar facilities for storage by subcontractors of their materials and tools. Storage of materials shall be confined to the site. These facilities or quarters shall further provide for protection against theft and damage of building materials and tools. Upon completion of the Work, the Contractor shall remove all such temporary facilities from the site.

The Contractor shall provide adequate, weatherproofed, heated, and well-lighted office space at the site of the Work, for the use of the Architect, Owner’s Representative, and the Owner. The Contractor shall also provide telephone service at such office, which shall be available for the use of the Architect, Owner’s Representative, and the Owner,
without charge, except for toll calls. Requirements of the office space are as listed in Section 01500 paragraph 1.26.

All of the foregoing facilities shall be of a quality and placed in locations acceptable to the Owner and Owner’s Representative.

9.04 Salvage of Materials. Owner reserves the right to salvage any and all materials, equipment, furnishings, and other elements to be removed from the site regardless if such removal is indicated in the plans, specifications, drawings or other Contract Documents.

GC - 10.00 EMPLOYEES

10.00A Qualifications. The Contractor and his subcontractors shall at all times enforce strict discipline and good order among his employees, and shall not employ on the Work any person considered by the Architect, Owner or Owner’s Representative to be unfit or not skilled in the work assigned. The Contractor shall also keep its employees and those of its subcontractor from socializing upon the site of the Work after normal work hours and from fraternizing at any time with staff, students, parents, and other persons who are at the school or the site of the Work.

10.00B No Contractor shall allow any of its employees listed on the Iowa Sex Offender Registry to perform work on District Projects. The District has interpreted an "unfit employee" for purposes of this Contract to be any employee currently listed on the Iowa Sex Offender Registry. The Contractor shall fill out and sign the “Acknowledgement and Certification” form located behind this section prior to executing the Agreement.

10.00C Employee background checks are the responsibility of the Contractor and his subcontractors.

10.01 Drug-Free Zone. The Des Moines Independent Community School District is a drug-free zone. In furtherance of this standard, the Contractor shall establish and maintain a safe and efficient work environment for all employees, free from the effects of alcohol, controlled substances, and illicit drugs. The manufacture, distribution, dispensing, possession, or use of alcohol, controlled substances, and illicit drugs is prohibited on or adjacent to the Project site and all of the Owner’s property at all times. Illicit drug use is the use of illegal drugs and the abuse of alcohol and other drugs, including anabolic steroids. Controlled substances are drugs specifically identified and regulated under state or federal law and include, but are not limited to, opiates, narcotics, cocaine, amphetamines and other stimulants, depressants, hallucinogenic substances, and marijuana. The Contractor will strictly enforce this prohibition among his own employees and his subcontractors and their employees at all times. Employees who violate these prohibitions will be subject to disciplinary action by their employers up to and including termination and may be denied access to the site of the Work. Violation of this provision shall also constitute sufficient grounds for termination of the Contract or any subcontract without damages or penalty to the Owner.

10.02 No Smoking. Statewide smoking ban – Iowa Code Section 142D.3
1. Smoking now is prohibited in all areas of school buildings, including nonpublic schools, as well as all school grounds, parking lots, athletic fields, including inside any vehicle located on school grounds or school parking lots. No longer can a school designate a smoking area.

2. Smoking is prohibited inside all publicly owned vehicles, even if parked in a private drive.

3. Smoking is prohibited inside a private vehicle that is parked in a school parking lot.

The Iowa Department of Public Health (DPH) is in charge of writing administrative rules for the enforcement of this new law. DPH states that it will also provide sample “no smoking” signs that schools may download for free.

4. In addition, The use of tobacco and nicotine products; including, but not limited to, cigarettes, nicotine chew, snus, dissolvas, electronic cigarettes, any electronic or other devices that can be used to deliver nicotine to the person inhaling from the device, any other look-alike products in which the original product would include tobacco and/or nicotine and/or other nicotine products that are not approved by the Federal Drug Administration for tobacco cessation; on District property; including in District buildings, on District grounds, in District transportation vehicles, or at any District activity; is prohibited.

10.03 Equal Opportunity Policy. Because it is the desire of the Des Moines Independent Community School District to encourage equal employment policies, all Contractors, including suppliers supplying goods or services to the School District, are expected to comply with the spirit of equal opportunity employment, as well as with the letter of all applicable statutes and regulations. Compliance shall require Contractor not to discriminate and, in addition, to take reasonable affirmative action to ensure that members of minority groups are effectively accorded equal employment opportunities.

10.04 Responsibility for Employees. The Contractor shall be responsible to the Owner for the acts and omissions of all its employees. The Contractor shall further be responsible for the acts and omissions of all subcontractors, their agents and employees, and all other persons acting on behalf of the Contractor or subcontractors as set forth herein.

GC - 11.00 Royalties and Patents. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and shall hold the Owner harmless from loss on account thereof. If the Contractor has information that the process or article specified is an infringement of a patent, it shall be responsible for such loss unless it promptly gives such information to the Architect and Owner’s Representative.
SURVEYS, PERMITS, LAWS, REGULATIONS, AND TAXES

12.01 **Surveys.** The Contractor shall obtain from the Architect a copy of all surveys provided by the Owner describing property lines, elevation benchmarks, physical characteristics, and utility locations.

12.02 **Permits and Licenses.** General building permit will be secured and paid for by the Owner. Any other permits, governmental fees, and licenses necessary for the proper execution and completion of the Work shall be secured and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured, maintained and paid for by the Owner, unless otherwise specified. The Owner will negotiate and provide for all electrical, gas, water, and sewer mains for Contractor's connections. The Contractor is to arrange with the utility company for actual connection, make necessary connections, and pay for all inspection fees and permits in connection therewith as required by any governmental agency. In addition, the Contractor will furnish any material or items as required to complete all connections. The Contractor shall call for all required government inspections on a timely basis.

12.03 **Laws and Regulations.** The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, it shall promptly notify the Architect and the Owner’s Representative in writing and any necessary changes shall be adjusted as provided in the Contract for changes in the Work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Architect and the Owner’s Representative, it shall bear all costs arising therefrom and to correct same.

12.04 **Taxes.** The Owner is exempt from sales and use taxes (Section 423.3(31) Code of Iowa). The Owner will provide exemption certificates to Contractors for materials to be incorporated into the Project.

The Contractor is subject to payment of Iowa income tax on income from this work in amounts prescribed by law. If the Contractor is a non-Iowa partnership, individual, association, or corporation, it shall furnish evidence prior to the execution of the Contract that bond or securities have been posted with the Iowa State Department of Revenue in the amount required by law.

BENCHMARKS, MONUMENTS, STAKES, AND MEASUREMENTS

13.01 **Benchmarks.** The Contractor shall properly stake out the Work and provide and rigidly set benchmarks and batter boards as necessary for the proper performance of the Work. The Contractor shall remain responsible for their maintenance and their accuracy. A permanent benchmark, approved as to location and type by the Architect, from which all grades are to be taken, shall be established near the site of the Work by the Contractor. From this benchmark the Contractor shall ascertain all grades and levels to the building as needed. The Contract Documents shall include all necessary information to establish the benchmark.
13.02 Preservation of Monuments and Stakes. The Contractor shall carefully preserve all monuments, benchmarks, property markers, reference points, and stakes. In case of his destruction thereof, the Contractor will be charged with the expense of replacement and shall be responsible for any mistake or loss of time that may be caused. Permanent monuments or benchmarks which must be removed or disturbed shall be protected until properly referenced for relocation. The Contractor shall furnish materials and assistance for the proper replacement of such monuments or benchmarks.

13.03 Measurements. Before ordering any material or performing any work, the Contractor shall verify all measurements at the Project and shall be responsible for the accuracy of same. No extra charge or compensation shall be allowed because of any difference between actual dimensions and the measurements indicated in the drawings or specifications. Any discrepancies shall be submitted to the Architect, Owner and Owner’s Representative for consideration before proceeding with the Work.

GC - 14.00 PROTECTION OF WORK AND PROPERTY

The Contractor shall take all necessary precautions for the safety of, and shall provide all necessary protection to prevent damage, injury, or loss to all employees on the Project and all other persons who may be affected thereby; 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 its subcontractors; and 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.

The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Administration (OSHA) and all laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. It shall erect and maintain all necessary safeguards for the safety and protection of workmen, Owners, and users of adjacent facilities and the public and shall post danger signs and other warnings against hazards created by such features of construction as protruding nails, hoists, well holes, elevator shafts, hatchways, scaffolding, window openings, stairways, excavations, and falling materials; and 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 in writing by the Contractor to the Owner’s Representative.

The Contractor is hereby notified that some or all of the buildings covered by this Construction Agreement may contain lead-based paint. Some or all of the buildings covered by this Construction Agreement may be considered "targeted housing" as that term is used by the United States Environmental Protection Agency ("EPA") and the Iowa Department of Public Health ("IDPH"). The scope of work described herein is not "lead abatement" as that term is used by the EPA and IDPH in that the activities included are not designed to permanently eliminate lead-based paint hazards, but are designed to repair, restore or remodel a structure even though the activities may incidentally result in a reduction or elimination of lead-based hazards.

The Contractor is solely and fully responsible for the compliance with all applicable law and regulations regarding lead-based paint, including but not limited to those of EPA, IDPH and OSHA.
The Contractor shall be liable for and shall promptly repair, remedy, indemnify, and pay for all damage or loss to any person or property caused in whole or in part by the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, except damage or loss proximately caused by faulty drawings or specifications, or to the acts or omissions of the Owner, Owner’s Representative, or Architect and not attributable to any fault or negligence of the Contractor.

In an emergency affecting the safety of life or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner’s Representative, Owner or Architect, is hereby permitted to act, at his discretion, to prevent such threatened loss or injury; and he shall so act, without appeal, if so authorized or instructed. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement. Notification of and report of such emergencies shall be made immediately to the Owner’s Representative, Owner and Architect.

**GC - 15.00 ACCESS TO WORK**

15.01 **Access.** The Architect, Owner’s Representative, Owner, and their representatives shall at all times have access to the Work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access so that the Architect and Owner’s Representative may perform their functions under the Contract Documents.

15.02 **Inspection.** If the specifications, the Architect’s instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Architect and Owner’s Representative timely notice of its readiness for checking by the Architect or inspection by another authority, and if the inspection is by another authority, of the date fixed for such inspection. All required certificates of inspection shall be secured by the Contractor. If any work should be covered up without approval or consent of the Architect, it must, if required by the Architect, be uncovered for examination at the Contractor’s expense.

Re-examination of questioned work may be ordered by the Owner through the Owner’s Representative, and if so ordered, the work must be uncovered by the Contractor. If work is found to be in accordance with the Contract Documents, the Owner shall pay the cost of re-examination and replacement. If such work is found not to be in accordance with the Contract Documents, the Contractor shall pay such cost.

15.03 **Testing.** Materials incorporated into the Project will be subject to routine tests as required to ensure their compliance with the specifications. Such tests may include, but shall not necessarily be restricted to, the following: Concrete: primary mix design, slump tests, cylinder compressions tests, and air entrainment tests; Steel: tensile tests; Welds: field inspection and x-ray examination; Soils: sub-soil investigation, physical analysis, and compaction tests; Asphalt pavement: physical analysis and compaction tests; and Roofing-Samples cut from in-place built-up roof.

Any other basic materials for which standard laboratory test procedures have been established may also be included if doubt as to their quality should arise.
Any testing of the above nature will be done at the discretion of the Owner who will bear all costs, unless otherwise provided in the Contract Documents. The Contractor shall be held responsible for providing samples of sufficient size for test purposes and for cooperating with the Owner or his representative in obtaining and preparing samples for tests. All tests will be in accordance with standard test procedures and will be performed by persons or firms selected by the Owner.

GC - 16.00 CONTRACTOR’S SUPERINTENDENCE AND SUPERVISION

During the progress of the Work, the Contractor shall ensure that a competent superintendent and any necessary assistants, all satisfactory to the Architect, Owner and the Owner’s Representative, are on the Project site at all times while work is in progress. The superintendent shall not be changed by the Contractor except with the consent of the Architect, Owner and Owner’s Representative, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in its employ. The superintendent shall represent the Contractor in its absence, and all directions given to the superintendent shall be as binding as if given to the Contractor. The Architect, Owner and Owner’s Representative shall not be responsible for the acts or omissions of the superintendent or the superintendent’s assistants.

The Contractor shall provide full-time, qualified, and efficient supervision of the Work, using competent skill and attention. It shall direct, schedule, and coordinate the Work. It is responsible for determining and supervising all temporary and permanent erection and construction sequences, techniques, means, or methods. It shall coordinate the Work to ensure that all parts fit together properly and in accordance with the Contract Documents. It shall carefully study and compare all Contract Documents and other instructions and shall at once report to the Owner’s Representative any error, inconsistency, or omission which he may discover.

The superintendent shall see that the Work is carried out in accordance with the Contract Documents and in a thorough and first-class manner in every respect. The Contractor shall provide engineering, surveying, and coordination to accurately establish all lines, levels, and marks necessary to facilitate the operations of all concerned in the Contractor’s work. It shall lay out the Work in a manner satisfactory to the Architect, making permanent records of all lines and levels required for excavation, grading, and foundations, and for all other parts of the work. It shall determine the commencement and certify the proper completion of the various stages of construction.

The Contractor shall arrange for the foreman of each subcontractor (mechanical, electrical, masonry, plastering, painting, etc.) on the job to meet with the Owner’s Representative and the Architect at the job prior to any work being started by this particular subcontractor so that all phases of the subcontractor’s work can be thoroughly discussed and the quality of materials and workmanship expected can be completely understood and agreed upon.
Field Order Request. The Owner may, at any time, by a written FOR (Field Order Request) directed through the Architect and Owner’s Representative, without notice to the sureties and without invalidating the Contract, make changes in the drawings and/or specifications of this Contract within the general scope thereof; order extra work; or make changes by altering, adding to, or deducting from the Work. If such changes cause an increase or decrease in Contract amount, an equitable adjustment shall be made and the Contract shall be modified in writing accordingly. Any claim of the Contractor for adjustment under this clause must be asserted in writing within ten (10) days from the date of receipt by the Contractor of the notification of change. No FOR or other form of order or directive by the Owner, Owner’s Representative or Architect requiring additional compensable work to be performed, which causes the aggregate amount payable under the Contract Documents to exceed the amount appropriated for the original Construction Agreement shall be issued unless the Contractor is given written assurance by the Owner that lawful appropriations to cover the costs of the additional work have been made.

Any change or aggregate of changes which causes an increase or decrease greater than 15% of the Contract amount, shall be approved by the Board of Directors in writing.

Approvals. Field orders are to be approved by the Chief Operations Officer, the Architect and the Owner’s Representative. Refer to Section 01028 “Change Procedures” for the requirements associated with documenting Field Order Requests.

Minor Changes. In giving instructions, the Architects shall have authority to make minor changes in the Work, which do not involve extra cost, and which are not inconsistent with the purposes of the building or the Owner’s intent. Architect shall immediately notify Owner and Owner’s Representative in writing of any authorized minor changes in the Work. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from the Owner and Owner’s Representative signed or countersigned by the Architect, or a written order from the Architect stating that the Owner and Owner’s Representative has authorized the extra work or change. No claim for an addition to the Contract sum shall be valid unless ordered or authorized in the manner set forth in this section.

Price Differential. The cost or credit resulting from a change in the Work shall be determined in one or more of the following ways:

a. By estimate, with a detailed cost breakdown as set forth in subparagraph c. below, and acceptance in a lump sum, with a mark-up to the Owner, for the Contractor and all affected subcontractors as outlined in Section 01028 “Change Procedures”.

b. By unit prices named in the Contract or subsequently agreed upon.
c. If the parties are unable to agree on one of the above methods, then the amount shall be determined by force account under the following formula:

i. The actual cost of all direct labor performed (including forepersons employed continuously on the Work, but not the salary, or any part thereof, of the Contractor’s superintendent) and the actual materials furnished for and used in such work, less all available cash, trade, or other discounts;

ii. Rental for the use of such items of equipment as have an individual value in excess of One Thousand Dollars ($1,000); provided that the amount of such rental charge and the length of time and probable cost of the use of such equipment shall have been authorized in writing by the Owner and the Owner’s Representative;

iii. All proportionate sums paid for royalties, permits, and inspection fees;

iv. All proportionate premiums for Public Liability Insurance, Worker’s Compensation, and other proper and necessary insurance, as well as all applicable payroll taxes;

v. Either a predetermined lump sum, fixed fee, or a negotiated percentage fee which fee shall be applied to the total of paragraphs i., ii., and iii. only, and shall constitute full compensation to the Contractor for all costs and expenses, including all overhead and profit, which are not otherwise enumerated above.

vi. The Contractor shall keep and present, in such manner as the Owner and Owner’s Representative may direct, an accurate accounting of all of the foregoing costs, together with all supporting vouchers and other documentation, all subject to audit by the Owner.

GC - 18.00 CLAIMS FOR EXTRA COST OR ADDITIONAL TIME

18.01 Claims for Extra Cost or Time. If the Contractor claims that any instructions by drawings or otherwise, after the date of the Contract, involve extra costs under this Contract which were not included in the original bid, or requires an extension of the Contract time, he shall give the Owner, Architect and Owner’s Representative written notice thereof no later than seven (7) calendar days after the receipt of such instructions, and in any event before proceeding to execute the Work, except in an emergency endangering life or property, and the procedure shall then be as provided for changes in the Work. No such claim shall be valid unless so made. Any change in the Contract amount or Contract time must be authorized by change order. Contractor must list all claims on each Pay Application submitted.

18.02 Delays and Extensions of Time. If the Contractor is delayed at any time in the commencement or progress of the critical path of the Work by any act or neglect of the Owner, Owner’s Representative or the Architect, or by any employee of each, or by any
separate Contractor employed by the Owner, or by changes ordered in the Work, or by unavoidable casualties beyond the Contractor’s control which Contractor could not have avoided by the exercise of diligence, or by any cause which the Owner determines may justify the delay, then the completion date shall be extended in writing by Owner for such reasonable time as the Owner may determine. A time extension shall be Contractor’s sole remedy and compensation for all such delays.

Extension of the Contract completion time will be considered for delays due to weather conditions only when such conditions have had a material, adverse impact upon the critical path of the Construction Progress Schedule, are more unusually severe and extended than could have reasonably been anticipated based upon normal conditions for the relevant period of time, and only if a request for such an extension of time is received within seven (7) days of the first date of each delay. Actual adverse weather delay days must prevent work on critical activities for fifty percent (50%) or more of the Contractor’s scheduled work day. Determination of extension shall be made only after analyzing the ten-year average of data from NOAA and other sources for time period being claimed. Actual days over and above this ten-year average will be considered for time extension.

All requests for extension of time shall be subject to the Owner's approval and shall be made in writing to the Owner’s Representative no more than seven (7) days after the occurrence causing the delay; otherwise they shall be waived. Any request for extension of time for a change in the Work or for any occurrence allegedly causing a delay as provided for herein must be substantiated by demonstrating the effect of the change or occurrence on the critical path of the Construction Progress Schedule.

If no schedule or agreement is made stating the dates upon which written interpretations or detail drawings shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations or drawings until fifteen (15) days after demand is made for them, and not then unless such claim is reasonable.

Should the time for completion of the Contract be extended, the Owner reserves the right to occupy any part of the structure upon written notice to the Contractor from the Owner’s Representative, but only after the Architect and Owner’s Representative have made a thorough inspection accompanied by the Contractor’s superintendent to note any defects in workmanship or materials which are the responsibility of the Contractor. Any such partial occupancy shall not be deemed a waiver of any provision for liquidated damages for delay in substantial or final completion, as applicable.

When the whole or a portion of the Work is suspended for any reason, each Contractor shall properly cover over, secure, and protect all work as may be susceptible to damage from any cause.

This Article does not exclude the recovery of damages by the Owner for delay under other provisions of the Contract Documents.

GC - 19.00  CHANGED CONDITIONS
19.01 Changed Conditions. The Contractor shall promptly, and before such conditions are disturbed, notify the Owner, Architect and Owner’s Representative in writing of: (1) sub-surface or latent physical conditions at the site differing materially from those indicated in the Contract Documents, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. The Owner, Owner’s Representative and the Architect shall promptly investigate the conditions, and if the Owner finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or the time required for, performance of the Work, an equitable adjustment shall be made and the Contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless it has given notice as above required.

19.02 Asbestos and Hazardous Materials. If the Contractor, Architect or Owner’s Representative encounter or otherwise identify or suspect asbestos, asbestos-containing material, hazardous materials, except for lead-based paint, which is addressed in GC Article 14.00, or other unusual or unexpected conditions, Contractor, Architect or Owner’s Representative shall immediately notify the Owner and shall not continue work on the Project until authorized by Owner in writing.

GC - 20.00 CORRECTION OF WORK

20.01 Correction of Work Before and After Completion. The Architect, Owner and Owner’s Representative have the authority to reject work which is defective or does not conform to the Contract Documents. The Contractor, following written demand from the Owner’s Representative, shall promptly correct all work rejected by the Architect, Owner’s Representative or Owner as defective or as failing to conform to the Contract Documents whether observed before or after final completion and whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Architect’s, Owner’s Representative’s and/or Owner’s consultant’s additional services. If the Contractor proceeds to build in or cover the item which has been rejected, it shall be totally responsible for the cost of removal and replacement of said item and removal and replacement of all necessary work surrounding or covering the item in order to produce a first-class job.

20.02 Tests to Determine Conformance. Whenever in the opinion of the Architect, Owner’s Representative or the Owner, tests are essential to assure the professional evaluation of the Work which is subject to being rejected or condemned, the necessary number of tests will be performed by the consultants designated by the Owner. All parties to the Contract will comply with the methods and extent of the corrections submitted in writing to the Owner, Architect and the Owner’s Representative by the designated consultant. The cost of the tests will become the Contractor’s responsibility when corrections of any nature are recommended by the consultant to the investigated work; otherwise, the Owner will pay for all tests performed. Should such special testing, inspection, or approval be caused by the Contractor’s failure to follow the requirements of the Contract Documents or of required tests under GC-15.03, Testing, indicating conditions not in
conformance with the Contract Documents, the costs of such additional testing, inspection, or approval shall be borne by the Contractor, regardless of the results.

20.03 Removal of Rejected Work. The Contractor shall promptly remove from the premises all work rejected by the Architect or Owner as failing to conform to the Contract Documents whether physically in place or not. Thereafter, the Contractor shall promptly replace and re-execute such work in accordance with the Contract and without expense to the Owner. The Contractor shall further bear the expense of making good all work of other subcontractors found to be defective or destroyed or damaged by such removal or replacement.

If the Contractor does not remove such rejected work within a reasonable time, fixed by written notice from the Owner through the Owner’s Representative, the Owner may remove it and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten (10) days’ time thereafter, the Owner may, upon ten (10) days’ written notice, sell such materials at auction or at private sale. In such case, the Owner shall account to the Contractor for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor, including compensation for additional Architect or consultant services. If the net proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to 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.

20.04 Correction of Work After Final Payment. Neither the final estimate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, it shall remedy any defects due thereto and pay for any damage to other work or property resulting therefrom, which shall appear within a period of one (1) year from the date of final completion and acceptance. This warranty shall be in addition to and not in lieu of all other remedies available to the Owner.

20.05 Failure to Correct the Work. If the Contractor fails to correct such defective or nonconforming work, the Owner may correct it and otherwise proceed against the Contractor for the cost thereof in accordance with the provisions of these General Conditions.

20.06 Deductions for Uncorrected Work. If the Owner deems it inexpedient to correct work that has been damaged or is defective or has not been completed in accordance with the Contract Documents, an appropriate deduction from the Contract price shall be made and reflected by a change order, or, if the amount is determined after final payment, it shall be paid by the Contractor.

20.07 Additional Obligations. The obligations of the Contractor to correct the Work shall be in addition to, and not in limitation of, any other obligations imposed upon him by law, special guarantees, warranties, or other rights of the Owner.

GC - 21.00 OWNER'S RIGHT TO CARRY OUT WORK
If the Contractor should neglect to prosecute the Work properly or fail to perform any provision of this Contract, the Owner, after three (3) working days’ written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the reasonable cost thereof from the payment then or thereafter due the Contractor. In the event such work is performed by the Owner, the Owner’s employees, or by persons other than the Contractor at the Owner’s request, the Owner shall not be liable to the Contractor for inconvenience expense or subsequent cost of removal of such work. The amount to be deducted as cost of doing the Work shall include the cost of the Architect’s additional services made necessary by such default. 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.

GC - 22.00  OWNER’S RIGHT TO TERMINATE CONTRACT

22.01  With Cause. If the Contractor should be adjudged a bankrupt; or if it should make a general assignment for the benefit of his creditors without approval of the Owner; or if a receiver should be appointed on account of his insolvency; or if it should refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers, competent supervision and superintendence of the Work, proper materials, or competent management of the Project; or if it should fail to make prompt payment to subcontractors or for material or labor; or disregard laws, ordinances, or the instructions of the Architect or Owner; or otherwise be guilty of a material violation of any provision of the Contract; then the Owner, when in its sole opinion sufficient cause exists to justify such action, may, without prejudice to any other 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 premises and of all materials, tools, and appliances thereon and finish the Work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finally completed and accepted by the Owner. If the unpaid balance of the Contract sum shall exceed the expense of completing the Work, including compensation for additional architectural, managerial, consultant, and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided, and the damages incurred through the Contractor’s default, shall be determined by the Owner.

22.02  Without Cause. Should conditions arise which in the Owner’s opinion make it necessary or advisable to discontinue work under the Contract Documents, the Owner may terminate the Contract in whole or in part without cause or fault by the Contractor by giving seven (7) calendar days’ written notice to the Contractor. The notice shall specify the date and extent to which the Contract is terminated. Upon any such termination, the Owner shall take possession of the site and all or any part of the materials and equipment delivered or en route to the site. In the event of termination under this paragraph 22.02, the Contractor shall be equitably paid for all work properly completed, based upon the approved Schedules of Values.

GC - 23.00  PAYMENT
23.01 **Schedule of Values.** Payments will be made on the valuation of the Work done. Before any Request for Payment will be considered, the Contractor shall submit to the Owner’s Representative a complete, itemized schedule of the values of the various parts of the Work, aggregating the total sum of the Contract and separating material costs from other costs. Such schedule shall include as costs the material costs of all subcontractors under such Contractor and the costs of all materials to be taken from the Contractor’s or subcontractors’ own stocks of material. The schedule shall be submitted on forms supplied by the Owner’s Representative and supported by such evidence as to its correctness as the Owner’s Representative, Architect or the Owner may direct. A separate line item shall be included in the schedule of values for overhead and profit. This schedule will be used for the estimates and payments provided for in these General Conditions. Along with such schedule the Contractor shall submit a schedule of values of estimated monthly application amounts for the course of the Work to assist the Owner in arranging payment.

23.02 **Payments to Contractors.** Payment to the Contractor will be made by the Owner from cash on hand from such sources as may be legally available, and from the proceeds of the Statewide Sales Tax for school infrastructure imposed by the State and authorized by the electors of the Des Moines Independent Community School District by it’s most current Revenue Purpose Statement. Payment shall be made to the Contractor based on monthly estimates in amounts equal to ninety-five percent (95%) of the Contract value of the Work completed, including materials and equipment delivered to the job during the preceding calendar month and will be based upon an Application for Payment prepared by the Contractor, subject to the approval of the Architect. One (1) copy of the Application for Payment shall be filed with the Owner’s Representative. The Architect and Owner’s Representative will certify to the Owner for payment the accuracy of each approved Application for Payment on or before eleven days prior to a regularly scheduled board meeting and within 7 working days. Such monthly payments shall in no way be construed as an act of acceptance for any part of the Work partially or totally completed. It is the policy of the Board of Directors of the Owner to schedule Certificates of Payment and accounting times to coincide with the regular meetings of the Board and to pay Contractor no more often than once per month. The Owner reserves the right to withhold payments at any time regardless of the Architect’s or Owner’s Representative’s recommendations.

The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the Project or not, will pass to the Owner upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests, or encumbrances; and that no work, materials, or equipment covered by a Request for Payment will have been acquired by the Contractor or by any other person performing the 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. This provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments
have been made or the restoration of any damaged work or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Contract.

23.03 **Document Submission.** Contractor shall be responsible for submitting all required Contract Documents and Applications for Payment in forms acceptable to the Owner, including but not limited to, electronic submission.

23.04 **Applications for Payment.** No Application for Payment will be submitted to the Owner until and unless the Architect and Owner’s Representative have certified it. No approval of a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the Owner shall constitute an acceptance of any work not completed in accordance with the Contract Documents.

23.05 **Payments Withheld.** The Owner may withhold payment or the Architect may decline to approve an Application for Payment in whole or in part, or the Architect may withhold or nullify the whole or any part of any Application previously issued, because of subsequently discovered evidence or subsequent inspections, for such an amount or to such extent as may be necessary in the opinion of either to protect the Owner from loss on account of:

a. Defective work not remedied;
b. A reasonable doubt that the Contract can be completed for the balance then unpaid;
c. Damage to another Contractor;
d. Failure of the Contractor to prosecute any portion of the Work in a timely manner or in compliance with any approved schedules;
e. Failure of the Contractor to submit on a timely basis any documentation required by the Contract Documents, including, without limitation, monthly progress reports, schedule of values, potential claims or request for approval of subcontractors.

**GC - 24.00 CONSTRUCTION SCHEDULE AND PROGRESS REPORTS**

All time limits stated in the Contract Documents are of the essence of the Contract.

All work on the Project shall be finally completed within the times indicated in the Construction Documents.

The Contractor shall submit, within ten (10) calendar days after the date of the Notice of Contract Award in a format acceptable to the Owner, a Preliminary Construction Schedule for the Project. This schedule shall start with the date of the Notice of Contract Award, and the completion date shall be a date which will enable the Owner to accept the Work on the date specified in the Construction Agreement.

Contractor shall submit a detailed Construction Progress Schedule prior to the first application for payment. The schedule shall portray fully a timetable representing the various elements in the schedule of values and shall provide for the expeditious and practicable execution of the Work. The time shown between the starting and completion dates of the various elements within the schedule shall represent
one hundred percent (100%) completion of each element. The detailed Construction Progress Schedule shall indicate the critical path of the Work. This schedule shall be revised monthly during the progress of the Work. Monthly updates of the schedule shall be required as a Condition of Approval for the Contractor’s Application for Payment. Additional detailed schedules of separate elements of the Work may be requested at the Owner’s discretion.

In addition, the Contractor shall submit with the Request for Payment monthly progress reports. Basically, these reports shall reflect the Contractor’s “work in place” progress and will be certified by the Contractor or its superintendent as to the date and contents of such “work in place” progress report. If requested by the Owner, the monthly progress reports shall also include representative photographs of the actual work in place. Such reports shall depict progress and percentage of completion, consistent with the values and amounts contained on the counterpart Request for Payment. The subcontractors shall be supplied copies of the Contractor’s approved schedule. These subcontractors shall develop a similar schedule based on their respective work. Failure to submit an approved progress schedule or monthly progress report shall be deemed cause to reject Requests for Payment.

The Contractor shall schedule all work so as to reduce to a minimum any disruption in the use of the existing facilities and interruptions of utility service of any type. Where electrical or mechanical work performed under this Contract will necessitate interruptions of service to existing facilities, the Contractor shall furnish and install temporary service to such facilities or perform such work at such times when said existing utilities are not in normal use. This Contractor shall bear the cost of all overtime or inconvenience resulting therefrom.

25.00 INSURANCE

The Contractor shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the Contractor’s operations under the Contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. All such insurance shall be subject to the approval of the Owner for adequacy of protection, and shall include a provision preventing cancellation without thirty (30) days’ prior notice to the Owner in writing.

25.01 Liability Insurance Requirements. The Contractor shall procure and maintain, at its own expense, until final completion and acceptance by the Owner, liability insurance as hereinafter specified. The liability insurance required is as follows:

a. Commercial General Liability Insurance. Contractor’s General Public Liability and Property Damage Insurance issued to the Contractor and protecting it from all claims for personal injury, including death and all claims for destruction of or damage to property arising out of or in connection with any operations under his Contract, whether such operations be by himself or by a subcontractor under him, or anyone directly or indirectly employed by the Contractor or by a subcontractor under him, or by anyone for whose acts any of them may be liable.

All such insurance shall be written with a limit of liability of not less than $1,000,000 for all damages arising out of one occurrence for bodily injury, including death, and property damage. The General Liability policy should have a general aggregate limit of $2,000,000 for all damages and a products completed aggregate of $2,000,000
for all damages. The policy should be endorsed to provide the designated construction Project general aggregate endorsement showing the address of the Project covered by this agreement.

All such insurance shall be written on a comprehensive policy form and shall specifically cover all blasting operations, elevators, products, completed operations, explosions, collapse, subsidence, and underground damage. Certificates evidencing the issuance of such insurance, addressed to the Owner, shall be filed with the Owner and Owner’s Representative within ten (10) days after the date of the Notice of Contract Award.

b. The policy shall include the Owner and Owner’s Representative as an additional insured. The insurer shall give the Owner and Owner’s Representative notification of any cancellation or termination by refusal to renew the policy or of any change in coverage of the policy in the manner provided by law. If no such notification is provided by law, the insurer shall give the Owner and the Owner’s Representative at least thirty (30) days’ prior written notification of any cancellation or termination by refusal to renew the policy or of any change in coverage of the policy.

25.02 Worker’s Compensation Insurance. The Contractor shall maintain at his own expense, until completion of the Work and Final Acceptance thereof by the Owner, Worker’s Compensation Insurance, including occupational disease provisions, covering the obligations of the Contractor in accordance with the provisions of the laws of the State of Iowa. The Contractor shall furnish the Owner with a certificate giving evidence that the Contractor is covered by the Worker’s Compensation Insurance herein required, each certificate specifically stating that such insurance includes occupational disease provisions. All such certificates shall be furnished within ten (10) days after the date of the Notice of Award. This policy should also include Employer’s Liability Insurance with minimum limits of $500,000 each accident for bodily injury, $500,000 each accident for bodily injury by disease, and $500,000 policy limit for bodily injury by disease.

25.03 Property Insurance. The Owner shall pay for and maintain Property Insurance, covering property of every kind and description to be incorporated into the Work, including materials and supplies, used or to be used, as part of or incidental to the construction operations. The insurance shall exclude the Contractor’s and its subcontractors’ equipment, tools, and machinery, which are not incorporated into the Work. The Property insurance shall be written under a ‘Special Cause of Loss Form’ to include perils of fire, lightning, windstorm, vandalism, and theft, as well as other perils normally covered by the standard Insurance Service Office Special Cause of Loss Form.

A loss insured under the Owner’s Property Insurance shall be adjusted by the Owner and made payable to the Owner on behalf of the Contractor and its subcontractors as their interests may appear. The Contractor shall pay subcontractors their just portions of any insurance proceeds received by the Owner and paid to the Contractor.

Unless the Owner agrees otherwise, in writing, all monies received shall be applied toward rebuilding or repairing the destroyed or damaged work.
The Owner, Contractor, its subcontractors and suppliers waive all rights against each other for damages caused by fire or other perils to the extent covered by the Property Insurance (for damages in excess of $100,000.00) obtained pursuant to this section or other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Owner on their behalf. The Contractor shall require similar waivers of his subcontractors, sub-subcontractors, agents, and employees of any of them.

The deductible will be $100,000.00. Contractor is responsible for all losses and damages less than the deductible.

25.04 **Installation Floater.** The Contractor shall maintain an Installation Floater policy and Builder’s Risk policy covering the Work and Materials not yet installed in the building or not otherwise covered by Builders Risk insurance. The Floater should have a minimum limit of $100,000. The Floater shall cover the following areas:

A. Property in transit; and
B. Property stored off-site at a temporary location.

25.05 **Comprehensive Automobile Liability.** The Contractor shall pay for and maintain Comprehensive Automobile Liability Insurance, including owned, non-owned, and hired vehicles in the following amounts:

Bodily Injury and Property Damage: $1,000,000 combined single limit

25.06 All liability policies which include the Owner as an additional insured shall include a Governmental Immunities Endorsement (See the Standard Endorsements Figure 1070.5), pursuant to Chapter 670.4 of the Iowa Code, which endorsement shall include the following provisions:

a. **Nonwaiver of Government Immunity.** The insurance carrier expressly agrees and states that the purchase of this policy and including the Owner as an Additional Insured does not waive any of the defenses of governmental immunity available to the Owner under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

b. **Claims Coverage.** The insurance carrier further agrees that this policy of insurance shall cover only those claims not subject to the defenses of governmental immunity under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

c. **Assertion of Government Immunity.** The Owner shall be responsible for asserting any defense of governmental immunity, and may do so at any time and shall do so upon the timely written request of the insurance carrier.

d. **Non-Denial of Coverage.** The insurance carrier shall not deny coverage or deny any of the rights and benefits accruing to the Owner under this policy for reasons of governmental immunity unless and until a court of competent jurisdiction has ruled in favor of the defense(s) of governmental immunity asserted by the Owner.
This Government Immunities Endorsement shall be included on all Insurance policies which include the Owner as Additional Insured.

25.07 Cancellation and Insurance Companies. All policies of insurance carried by the Contractor shall provide for 30 days advance written notice of cancellation, non-renewal, or material change in insurance coverage directed to the Des Moines Independent Community School District. The Owner will accept the policies written only by sureties legally authorized in the State of Iowa.

25.08 The Contractor and its subcontractors, sub-subcontractors and their supplies are responsible for all damage to their own tools, equipment, and vehicles of every type. The Contractor, its subcontractors, sub-subcontractors and their suppliers shall waive subrogation against the Owner for any damage to such equipment, tools, and vehicles including any insurance in force to cover such equipment.

GC - 26.00 PERFORMANCE AND PAYMENT BONDS

The Contractor shall, within ten (10) days of the Notice of Contract Award, furnish bonds to the Owner in the full amount of the Contract price, covering both the faithful performance of the Contract and the payment of all obligations for labor and materials arising thereunder, on such forms as the Owner may prescribe and with such sureties as the Owner may approve. Such bonds shall be duly executed by a qualified surety, conditioned upon the true and faithful performance of the Contract, and shall provide that if the Contractor or his subcontractors fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor or his subcontractors in the performance of the Work contracted to be done, the surety will pay the same in an amount not exceeding the sum specified in the bond, as adjusted by approved change orders, and together with interest as provided by law. The Performance Bond shall additionally guarantee that the Contractor shall remedy any omissions, correct any and all defects, and adjust and make operable all component parts of the Work falling under the requirements of his Contract which may be called to his attention within a period of twelve (12) months following the date of the Letter of Acceptance.

The premium for all bonds shall be paid by the Contractor and included in the bid price in the Bid Proposal. The Owner will accept and approve bonds written by sureties legally authorized to write such bonds in the State of Iowa. If, at any time a surety on such a bond becomes irresponsible or loses its right to do business in the State of Iowa, the Owner may require another surety acceptable to the Owner, which the Contractor shall furnish within ten (10) days after receipt of written notice to do so.

GC - 27.00 SUBCONTRACTORS

The Contractor shall, within twenty-four (24) hours following the bid opening, provide to the Owner a completed List of Subcontractors and Suppliers of Labor and Material, which details whose quotations it has used in preparation of his bid. The Contractor shall, before awarding any subcontracts, re-verify to the Owner and Architect in writing the names of subcontractors proposed for the Project. Any deviation from the original subcontractor and supplier list will not be allowed unless justification is submitted in writing to the Owner by the Contractor that the subcontractor or supplier is deemed unfit or unable to perform the specified work, is unwilling to enter into a subcontract, or is not in compliance with the
Contract Documents. The Contractor shall not employ any subcontractors that the Owner or Architect may, within a reasonable time, object to as incompetent, unfit, or otherwise undesirable. Substitutions of subcontractors listed in the executed proposal form may not be made without written approval of the Owner.

The Owner shall, on request, furnish to a subcontractor, wherever practicable, evidence of the amounts certified on his account.

The Contractor agrees that it is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor, at the conclusion of the Work and before final payment is made, shall furnish to the Owner a listing, giving names, contact persons, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor and materials on the Project with identification of the services rendered and materials provided.

Nothing contained in the Contract Documents shall create any direct contractual relation between any subcontractor and the Owner.

GC - 28.00 RELATIONS OF CONTRACTOR AND SUBCONTRACTOR

The Contractor agrees to bind every subcontractor by a written agreement and require in his Contracts that every subcontractor be bound by the terms of the Construction Agreement, the General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications as far as applicable to his work, including the following provisions of this Article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner.

The subcontractor agrees with the Contractor:

a. To be bound to the Contractor by the terms of the Construction Agreement, General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications, and any other Contract Documents, and to assume toward it all the obligations and responsibilities that it, by those documents, assumes toward the Owner;

b. To preserve and protect the rights of the Owner and the Architect under the Contract with respect to the Work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;

c. To perform all Work in accordance with the requirements of the Contract Documents;

d. To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment as specified in the General Conditions;

e. To make all claims for extras, for extensions of time, and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions of the Contract and the Supplementary General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

The Contractor agrees:
f. To be bound to the subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

g. To pay the subcontractor not later than seven (7) calendar days immediately following the payment of each certificate issued under the schedule of values described in these General Conditions, the amount allowed to the Contractor on account of the subcontractor’s work to the extent of the subcontractor’s interest therein.

h. To pay the subcontractor, upon the payment of Certificates, if issued otherwise than as in g. above, so that at all times his total payments shall be as large in proportion to the value of the Work done by it as the total amount certified to the Contractor is to the value of the Work done by it.

i. To pay the subcontractor to such extent as may be provided by the Contract Documents or the subcontract, if either of these provides for earlier or larger payments than the above.

j. To pay the subcontractor a just share of any insurance payment received by the Contractor, applicable to work performed by such subcontractor.

If the Owner knows or has reason to know the Contractor is not making timely payments to the subcontractors and/or suppliers, the Owner may require the Contractor to submit verified documentation evidencing that full and timely payments have been made to the subcontractors and suppliers and/or that legal justification exists for withholding payments. In addition, the Owner may contact the subcontractors and suppliers directly to obtain verification that payments have been made as required by law or the Contract Documents.

Nothing in this Article shall create any obligation on the part of the Owner to pay or to see to the payment of any sums to any subcontractor, nor shall it form the basis for any action by the subcontractor against the Owner on any contractual theories.

GC - 29.00  ARCHITECT’S STATUS AND INSPECTIONS

29.01 Authority. The Architect shall act on the Owner’s behalf through the Owner’s Representative during construction and until the expiration of the warranty period. The Architect has the authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents or otherwise in writing. The Architect, with written approval of the Owner, shall have authority through the Owner’s Representative to stop the Work whenever such stoppage may be necessary in the Architect’s reasonable opinion to ensure the proper execution of the Contract.

29.02 Decisions. The Architect shall be, in the first instance, the interpreter of the conditions of the Contract and the judge of its performance, although the Owner shall retain the final authority in decisions regarding such matters. The Architect shall, within a reasonable time, make recommendations to the Owner’s Representative on all claims of the
29.03 Inspections. The Contractor shall provide timely notice to the Owner, Owner’s Representative and the Architect when inspections are desirable or required by the terms of the Contract or the Architect’s and Owner’s Representative’s agreement with the Owner. Such notice shall be given in order to allow for the following reviews and inspections, among others:

a. Reviewing and approving shop drawings samples and other submissions for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents;

b. Inspection of bearing surfaces of excavations before footings are poured;

c. Inspection of reinforcing steel after installation and before concrete is placed;

d. Inspection of structural and architectural concrete before, during, and after pouring;

e. Evaluation of all laboratory reports;

f. Inspection of structural steel after erection and prior to its being covered or enclosed;

g. Inspection of mechanical work following its installation and prior to its being covered and enclosed;

h. Inspection of electrical work following its installation and prior to its being covered or enclosed; and

i. Inspection of exposed surfaces for compliance with the Construction Documents.
OWNER’S REPRESENTATIVE’S STATUS AND INSPECTIONS

30.01 Authority. The Owner’s Representative shall be the District’s principal agent and shall act on the Owner’s behalf through the Program during construction and until the expiration of the warranty period. The Owner’s Representative has the authority to act on behalf of the Owner to the extent expressly authorized in the Contract Documents or otherwise expressed in writing. The Owner’s Representative, with written approval of the Owner, shall have authority to stop the Work whenever such stoppage may be necessary in the Owner’s Representative’s reasonable opinion to ensure the proper execution of the Contract.

30.02 Administration. The Owner’s Representative shall establish and implement procedures for reviewing and processing requests and making recommendations to the Owner and Architect with respect to clarifications and interpretations of the Contract Documents; shop drawings; samples and other submittals; contract schedule adjustments; change order and field order proposals; written proposals for substitutions; payment applications; and the maintenance of logs. Although the Owner shall retain the final authority in decisions regarding such matters, as the Owner’s representative, the Owner’s Representative shall be the party to whom all such information shall be submitted. The Owner’s Representative’s recommendation to the Owner shall relate to design considerations, matters of cost, scheduling and time of construction, and clarity, consistency and coordination of documentation.

30.03 Inspections. The Contractor shall provide timely notice to the Owner, Owner’s Representative and the Architect when inspections are desirable or required by the terms of the Contract or the Architect’s and Owner’s Representative’s agreement with the Owner. Such notice shall be given in order to allow for the following reviews and inspections, among others:

a. Reviewing and approving shop drawings samples, product data and other submissions for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents;

b. Inspection of bearing surfaces of excavations before footings are poured;

c. Inspection of reinforcing steel after installation and before concrete is placed;

d. Inspection of structural and architectural concrete before, during, and after pouring;

e. Evaluation of all laboratory reports;

f. Inspection of structural steel after erection and prior to its being covered or enclosed;

g. Inspection of mechanical work following its installation and prior to its being covered and enclosed;

h. Inspection of electrical work following its installation and prior to its being covered or enclosed; and
i. Inspection of exposed surfaces for compliance with the Construction Documents.

j. Reviewing Project schedules and schedule changes.

k. Reviewing requests for change in the Contract including all change Orders and Field Orders.

l. Reviewing and making recommendations for pay requests.

m. Reviewing certificates and policies of insurance for compliance with the Contract Documents.

n. Inspecting the site for construction observations and supervision and preparing written and photographic documentation.

**GC - 31.00  CASH ALLOWANCES**

The Contractor shall include in the Contract sum all allowances stated in the Contract Documents. These allowances shall cover the net cost of the materials and equipment delivered and unloaded at the site, and all applicable taxes. The Contractor's handling costs 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 allowance. The Contractor shall cause the Work covered by these allowances to be performed for such amounts and by such persons as the Owner or Architect may direct through the Owner’s Representative, but it will not be required to employ persons against whom it makes a reasonable objection. If the cost, when determined, is more than or less than the allowance, the Contract sum shall be adjusted accordingly by field order which will include additional handling costs on the site, labor, installation costs, overhead, profit, and other expenses resulting to the Contractor from any increase over the original allowance.

**GC - 32.00  USE OF PREMISES**

The Contractor shall confine its apparatus, the storage of materials, and the operations of its workers to limits indicated by law, ordinances, permits, and the Contract Documents, and shall not unreasonably encumber the premises with its materials. Contractor shall not place or store any materials, equipment, or other items or goods outside the construction area as designated in the Construction Documents, without prior written approval of the Owner and Owner’s Representative. The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce all Owner instructions and other regulations regarding signs, advertisements, fires, and smoking and shall not allow the possession or consumption of alcohol or drugs on the premises by his or any subcontractor’s workers. The Contractor shall limit his construction activities, including material storage, to areas approved by the Owner’s Representative.

**GC - 33.00  CUTTING, PATCHING, AND EXCAVATING**

The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of the subcontractors shown upon, or reasonably implied by, the drawings and specifications for the completed structure.
Any cost caused by defective or improperly timed work shall be borne by the party responsible therefore. The Contractor shall not endanger any work by cutting, excavating, or otherwise altering the Work and shall not cut or alter the Work of any subcontractor except with the consent of the Architect.

The Contractor will ensure that each subcontractor leaves all chases, holes, or openings straight, true, and of proper size in its own work, or cut the same in existing work as may be necessary for the proper installation of its own or another subcontractor’s work consulting with the Owner’s Representative and the Contractor regarding proper location and size of same. In case of its failure to leave or cut same in the proper place, it shall cut them afterward at its own expense. No piers or other structural members shall be cut or modified in the field without the written consent of the Architect and Owner’s Representative. Any extensive cutting of non-structural elements shall also require the Owner’s Representative’s and Architect’s approval. After such work has been installed, it shall carefully fit around, close up, repair, patch, and point up same as directed to the entire satisfaction of the Architect. Each section of this specification shall include all cutting, patching, and excavating for that trade division unless specifically stated to the contrary.

GC - 34.00 CLEANING UP

The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by its employees or work, and shall remove all rubbish as often as is necessary or as directed by the Owner, Architect or Owner’s Representative, or as specified elsewhere in these documents. At the completion of the Work, it shall remove all its rubbish from and about the building, and all its tools, scaffolding, and surplus materials and shall wash all glazing and window frames inside and outside throughout the building, removing all stains, paint, etc., on same. Care shall be taken not to scratch the glazing in this clean up.

All doors and wall coverings shall be left thoroughly clean and finished; all walls and ledges shall be dusted; all plumbing fixtures shall be cleaned; all hardware shall be free of all labels, paint, stains, dust, dirt, and the like; all marks, stains, fingerprints, other oil, and dirt shall be removed from painted, decorated, or natural finish work and the building will be ready for occupancy except for being further equipped by the Owner. In case of dispute, the Owner may perform such cleaning up as may be required and charge the cost to the Contractor.

GC - 35.00 STATUTES, ORDINANCES, AND REGULATIONS

The Contract shall be governed by the laws of the State of Iowa.

The Contractor and all subcontractors shall comply with all applicable federal and state statutes, rules, regulations, and directives of any governmental body having jurisdiction over the Work to be performed. Should any of the provisions of the Contract Documents be in conflict therewith, then that portion which is in conflict shall be considered stricken and the applicable statute, ordinance, regulation, or ruling substituted therefore. All such cases of apparent conflict coming to the attention of any party shall immediately be called to the attention of the Owner. The Contractor shall strictly observe and comply with all federal and state laws pertaining to the employment and payment of labor.
The Contractor will be held to have used in his base proposal and to furnish under the Contract those items of equipment and/or materials which are specifically identified in the specifications by a manufacturer’s name, model, or catalog number. Owner, in its sole discretion, may approve substitution of equipment and/or materials of makes other than those specifically named in the Contract Documents so long as the equipment or material proposed for substitution in the opinion of the Owner is just as suitable as equipment and/or materials named in the specifications so far as performance, construction, efficiency, and utility are concerned.

All requests for substitutions must be submitted in writing at least seven (7) working days prior to the bid opening to the Owner for evaluation and final approval. Contractor’s request shall include a complete listing of the substitutions proposed, with drawings and other data required by Owner, supporting Contract price changes pertaining to each proposed substitution. Contractor shall also furnish drawings or other data required to indicate any modifications which would result from use of the proposed changes and shall furnish general arrangement drawings, full descriptive data, and any other information required to demonstrate that the proposed substitutions are equal to the product(s) specified. The Owner will determine if the proposed substitutions are acceptable or unacceptable and will notify all potential bidders of its decisions no later than five (5) calendar days before bid opening. In the absence of the Owner’s written acceptance, no substitution will be allowed for any items specified in the Contract Documents. Acceptance by the Owner of proposed substitutions shall not relieve Contractor of the responsibility for providing workmanship, materials and equipment meeting quality standards established for the Project. No substitution may be made subsequent to the award of the Contract, except upon Owner’s written approval.

Contractor may offer alternate systems to the ones named in the specifications by submitting with the proposal and on the form provided, identifying data on the system proposed, together with a statement of the amount of addition or deduction from the base bid if the bidder’s alternate is accepted. Prior approval by the Owner is not required on items submitted as alternate bids.

The Contractor, upon the Owner’s written request, shall allow the Owner to occupy portions of the Work and to place and install, subject to reasonable restrictions, as much equipment and furnishings during the progress of the Work as is possible without interfering with the progress of the Work. Such occupancy and the placing or installing of equipment and furnishings shall not in any way evidence the completion of the Work or signify the Owner’s acceptance of the Work, or any part of it. Equipment includes such things as kitchen equipment, etc. Furnishings include such things as lockers, benches, desks, etc. Prior to occupancy, the Architect and Owner shall make a thorough inspection accompanied by the Contractor’s superintendent to note any defects in workmanship or materials which are the responsibility of the Contractor. The provisions of the Article shall not be in limitation of the Owner’s rights set forth in Article 18.00.
DES MOINES INDEPENDENT
COMMUNITY SCHOOL DISTRICT
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GC - 38.00   DAMAGE TO UTILITIES

The Contractor shall take adequate precautions to protect existing utilities on and off the site and avoid damage thereto. The Contractor shall repair or replace or have repaired or replaced at his own expense any damage to streets, water, sewer, light, power, cable, or telephone lines, damaged by reason of his work.

The location and extent of underground utilities and cables and conduit as indicated on the drawings are not guaranteed. This information is shown only for such use as bidders and Contractors may choose to make of it. All Contractors shall check with all public utilities companies for locations and shall comply with their regulations regarding their utilities in performing the Work.

Active underground utilities shall be adequately protected from damage and if damaged shall be immediately repaired. Removal or relocation of same shall be done only as indicated on the drawings. If they are in use, they shall be maintained in continuous service. If not indicated on the drawings or not known to exist, the Contractor shall report discovery of such lines to the Architect and shall not proceed further until directed to do so.

Inactive or abandoned utilities, whether or not they are indicated on the drawings, shall be recorded as to location and depth and shall be removed for a distance of not less that three (3) feet from outside line of all concrete work unless otherwise required by regulations. Ends shall be capped or plugged. There will be no adjustment of Contract amount for work due to inactive or abandoned utilities indicated on the drawings.

GC - 39.00   PROJECT SIGN

If required by the specifications, the Contractor shall provide a Project sign in such form and size as may be approved by the Owner. No other advertising is permitted on the Project site.

GC - 40.00   BLASTING

No explosives of any nature except for those normally employed in powder actuated tools, .38 caliber or smaller, shall be employed or used on any site except with the express and specific prior written approval of the Architect and the Owner and any appropriate governmental authorities, in each instance. The Contractor shall notify the Architect of need for such approval three (3) days prior to the proposed use of such explosives.

GC - 41.00   HISTORICAL DATA

In addition to warranties, guarantees, operating instructions, etc., elsewhere specified, the Contractor, at the conclusion of the Work and before final payment is made, shall furnish a listing, giving principal’s names, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor or materials on the job with identification of the services rendered. There shall be provided one (1) copy to the Owner’s Representative, one (1) copy to the Architect and three (3) copies to the Owner. All copies will be delivered to the Owner’s Representative for review and distribution.
DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT

2022 RESTROOM UPGRADES

GC - 42.00 TESTING OF BUILDING SYSTEMS (COMMISSIONING)

The Contractor shall submit a written plan prior to completion and acceptance, consistent with the Contract Documents and applicable codes, for the testing of all building systems. All testing shall be of the complete system, before covering, or of individually separable larger portions of the system and shall be performed in the presence of the appropriate consultant and representative of the Owner. A written report shall be filed in the office of Facility Management, Des Moines Independent Community School District, recording each test, and signed by such consultant.

GC - 43.00 TEMPORARY OR TRIAL USAGE

Temporary or trial usage by the Owner of any mechanical device, machinery, apparatus, equipment, or any work or material supplied under the Contract before final completion and written acceptance by the Architect shall not be construed as evidence of the Architect’s or Owner’s acceptance of same or the commencement of any warranty periods.

The Owner has the privilege of such temporary or trial usage, for such reasonable time as the Owner and the Architect deem proper. The Contractor shall make no claim for damage or injury to or breaking of any parts of such work which may be caused by weakness or inaccuracy of structural parts or by defective materials or workmanship.

If the Contractor so elects, it may, without cost to the Owner, make such trial usage. However, trials shall only be conducted with the Architect’s prior approval and under the Architect’s observation.

When heating, air conditioning, ventilating, exhaust, or other items of electrical or other equipment are installed, it shall be the responsibility of the Contractor installing such equipment to operate it for a satisfactory period of time as required by the Architect for proper testing of the equipment and instructing the Owner’s operating personnel. All items of equipment, testing meters, testing instruments, and incidentals required for proper testing and for instructing the Owner’s operating personnel, shall be provided by the Contractor responsible for providing and installing the equipment.

GC - 44.00 ASSIGNMENT

Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

GC - 45.00 SEPARATE CONTRACTS

The Owner reserves the right to let other contracts in connection with this Work. The Contractor shall afford such other Contractors’ reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate its work with theirs.

If any part of the Contractor’s work depends for proper execution or results upon the Work of any other Contractor, the Contractor shall inspect and promptly report to the Owner through the Owner’s Representative any defects in such work that render it unsuitable for such proper execution and results. Its failure to inspect and report shall constitute an acceptance of the other Contractor’s work as fit and proper for the reception of his work, except as to defects which may develop in the other Contractor’s work after the execution of its work.
To ensure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Owner through the Architect any discrepancy between the executed work and the drawings.

**GC - 46.00 CONTRACTORS’ MUTUAL RESPONSIBILITY**

The entire Project may be covered by more than one contract and in such case there will of necessity be a certain overlapping of contracts. Each Contractor shall, therefore, take due notice of the Work called for in contracts other than his own. Should the Contractor cause damage to any separate Contractor on the Work, the Contractor agrees, upon due notice, to settle with such other separate Contractor by agreement, if it will so settle. If such other separate Contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner may notify the Contractor, who shall, at the Owner’s option, defend such proceedings at the Contractor’s expense or reimburse the Owner for the expenses incurred in defense, and, if any judgment against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay all costs and expenses thereby incurred by the Owner.

**GC - 47.00 LIENS**

It is hereby mutually understood by and between the parties hereto that no Contractor, subcontractor, materialman, vendee, laborer, mechanic, or other person, can or will contract for or in any other manner have or acquire any lien upon the building or works covered by this Contract, or the land upon which the same is situated.

**GC - 48.00 WORK IN EXISTING BUILDING**

In addition to all other requirements of the Contract Documents, if the Work involves an addition to an existing building, the Contractor shall erect and maintain during the progress of the Work, suitable dust-proof partitions to protect such building and the occupants thereof. If necessary in the Owner’s, Owner’s Representative’s or Contractor’s judgment, or pursuant to manufacturer’s directives or recommendations in order to protect occupants from noxious fumes, odors, or hazardous substances, the Contractor may be required to provide additional ventilation and/or work different or extended hours to avoid disruption to other activities within the existing building.

If any portions of an existing building are to be remodeled or repaired, such portions shall be adequately partitioned off with dust-proof partitions and well ventilated. Contractor’s personnel shall not access areas still in use by the Owner without prior, written authorization. All remodeling work shall be scheduled and submitted to the Owner and Owner’s Representative for approval. The various Contractors shall schedule their work jointly, in order that each may accomplish his work within such existing building in an orderly fashion during regular school vacation periods, where possible, or in such a manner as to permit full use of the building and without impairment of any existing facilities.

During the course of construction the Contractor shall maintain free and unimpeded all required exits from the building. Barricades shall be so erected that traffic is separated and protected from the construction. Such exits shall not be closed at any time for any reason while the building is occupied nor at any time when the building is unoccupied except after written approval is given by the Owner and proper warning and directional signs are posted.
INDEMNIFICATION

The Contractor shall indemnify and hold the Owner and the Architect and their agents and employees harmless from and against all claims, damages, losses, and expenses, including attorneys’ fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including the Work itself and including the loss of use resulting therefrom but only to the extent caused by any negligent or intentional act or omission or breach of contract of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. This specific indemnification by the Contractor is in addition to and not in lieu of other remedies which may be available to the Owner.

Contractor agrees to indemnify and hold harmless the District and their agents and employees from and against all claims, damages, losses and expenses, including attorneys’ fees, arising out of or resulting from a breach of cybersecurity or other cyber fraud incident affecting Contractor that results in the disclosure of the District’s financial or other confidential information to any unauthorized person or misuse of the District’s financial or other confidential information by any unauthorized person. This specific indemnification by Contractor is in addition to and not in lieu of other remedies which may be available to the District.

The obligations of the Contractor under this Article shall not extend to and will be reduced by the liability of the Architect or the Architect’s Consultants to the extent directly attributable to and proximately caused by (A) the negligent preparation or approval of drawings or specifications, or (B) errors or omissions in written directions or instructions given by the Architect or the Architect’s Consultants.

LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

It is understood and agreed that completion of the entire Project within the time stated in the Contract Agreement is a matter of vital necessity to the Owner, that the Owner will suffer substantial damages if the entire Project is not completed within that time, and that it would not be possible to accurately determine the amount of such damages. In view of these facts, if imposed by the Owner, the Contractor agrees to pay the Owner liquidated damages in the sum set forth in the Construction Agreement for each calendar day, if any, which elapses between the dates stated in the Construction Agreement for either or both Substantial Completion and Final Completion, as extended by any extensions of time under the provisions of the General Conditions of the Contract. If the Contractor shall fail to pay such liquidated damages, if imposed, promptly upon demand therefore, the surety on his performance bond shall pay such damages. Also, the Owner may withhold all or any part of such liquidated damages from any payments due the Contractor. No changes in the Work shall extend the time for completion unless set forth on a properly approved field order/change order. Document titled “Schedules and Liquidated Damages” shall determine if and at what amount liquidated damages will be imposed on the Project.

SUBSTANTIAL COMPLETION

When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete, the Contractor shall prepare for the Owner a list of items to be completed or corrected and submit it to the Owner’s Representative. The list shall include written warranties and related documents required by the Contract and assembled by the Contractor. 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 Owner’s Representative, on the basis of an inspection, jointly determine that the Work or designated portion thereof is substantially complete, the Architect and Owner’s Representative will then prepare a Statement of Responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and 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 occupancy of the Work or designated portion thereof by the Owner unless otherwise provided in the Statement of Responsibilities. The Statement of Responsibilities shall be submitted to the Owner and the Contractor for his written acceptance of the responsibilities assigned in such Statement.

GC—52 REQUEST FOR EARLY RELEASE OF RETAINED FUNDS

Upon achieving Substantial Completion, the Contractor may formally request the release of all or part of the retained funds being held on the Project. The Contractor’s request for Release of Retained Funds shall be accompanied by the required sworn statement that ten (10) calendar days prior to filing the Request for Release of Retained Funds the required sworn statement was given to all known subcontractors, sub-subcontractors and suppliers that the Contractor is requesting the early release of retained funds. If proper documentation is received from the Contractor, the Owner will release the requested funds at the next monthly Board meeting of within thirty (30) days, whichever is less, except it may retain the following:

a) An amount equal to 200% of the value of labor and materials yet to be provided on the Project, which will include the value of the itemized costs for closeout phase items of the Project as listed in Section 01705 of the documents and other items as determined by the Owner and its authorized Contract representative.

b) An amount equal to 200% of the value of any Chapter 573 claims currently on file at the time the Request for Release of Retainage Funds is approved.

If the Owner withholds an amount from the retainage payment to the Contractor, the Owner will provide a reason the request is being denied the Contractor within thirty (30) calendar days of the receipt of the request.

Approval of early release of retained funds will be made by Resolution of Owner’s Board of Directors. The Request will be presented to the Board of Directors for acceptance when:

1) All Work, under the request has been certified as finally and satisfactorily completed;

2) All Work, under the request has been inspected and approved by the Owner’s representative;

3) the Contractor has certified to the Owner that the materials, labor, and services involved in each Application for Payment have been paid in accordance with the Contract Documents; and
4) Documents as outlined in Section 01705 “Early Release of Retained Funds” including, but not limited to, the following documents have been completed and received by the Owner:

- Request for Release of Retained Funds - DMDSFM - -----  
- Notice of Contractor’s Request for Early Release of Retained Funds  
- Consent of Surety to Early Release of Retained Funds

GC - 53.00 ACCEPTANCE AND FINAL PAYMENT

Within a reasonable time after final completion of the Work and before Final Acceptance thereof, a final inspection shall be made by the Architect to determine whether the Work has been completed in accordance with the Contract Documents. A written Report of Inspection and detailed “punch list,” certified as to contents and date of inspection, shall be completed by the Architect and delivered or mailed to the Contractor.

All prior Requests for Payment shall be subject to correction in the final Request for Payment.

The balance remaining due the Contractor, if any, following Final Acceptance will be paid not earlier than thirty-one (31) days from the date of Final Acceptance of said work by the Owner, subject to the conditions and in accordance with the provisions of Chapter 573 of the Code of Iowa.

Final Acceptance of the Work will be made by Resolution of Owner’s Board of Directors. The Work will be presented to the Board of Directors for Final Acceptance when:

1) All Work, including the punch list, has been certified as finally and satisfactorily completed;

2) All Work, including the punch list, has been inspected and approved by the Owner’s representative;

3) the Contractor has certified to the Owner that the materials, labor, and services involved in each Application for Payment have been paid in Accordance with the Contract Documents; and

4) Documents as outlined in Section 01700 “Contract Closeout”, including, but not limited to, the following documents have been received by the Owners:

- Application for and Certification of Payment - DMPSFM-600  
- Itemization Sheet for Final Payment - DMPSFM-610  
- Certificate of Completion - DMPSFM-620  
- Contractor’s Affidavit of Payment of Debts & Claims - DMPSFM-630  
- Contractor’s Affidavit of Release of Liens - DMPSFM-640  
- Consent of Surety Company to Final Payment - DMPSFM-650  
- Architect’s Certificate of Specifications - DMPSFM-660  
- Lien Waivers
Required Guarantees

If any unpaid claim for such labor, materials, supplies, or equipment is filed with the Owner before payment in full of all sums due the Contractor, the Owner shall withhold from the final payment sufficient funds, if available and in accordance with Iowa Code Chapter 573, as amended, to provide for the payment of such claim, until the same shall have been paid or withdrawn. Such payment or withdrawal shall be evidenced by filing with the Owner a receipt in full or an order authorizing withdrawal signed by the claimant or his duly authorized agent or assignee.

If a claim under Iowa Chapter 573 is filed against the Owner, the Contractor agrees to defend, indemnify, hold harmless and/or reimburse the Owner from, against and for any and all damages, settlements, payments or expenses, (including reasonable attorneys fees) incurred by the Owner on account of any and all claims filed against the Project as a direct result of the Contractor.

If any claim for such labor, materials, supplies, or equipment remains unsatisfied after all payments are made by the Owner to the Contractor, the Contractor shall refund to the Owner all sums which the latter may for any reason be compelled to pay to satisfy such claim, including all costs and attorneys’ fees incurred by the Owner as a result of the Contractor’s default in such respect.

The making and acceptance of the final payment shall not constitute a waiver of any claims by the Owner, including, among other things, those arising from unpaid claims, from faulty work which appears before or after final payment, or from any failure to comply with any requirements of the Contract Documents.

WARRANTIES ON PORTIONS OF THE WORK

The Contractor shall, in case of work performed or materials or equipment provided for which warranties are required by the Contract Documents, secure the required warranties and deliver copies thereof to the Architect and the Owner upon completion of the Work. All such warranties shall commence from the date set forth in the Certificate of Substantial Completion and will not in any way reduce the Contractor’s responsibilities under his Contract. Whenever guarantees or warranties are required by the specifications for a longer period than one year, such longer period shall govern.

Contractor shall provide Owner with an acceptable maintenance bond at the time of Final Acceptance. Maintenance guarantee shall run for one (1) year from the time of acceptance to protect Owner from faulty workmanship and materials as outlined in the preceding paragraph.

CONTRACTOR’S PROJECT GUARANTEE AFTER COMPLETION

The Contractor expressly warrants and guarantees that the Project will be constructed in a good, firm, substantial workmanlike manner; free from structural and workmanship defects and defects in materials; and that the improvements will be fit for occupancy and built in strict compliance with contract documents.

Neither the Architect’s approval of the final Request for Payment nor payment of any Request for Payment or of any sum previously withheld from the Contractor shall relieve the Contractor of responsibility for its warranty and guarantee hereunder or for faulty materials or workmanship, and, unless otherwise agreed, it unconditionally agrees to remedy any defects due thereto, and pay for any damages resulting therefrom, which shall appear within a period of one (1) year from the date set forth
in the Letter of Acceptance of his work. The Contractor shall repair or replace any defective workmanship and materials in a manner acceptable to the Owner, without expense to the Owner, within ten (10) days after written notification by the Owner of such defect. If said repairs or replacements or mutually satisfactory arrangements have not been made within ten (10) days, the Owner shall make said repairs or replacements and charge the cost to the Contractor.

The Owner, the Architect, and the Contractor together shall make at least one (1) complete inspection of the Work after the Work has been accepted by the Architect and the Owner. Such inspection shall be made approximately eleven (11) months after the acceptance of the Work. The Architect shall make a written report of the inspection, certified as to contents and date of inspection, and forward the report by mail to the Owner and the Contractor within seven (7) days after completion of the inspections. The Contractor shall immediately initiate such remedial work as may be necessary to correct any deficiencies or defective work shown by this report and shall promptly complete all such remedial work in a satisfactory manner.

If the Contractor fails to promptly correct deficiencies and defects shown by the report within ten (10) days after notice thereof, the Owner may do so. The Owner shall be entitled to collect from the Contractor all costs and expenses incurred in correcting such deficiencies and defects, as well as all damages resulting from such deficiencies and defects. The guarantee and warranties of the Contractor provided for herein are in addition to and not in lieu of any other remedies available to the Owner.

GC - 56.00 SOIL TEST REPORT

The Owner has arranged for a separate consultant to conduct field and laboratory soil investigations on the site and to prepare a report of the findings. Such reports, as appropriate, are included as an attachment to the specification. Such data is offered solely for reference and is not to be considered a part of the Contract Documents. The data contained in any such document prepared for the Owner by a separate consultant is believed to be reliable; however, the Owner and Architect do not guarantee its accuracy or completeness. All applicable subcontractors shall be fully familiar with the contents of such reports, if prepared, and shall consider and evaluate them in the performance of their contracts.

GC - 57.00 EXPEDITING MATERIALS

The Contractor shall exercise due diligence in seeing that all equipment, materials, and supplies are ordered and delivered well in advance of the time they are needed on the job; and it shall properly store and protect the same at his expense and in accordance with these General Conditions, either at the site or elsewhere as approved by the Architect. It shall, when requested, submit to the Architect evidence that such orders have been placed and/or received.

GC - 58.00 MISCELLANEOUS KEYS, SWITCHES, ETC.

Except as otherwise specifically required by the Technical Specifications at the completion of the Project, all loose keys for hose bibs, adjustment keys and wrenches for door closers and panic hardware, keys for electric switches, electrical panels, and all other equipment shall be identified and accounted for and turned over to the Architect for transmittal to the Owner.

GC - 59.00 ELECTRONIC COMMUNICATIONS

If required by the Contract Documents, the Contractor shall use the Internet based Project Management system for communications and tracking of the Project. The system shall be used to keep comprehensive
account of Project activities, conditions and issues including, but not necessarily limited to, general correspondence, reports, drawings, drawing submittals and drawing schedules, submittals, shop drawings, payment requests, transmittals, change request, and authorization, meeting minutes, confirmation of oral instruction, notice of non-conforming work, press photographs, call-back requests, and other documentation as may be specified by the Owner. The Contractor shall have access to the program established at their main office as well as the Project site. There is no fee associated with the use of the Internet based Project Management System.
The following supplements modify, change, delete from or add to the General Conditions of the Contract for Construction. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph, or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

END OF DOCUMENT
1.1 SUMMARY

A. Section Includes:

1. Project description.
2. Work by Owner.
3. District Furnished Products.
4. Contractor’s Use of Site and Premises.
5. Surrounding Site Condition Survey.
6. Work Sequence.
7. District Occupancy.

1.2 PROJECT DESCRIPTION

A. Location: The sites impacted by the scope of this work include the following:

- Hanawalt Elementary School
  225 56th Street
  Des Moines, Iowa 50312

- Hoover High School
  4800 Aurora Avenue
  Des Moines, Iowa 50310

- Hubbell Elementary School
  800 42nd Street
  Des Moines, Iowa 50312

- Lovejoy Elementary School
  801 East Kenyon Avenue
  Des Moines, Iowa 50315

- North High School
  501 Holcomb Avenue
  Des Moines, Iowa 50313

- Oak Park Elementary School
  3928 6th Avenue
  Des Moines, Iowa 50313

- Pleasant Hill Elementary School
  4801 East Oakwood Drive
  Pleasant Hill, Iowa 50327

- Woodlawn School
  4000 Lower Beaver Road
  Des Moines, Iowa 50310

B. The project includes an addition, renovation and site improvements as reflected in the construction documents.

C. The Owner has contracted or will contract with multiple contractors for renovation of the facilities. The work of additional prime contractors is anticipated to be as follows:
1.3 WORK BY OWNER
   A. Items noted "NIC" (Not in Contract), will be furnished and installed by others separately from the work included in these Bid Packages.

1.4 DISTRICT FURNISHED PRODUCTS
   A. Products furnished by the District and installed by the Contractor. Refer to drawings for these items.
   B. District’s Responsibilities:
      1. Arrange and pay for owner furnished product delivery to site. (Verify for each item)
      2. On delivery, inspect products jointly with Contractor.
      3. Submit claims for transportation damage and replace damaged, defective, or deficient items.
      4. Maintain manufacturer's warranties, inspections and service.
      5. Obtain receipt for materials delivered to Contractor.
   C. Contractor's Responsibilities:
      1. Receive and unload products at site; inspect for completeness or damage, jointly with District.
      2. Handle, store, install and finish products.
      3. Repair or replace items damaged after receipt.

1.5 CONTRACTOR USE OF SITE AND PREMISES
   A. Limit use of site and premises to allow:
      1. District use of the existing building during the construction period.
      2. Work by other contractors and work by District.
      3. Safe use of site and premises by public.
      4. Contractor and subcontractor employees’ use of areas outside construction zone is restricted.
   B. Coordinate use of premises under direction of the Owner.
   C. Notify Owner in advance of a shutdown of utilities or work outside designated construction and staging areas. Coordinate such work with Owner. All utility shutdowns shall be approved by the Owner.

1.6 SURROUNDING SITE CONDITION SURVEY
   A. Prior to commencement of work, the Contractor, the Owner and the Architect shall jointly survey the site and existing buildings, paving, plant life, and other items, noting and recording existing damage such as cracks, sags, loose blocks or bricks, unhealthy plant life, and other damage.
   B. This record shall serve as a basis for determination of subsequent damage to these items due to settlement or movement due to demolition and construction operations.
C. Such damage, as noted, shall be suitably marked on the item, if possible, and the official record of existing damage shall be signed by the parties making the survey.

D. Cracks, sags, or other damage to the site and adjacent buildings, paving, plant life, and other items not noted in the original survey, but subsequently observed shall be reported immediately to the Owner in writing.

1.7 WORK SEQUENCE

A. Construct work in phases to accommodate District requirements during the construction period. Coordinate construction schedule and operations with the Owner. Sequencing is listed in Section 00210.

1.8 DISTRICT OCCUPANCY

A. The District will occupy the existing building during the construction period.

B. Time is of the essence.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes
   1. Procedures for preparation and submittal of Applications for Payment.
B. Related Sections:
   3. Section 01300 - Submittals: Submittal procedures.
   4. Section 01700 - Contract Closeout: Final Payment.
   5. Document 00800 - Supplementary Conditions

1.2 SCHEDULE OF VALUES
A. Submit to the Owner’s Representative a Schedule of Values allocated to the various portions of the Work broken down by building and trade, supported by data to substantiate its accuracy as the Owner’s Representative, Architect, and the Owner may require. This schedule, when approved, shall be used as a basis for the Contractor’s application for payment.
B. Sample of the Schedule of Values format follows this section. All line items shall be separated into labor and material components. A separate line item shall be included in the Schedule of Values for the Contractors Overhead and Profit.
C. Schedule of Values must be submitted, reviewed and approved by the Owner’s Representative and Architect prior to the first Application for Payment.

1.3 FORMAT
A. Sample of the Application for Payment form follows this Section and is titled "Application and Certification for Payment". Electronic emailed copies of payment applications will be used.

1.4 PREPARATION OF APPLICATIONS
A. Applications shall be prepared in two copies.
B. Contractor to meet with Owner’s Representative and Architect at regular job progress meeting to review proposed Application for Payment.
C. Application as tentatively approved by Owner’s Representative and Architect shall be submitted.
D. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed.
E. Submit back-up documentation to support Application for Payment as may be requested by the Architect or Owner’s Representative.
F. Architect will review Project Record Documents at each billing meeting. Status of Project Record Documents will be considered in evaluating proposed monthly billings.
G. List each authorized Change Order as an extension on the Schedule of Values, listing Change
Order number and dollar amount as for an original item of Work.

H. Prepare Application for Final Payment as specified in Section 01700.

I. Prepare and submit with each Application for Payment the List of Potential Claims that follows this section per the requirements of paragraph G.C. – 18.01 of the General Conditions, Section 00700.

J. Prepare requests and accompanying sworn statement for early release of retained funds upon Substantial Completion as specified in Section 01705 “Early Release of Retained Funds”

1.5 SUBMITTAL PROCEDURES

A. All submittals associated with the Application for Payment shall be done in one copy.

B. Submit an updated construction schedule with each Application for Payment.

C. Payment Period: Submit at monthly intervals as coordinated by the Owner’s Representative.

D. Submit substantiating data as may be required.

E. Submit wavers on the form approved by the Owner’s Representative.

F. Submit list of potential claims.

1.6 SUBSTANTIATING DATA

A. When Owner’s Representative requires substantiating information, submit data justifying dollar amounts in question.

B. Provide one copy of data with cover letter for each copy of submittal. Show Application number, date, and line item by number and description.

C. When Application for Payment is requesting payment for stored materials the following information shall be submitted:

1. Letter transferring ownership of material stored off site.

2. Insurance certificate covering material stored off site.

3. Invoice from supplier confirming cost of all stored material, whether on or off site.

1.7 PAYMENT PERIOD

A. If the Contractor has made a request for payment as stated above, the District will, with reasonable promptness, issue payments to the Contractor on the next standard monthly payment schedule, for such amount as the District, Architect, and Owner’s Representative determine to be properly due. If there are no problems with that month’s progress billing, reimbursement for compensation shall be paid to the Contractor no later than thirty (30) days from the approved progress billing.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF DOCUMENT
LIST OF POTENTIAL CLAIMS

To: Des Moines Public Schools
From:

2022 RESTROOM UPGRADES: Invoice Period:
Bid Number: From: To:

Check one of the following:

__________________________
Yes, we have the following listed potential claims for the contract period listed above. (List below or on additional sheets the potential claims for this contract period. Include description of potential claim and a potential estimated cost.)

__________________________
No, we do not have any potential claims for the contract period listed above.

__________________________
(Signature) (Date)

__________________________
(Printed Name)

__________________________
(Title)
Des Moines Public Schools:  
1917 Dean Avenue  
Des Moines, IA 50316  
FROM CONTRACTOR:  
PROJECT:  
APPLICATION NO.:  
PERIOD TO:  

Distribution to:  

DMPS & Architect  

APPLICATION AND CERTIFICATE FOR PAYMENT  

PROJECT:  
APPLICATION NO.:  
PERIOD TO:  

Distribution to:  

DMPS & Architect  

CONTRACTOR’S APPLICATION FOR PAYMENT  

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ORIGINAL CONTRACT SUM</td>
<td></td>
</tr>
<tr>
<td>2. Net change by Change Orders</td>
<td></td>
</tr>
<tr>
<td>3. CONTRACT SUM TO DATE (Line 1 + 2)</td>
<td></td>
</tr>
<tr>
<td>4. TOTAL COMPLETED &amp; STORED TO DATE (Column G on G703)</td>
<td></td>
</tr>
</tbody>
</table>
| 5. RETAINAGE:  
  a. 10% of Completed Work (Columns D + E on G703) | $0.00   |
|  b. 1% of Stored Material (Column F on G703)      | $0.00   |
|  Total Retainage (Line 5a + 5b or Total in Column I of G703) | $0.00   |
| 6. TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total) |         |
| 7. LESS PREVIOUS CERTIFICATES FOR PAY (Line 6 from prior Certificate) | $0.00   |
| 8. CURRENT PAYMENT DUE                            |         |
| 9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6) |         |

ARCHITECT’S CERTIFICATE FOR PAYMENT  

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: $         

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to conform to the amount certified.)

ARCHITECT:  

By:         Date:            

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY  

<table>
<thead>
<tr>
<th>Description</th>
<th>ADDITIONS</th>
<th>DEDUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total changes approved in previous months by Owner</td>
<td>$-</td>
<td>$-</td>
</tr>
<tr>
<td>Total approved this Month</td>
<td>$-</td>
<td>$-</td>
</tr>
<tr>
<td>TOTALS</td>
<td>$-</td>
<td>$-</td>
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</tbody>
</table>

G702-1992

CAUTION: You should use an original AIA document which has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced.
AIA Document G702, APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor’s signed Certification is attached.

In tabulations below, amounts are stated to the nearest dollar. Use Column I on Contracts where variable retainage for line items may apply.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION OF WORK</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>SCHEDULED</td>
<td>WORK COMPLETED</td>
<td>MATERIALS</td>
<td>TOTAL</td>
<td>%</td>
<td>BALANCE</td>
<td>RETAINAGE</td>
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<td></td>
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<td>VALUE</td>
<td>FROM PREVIOUS APPLICATION (D+E)</td>
<td>THIS PERIOD</td>
<td>PRESENTLY STORED (NOT IN (G / C))</td>
<td>TO FINISH (C - G)</td>
<td>(D+E+F)</td>
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<tr>
<td>Line Item for OH&amp;P</td>
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<td>Line Item for General Conditions</td>
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<tr>
<td>Spec Section - Line for Labor</td>
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<tr>
<td>Spec Section - Line for Material</td>
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<tr>
<td>All Spec Sections</td>
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<tr>
<td>FOR 001 Etc - DMPS provides numbering.</td>
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</tr>
</tbody>
</table>

| PROJECT TOTAL |       |       |       |       |       |       |       |       |
|              | $-   | $-   | $-   | $-   | $-   | $-   | $-   | $-   |

AIA DOCUMENT G703 (Instructions on reverse side)

AIA Document G703 APPLICATION AND CERTIFICATE FOR PAYMENT MAY 1983 EDITION “AIA” @ 1983
THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, N.W., WASHINGTON, D.C. 20006
WARNING: Unlicensed photocopying violates U.S. copyright laws and is subject to legal prosecution.
1.1 SUMMARY
A. Section Includes
   1. Submittals.
   3. Change procedures.
   4. Execution of change orders.
   5. Correlation of Contractor submittals.
B. Related Sections
   2. Section 01300 - Submittals.

1.15 DEFINITIONS
The following definitions shall be used in establishing prices for change orders:
A. “Price” is the direct cost of material, labor, equipment, insurance, bond, and subcontract costs, plus profit and overhead.
B. “Cost” is the direct expense for material, labor, equipment, insurance, bond, and subcontract costs.
C. “Direct expense” is the Contractor’s actual cost of any item that is required for the completion of his Contract obligation (i.e., tool rental, material, equipment, etc.).
D. “Overhead” is a business expense created by the project, but not necessarily a direct part of that portion of the work involved (i.e., small tools, project management, (including job site superintendent, administrative support, etc.).
E. “Profit” is the compensation accruing to the Contractor for the assumption of risk in a business enterprise.

1.2 SUBMITTALS
A. Submit name of the individual authorized to receive change documents and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
B. Field Order Request Forms: Forms approved by the Owner’s Representative and Owner.
C. Approved Forms are attached to this Section.
D. FIELD ORDER REQUESTS MUST BE SUBMITTED IN WRITING WITHIN TEN (10) DAYS FROM THE DATE THE CONTRACTOR HAS KNOWLEDGE OF THE PROPOSED CHANGE.

1.3 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME
A. Furnish a proposal for a Field Order Request containing a price breakdown, itemized as required by the Owner’s Representative. The breakdown shall be in sufficient detail to permit an analysis of all direct costs, such as material, labor, equipment, insurance, bond,
and subcontract costs. Any amount claimed for subcontracts shall be supported by a similar price breakdown.

B. Maintain detailed records of work done on a time and material basis. Provide a complete description of the proposed change together with complete information required for evaluation and to substantiate costs of all changes in the Work.

C. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.

D. Provide additional data to support computations for each request:
   1. Quantity of products, labor and equipment.
   2. Taxes, insurance and bonds.
   3. Justification for any change in Contract Time (Applies to critical path items only)
   4. Credit for deletions from Contract, similarly documented.

E. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
   1. Origin and date of claim.
   2. Dates and times work was performed, and by whom.
   3. Time records and wage rates paid.
   4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

**1.4 PROFIT & OVERHEAD MARK-UP FOR FIELD ORDERS AND CHANGE ORDERS**

A. The profit and overhead mark-up on costs for all change orders shall NOT EXCEED the following:
   1. Fifteen (15) percent maximum mark-up for overhead and profit for Work directly performed by employees of the Contractor, Subcontractor or Sub-Subcontractor.
   2. Five (5) percent maximum Contractor’s mark-up for overhead and profit for Work performed or passed through by a Subcontractor and passed through to the Owner by the Contractor.
   3. Five (5) percent maximum Subcontractor’s mark-up for overhead and profit for Work performed or passed through by a Sub-Subcontractor and passed through to the Owner by the Subcontractor and Contractor.
   4. **Regardless of the above, the maximum allowable total mark-up for all tiers of contractors shall be twenty (20) percent passed through to the Owner by the Prime Contractor under any circumstances.**

**1.5 CHANGE PROCEDURES – FIELD ORDERS & CHANGE ORDERS**

A. The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time by issuing supplemental instructions.

B. The Owner’s Representative may issue a Field Order Request which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change, and the period of
time during which the requested price will be considered valid. Contractor shall prepare and submit an estimate within 10 days.

C. The Contractor may propose a change by submitting a request for change to the Owner’s Representative describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation.

D. For any potential claims, the Contractor must fill out a Potential Claim Form with each monthly Pay Application. See paragraph 18.01 of the General Conditions and Section 01027 – Application for Payment

1.5 EXECUTION OF FIELD ORDERS

A. Upon the Owner’s approval of a Field Order Request (FOR), it will act as the authorization for the Contractor to proceed with the change.

B. Field Order Requests are executed for any change up to 15% of contract amount and are approved by the District’s Chief Operating Officer.

C. If Total of all FORs exceed 15% of the total contract value, the school board will be notified and any changes beyond this point are presented to the school board for approval.

1.6 CORRELATION OF CONTRACTOR SUBMITTALS

A. Contractor will promptly revise Schedule of Values and Application for Payment forms to record each authorized Field Order Request as a separate line item and adjust the Contract Sum.

B. Promptly revise progress schedules to reflect any changes in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.

C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submission procedures.
B. Documentation of changes to Contract Sum and Contract Time.

1.2 RELATED SECTIONS

A. Document 00310 - Proposal: Schedule of Bid Alternates.
B. Document 00510 - Agreement Form: Incorporating monetary value of accepted Alternates.
C. Document 00100 - Instructions To Bidders: Requirements for Alternates.
D. Section 01310 - Progress Schedules: Work schedule affected by Alternates.
E. Section 01600 - Material and Equipment: Product options and substitutions.

1.3 REQUIREMENTS

A. Submit Alternates with full description of the proposed Alternate and the affect on adjacent or related components.
B. Alternates quoted on Proposal Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
C. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.4 SELECTION AND AWARD OF ALTERNATIVES

A. Indicate variation of Bid Price for Alternates described below and list in Proposal Form or any supplement to it which requests a 'difference' in Bid Price by adding to or deducting from the base bid price.
B. Bid may be evaluated on base bid price, Consideration may be given to Alternates and Bid Price adjustments.

1.5 SCHEDULE OF ALTERNATES

A. None

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

Not used

END OF SECTION
1.1 SUMMARY

A. Section Includes
   1. Coordination
   2. Pre-construction Meeting
   3. Project Meetings
   4. Pre-installation Conferences
   5. Electrical and Mechanical Coordination
   6. Coordination with Work by District
   7. Special Meetings
   8. Coordination of Contract Closeout

1.2 COORDINATION

A. Coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of Work, with provisions for accommodating items to be installed later and for accommodating items to be installed by the District and other Contractors.

B. Resolve differences or disputes concerning coordination, interference, or extent of work of the various sections of the specifications. Contractor's decisions if consistent with the requirements of the Contract Documents shall be final.

C. Coordinate completion and clean up of Work of separate Sections in preparation for Substantial Completion.

D. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and affect on work of other sections.

E. Coordinate sequence of work to accommodate District occupancy as specified in Section 01010.

F. Coordinate work so that work within telecom rooms is the first work done when a new trade comes on-site.

1.3 PRE-CONSTRUCTION MEETING

A. The Owner’s Representative will schedule a conference after Notice of Contract Award and prior to the start of Work.

B. Attendance Required: Owner, Architect, Owner’s Representative, Contractor, and others as appropriate.

C. Agenda:
   1. Submission of executed bonds and insurance certificates.
   3. Submission of Schedule of Values, and progress schedule.
4. Designation of personnel representing the parties in Contract, the Owner’s Representative, and the Architect.

5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract Closeout procedures.

1.4 PROJECT MEETINGS

A. The Owner’s Representative will schedule and administer meetings throughout progress of the Work at weekly intervals or as designated.

B. The Owner’s Representative will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, receive minutes from the Architect, and distribute copies within two days to Contractor, Architect, Owner, participants and those affected by decisions made. Architect will record minutes in an approved format within 2 days and deliver to Owner’s Representative. In the event Architect does not provide minutes within 48 hours, the Owner’s Representative may prepare minutes.

C. Attendance Required: Project Manager, job superintendent, major Subcontractors, suppliers and others as appropriate to agenda topics for each meeting.

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

1.5 PRE-INSTALLATION CONFERENCES

A. The Contractor will convene pre-installation conferences when required by individual Section of the Specifications. Include affected parties including the owner’s representative and the Architect/Engineer.

1.6 ELECTRICAL AND MECHANICAL COORDINATION

A. Coordinate use of project space and sequence of installation of mechanical and electrical work that is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
B. Use large scale drawings, if their preparation is required as part of work of Division 15 - Mechanical, and Division 16 - Electrical, of these specifications, together with shop drawings and layout drawings of other affected sections of these specifications to check, coordinate and integrate the work of various sections to prevent interferences.

C. Perform and complete checking and coordination before commencing construction in the affected areas.

D. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.7 COORDINATION WITH WORK BY DISTRICT

A. Coordinate service connections for District furnished and District installed equipment. Verify that service connections are correct sizes and in required locations.

B. Coordinate support and anchorage for equipment furnished and installed by the District. Provide blocking and backing as shown or directed to facilitate installation of equipment by others.

1.8 SPECIAL MEETINGS

A. The Owner’s Representative may call special meetings at any time during the course of the project. Special project meetings, if deemed necessary, shall include representatives of the Contractor and subcontractors as required by the Owner’s Representative.

1.9 COORDINATION OF CONTRACT CLOSEOUT

A. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.

B. After District occupancy of premises, coordinate access to site by the various construction trades for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of District's activities.

C. Assemble and coordinate closeout submittals.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
1.1 SECTION INCLUDES
   A. Requirements and limitations for cutting and patching of work.

1.2 RELATED SECTIONS
   A. Section 01010 - Summary of Work: Work by District or by separate contractors.
   B. Section 01120 - Alteration Project Procedures: Cutting and patching for alteration work.
   C. Section 01300 - Submittals.
   D. Section 01630 - Product Options and Substitutions.
   E. Individual Product 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.

1.3 SUBMITTALS
   A. 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.
      5. Work by District or by separate contractor.
   B. Include in request:
      1. Identification of project.
      2. Location and description of affected work.
      3. Necessity for cutting or alteration.
      4. Description of proposed work, and products to be used.
      5. Alternatives to cutting and patching.
      6. Effect on work of District or separate contractor.
      7. Written permission of affected separate contractor.
      8. Date and time work will be executed.

1.4 QUALITY ASSURANCE
   A. Patching shall achieve security, strength, weather protection and continuity of fire ratings, as applicable.
   B. Patching shall successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles. Where there is a dispute as to whether duplication is successful or has been achieved to a reasonable degree, the Architect's judgment shall be final.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspect existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching.
B. After uncovering existing work, inspect conditions affecting performance of work.
C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

A. Provide temporary supports to ensure structural integrity of the work. Provide devices and methods to protect other portions of project from damage.
B. Provide protection from elements for areas which may be exposed by uncovering work.
C. Maintain excavations free of water.

3.3 CUTTING AND PATCHING

A. Execute cutting, fitting, and patching including excavation and fill to complete work.
B. Fit products together, to integrate with other work.
C. Uncover work to install ill-timed work.
D. Remove and replace defective or non-conforming work.
E. Remove samples of installed work for testing when requested.
F. Provide openings in the work for penetration of mechanical, electrical and other work.

3.4 PERFORMANCE

A. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing.
B. Employ original installer to perform cutting and patching for weather exposed and moisture resistant elements and sight-exposed surfaces installed as work of this Contract.
C. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
D. Restore work with new products in accordance with requirements of Contract Documents.
E. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
F. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to full thickness of the penetrated element.
G. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit. Painted surfaces shall not present a spotty, touched-up appearance.

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES
  A. Quality control.
  B. Surveying services.
  C. Project record documents.

1.2 RELATED SECTIONS
  A. General Conditions: Benchmarks, Monuments, Statues and Measurements. GC-13
  B. Section 01700 - Contract Closeout: Project record documents.

1.3 QUALITY CONTROL
  A. Employ a professional Engineer of the discipline required for specific service on project, licensed in the State of Iowa.
  B. Submit evidence of Engineer’s errors and omissions insurance coverage in the form of an Insurance Certificate.

1.4 SUBMITTALS
  A. Submit name, address, and telephone number of Engineer before starting survey work.
  B. On request, submit documentation verifying accuracy of survey work.
  C. Submit a copy of registered site drawing and certificate signed by the Engineer, that the elevations and locations of the work are in conformance with Contract Documents.

1.5 PROJECT RECORD DOCUMENTS
  A. Maintain complete, accurate log of control and survey work as it progresses. Indicate dimensions, locations, angles, and elevations of construction and site work.
  B. Submit Record Documents under provisions of Section 01700.
  C. Project Record documents are to be updated on a regular basis. The status of the Project Record Documents will be considered when evaluating Applications for Payment. See section 1027 paragraph 1.4 E.

1.6 EXAMINATION
  A. Verify locations of survey control points prior to starting work.
  B. Promptly notify Architect of any discrepancies discovered.

1.7 SURVEY REFERENCE POINTS
  A. Contractor to locate and protect survey control and reference points.
  B. Control datum for survey is that indicated on Drawings.
  C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
  D. Promptly report to Program Manager the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
  E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
1.8 SURVEY REQUIREMENTS

A. Provide field engineering services. Utilize recognized engineering survey practices.

B. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on Project Record Documents.

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

D. Periodically verify layouts by same means.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY
   A. Section Includes
      1. Quality Assurance.
      2. Statutory and Jurisdictional Regulations.
   B. Related Sections
      1. Document 00700 - General Conditions of the Contract for Construction

1.2 QUALITY ASSURANCE
   A. For products of workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.3 STATUTORY AND JURISDICTIONAL REGULATIONS
   A. All work shall conform to the following requirements:
      All building projects for Des Moines Public Schools (DMPS) shall be designed and Contract Documents prepared in conformity with the following Codes and Regulations:
      1. International Building Code (Most current version used by City of Des Moines)
      2. International Existing Buildings Code (Most current version used by City of Des Moines)
      3. Des Moines Municipal Code
      4. Uniform Plumbing Code (Most current version used by City of Des Moines)
      5. National Electric Code (Most current version used by City of Des Moines)
      6. International Mechanical Code (Most current version used by City of Des Moines)
      7. International Fire Code (Most current version used by City of Des Moines)
      8. Metropolitan Design Standards for Engineering
      10. ADA Accessibility Guideline for Buildings and Facilities
      15. United States Occupational Safety and Health Administration 29CFR 1910 –

1.4 GENERAL STANDARDS FOR WORK AND MATERIALS

A. Trade Standards:
   1. Referenced standards shall have full force and effect as though printed herein. Upon request, Architect will furnish information as to where copies may be obtained.
   2. Material or trade associations, societies, or other bodies regularly publishing standards most widely used under these documents are listed herein together with reference symbols.
   3. Individual standards referenced in technical specifications (Divisions 1 through Division 16) shall also apply to the work of this contract.
   4. No construction shall commence until building plans have been submitted to and approved by the State Fire marshal’s Office and the State Building Code Bureau and/or other approving agencies as applicable.

1.5 APPLICATION

A. If there is a conflict between any referenced standard and the Contract Documents, notify the Program Manager, and await instructions before proceeding with affected work.

B. The contractual relationships, duties, and responsibilities of the parties to the Contract shall not be altered by mention or inference in any reference document.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES
A. Products and installation for patching and extending existing work.
B. Products and installation for installing new components in existing construction.
C. Transition and adjustments.
D. Repair of damaged surfaces, finishes, and cleaning.

1.2 RELATED SECTIONS
A. Section 01040 - Coordination: Work sequence: District occupancy.
B. Section 01045 - Cutting and Patching.
C. Section 01500 - Construction Facilities and Temporary Controls: Temporary enclosures, protection of installed work and existing facilities, and cleaning during construction.

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK
A. New Materials: As specified in product sections or match existing products and work for patching and extending work.
B. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing work as a standard.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Verify that demolition is complete, and areas are ready for installation of new work.
B. Beginning of restoration work means acceptance of existing conditions.

3.2 PREPARATION
A. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.
B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.
C. Remove items to be salvaged and relocate to an area on the main level of the building as designated by the Owner’s Representative. Coordinate Owner’s storage with Owner’s Representative. Weather protect until acceptance by Owner.
D. Remove debris and abandoned items from area and from concealed spaces.
E. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.
F. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.
G. Protect existing fire alarm sensors and wiring in ceilings and walls from damage.
1. Alert Owner’s Representative prior to work in buildings with existing active fire alarm sensors to avoid response to false alarm and advise Owner’s Representative each day at end of work to reinstate response to alarms.

3.3 INSTALLATION
   A. Coordinate work of alterations and renovations to expedite completion sequentially and to accommodate District occupancy.
   B. Remove, cut, and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition.
   C. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
   D. Advise Architect of existing plumbing, heating, ventilation, air conditioning, and electrical systems which are found to be deficient during course of the work.
   E. Install products as specified in individual sections.

3.4 TRANSITIONS
   A. Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
   B. 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.

3.5 ADJUSTMENTS
   A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   B. Where a change of plane of 1/4 inch or more occurs, provide for a smooth transition.
   C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
   D. Fit work at penetrations of surfaces as specified in Section 01045.

3.6 FINISHES
   A. Finish surfaces as specified in individual product sections.
   B. Finish patch work to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

END OF SECTION
1.1 SUMMARY
A. Section Includes
   1. Submittal procedures.
B. Related Sections
   1. Section 01310 - Progress Schedules
   2. Section 01400 - Quality Control
   3. Section 01630 - Product Options and Substitutions
   5. Document 00700 – General Conditions of the Contract

1.2 SUBMITTAL PROCEDURES
A. Submit schedule of submittals within 3 working days of receiving Notice of Contract Award. Submittal schedule to include proposed submittal number, specification section, title and anticipated date of submission.
B. All submittals to be submitted for approval within 30 days of Notice of Contract Award.
C. Transmit submittals to Owner’s Representative using Owner’s Representative approved format. Electronic PDF submittals are to be used when possible.
D. Number the submittals using the specification number from the specifications. Resubmittals shall have original number with an alphabetic suffix.
E. Identify Project, Contractor, Subcontractor or supplier; name and telephone number of individual to contact for additional information; pertinent Drawing sheet and detail number(s), specification section number, as appropriate, and date of submission.
F. Apply Contractor's stamp, signed or initialed, certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and Contract Documents.
G. Submit product data sheets which clearly designate which of the items on the sheet is being provided. Cross all other items out to clarify the submittal.
H. Submit color charts in proper quantities of original color materials; photocopied reproductions will not be accepted.
I. Fully coordinate material prior to submittal. Determine and verify field dimensions and conditions, catalog numbers, and similar data. Coordinate with public agencies involved and secure necessary approvals; signify that approvals have been secured by stamp or other means. Coordinate with the various types of work involved; make submittals in groups containing all associated items.
J. Submit product submittals required by individual sections of the specifications. Submittals not required by the specifications, but made at the option of the Contractor, will be returned without review unless accompanied by written, valid justification.
K. Schedule submittals to expedite the Project and deliver to Owner’s Representative. Coordinate submission of related items. Allow a minimum of 15 calendar days for processing.

L. Make complete product submittals. Include shop drawings, product data, samples, manufacturer’s instructions and manufacturer’s certificates as required in individual specification sections. Partial submittals will be rejected as not complying with Contract Documents. Manufacturer’s certificates based on tests or inspections at time of manufacture may be submitted separately.

M. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed work. State whether submitted product is the specified product or an accepted substitution. Shop drawings and product data indicating substitutions which have not been previously accepted will be returned without review.

N. Provide space for Contractor, Owner’s Representative, and Architect/Engineer review stamps.

O. Submit in PDF format.

P. The Architect will review the submittals; mark the submittals with required revisions; stamp the submittals and indicate "No Exceptions Taken," "Make Corrections Noted," "Revise and Resubmit," "Rejected" or "Submit Specified Item" and return the submittal.

Q. Review the returned submittals and take appropriate action as indicated. If submittals are marked "Revise and Resubmit," "Rejected" or "Submit Specified Item," make revisions necessary, identify revisions with a 'cloud' and resubmit in same manner and number as for the original submittal.

R. The Architect will review the resubmittal and take action, as appropriate, in the same manner as for the original submittal.

S. Review the returned resubmittal and take appropriate action as indicated. Continue to revise and resubmit until Architect returns resubmittal marked "No Exception Taken" or "Make Corrections Noted." Said marks signify final action.

T. Following final action by the Architect, provide copies of submittals for concerned parties including District, Job Superintendent and appropriate subcontractors. Instruct parties to promptly report any inability to comply with provisions.

U. Use only those submittals which bear stamps showing final review of the Contractor, the Architect and appropriate Architect’s consultant, as appropriate.

V. If deviations, discrepancies or conflicts between the shop drawings/submittals and contract documents are discovered either prior to or after the shop drawings/submittals are processed by the Architect, the contract documents shall control over the shop drawings/submittals.

1.3 PRODUCT DATA/MATERIAL LIST

A. Submit the number of copies which the Contractor requires, plus six (6) copies which will be retained of any submittal which cannot be made by PDF.
B. Submit manufacturer’s most recently published catalog sheets, brochures, drawings, schedules, performance charts, illustrations and other standard descriptive data.

1. Modify submittal in a neat and orderly fashion to delete information which is not applicable to Project.

2. Supplement standard information to provide additional information applicable to Project.

3. Make note of dimension and clearances required.

4. Make note of performance characteristics and capacities.

1.4 SAMPLES

A. Submit the size of samples specified in individual specification sections. Submit the number of samples which the contractor requires, plus two (2) of which will be retained. Contractor to retain Owner copy of sample at project site.

B. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittal for interfacing work.

C. Submit samples of finishes from the full range of manufacturer's standards of selected custom colors, textures and patterns for Architect's selection.

D. Where samples have natural variation in texture, color and dimension, submit samples showing extreme range plus the middle variation.

E. Erect Field Samples and Mock-Ups at the Project site at location acceptable to Owner’s Representative and Architect. Construct each sample or mock-up complete, including work of all trades required in finished work.

1.5 SHOP DRAWINGS

A. Submit in the form of one reproducible transparency and five opaque reproductions if submittal cannot be made by PDF or CAD. Opaque reproductions will be retained by the Owner’s Representative and Architect.

B. State or indicate data necessary to describe the product or system. Present in a clear and thorough manner.

C. Identify field dimensions; show relation to adjacent or critical features, work or products.

D. Title each drawing with 2022 RESTROOM UPGRADES and number.

E. After review, reproduce and distribute in accordance with article on procedures above and for Record Documents described in Section 01700, Contract Closeout.

1.6 MANUFACTURER'S INSTRUCTIONS AND CERTIFICATES

A. When specified in individual specification sections, submit manufacturer's printed instruction for delivery, storage, assembly, installation, start-up, adjusting, finishing in quantities specified for Product Date.

B. Identify conflicts between manufacturer's instructions and Contract Documents.

C. Submit manufacturer's certifications based on recent or previous test results with other submittals specified. Submittal certifications based on tests or inspections at time of manufacture with product delivery.

D. When specified in individual specification sections, submit manufacturer's certificate for review in quantities specified for Product Data.
E. Indicated material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

F. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

1.7 PATTERNS AND COLORS

A. Unless the exact pattern and color of a product is indicated in the Contract Documents whenever a choice of pattern or color is available for a product, submit accurate color charts and pattern charts in the required number of original color or patterns for review and selection.

1.9 SUBMITTAL TIMELINE

A. The following submittals are due within 24 hours of Bid Time:
   1. Targeted Small Business Participation Form (Document 00312)
   2. Non-Collusion Affidavit (Document 00313)
   3. Bidder Status Form (Document 00314)
   4. Personnel Acknowledgement and Certification (Document 00315)
   5. List of Subcontractors and Suppliers

B. The following submittals are due 10 working days after Notice of Contract Award:
   1. Preliminary Construction Schedule
   2. Certificate of Insurance
   3. Bond
   4. Schedule of Submittals
   5. Copy of Contractor’s Safety Program
   6. Copy of Contractor’s Jobsite Staging Plan

C. The following submittals are due 10 working days prior to first Application for Payment:
   1. Schedule of Values
   2. Construction Progress Schedule
   3. Security Program (section 01500 para. 1.21)

D. The following submittals are due 30 calendar days after Notice of Contract Award:
   1. Balance of all required Project submittals

E. The submittal log will be maintained by the Contractor.

PART 2 - PRODUCTS

Not used
Part 3 - Execution

Not used

End of section
1.1 SUMMARY

A. Section Includes
   1. Format.
   2. Content.
   3. Revisions to Schedules.
B. Related Sections
   1. Section 01040 - Coordination and Meetings: Project Meetings.

1.2 FORMAT

A. Prepare Schedules as a horizontal bar chart or CPM with separate bar for each major portion of Work or operation, identifying first workday of each week.
B. Use commercially available software for producing schedule. Provide electronic document to Owner’s Representative if requested.
C. Sequence of listing: The chronological order of the start of each item of work.
D. Scale and Spacing: To provide space for notations and revisions.

1.3 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
B. Identify each item by specification Section number.
C. Identify work by separate stages and logically grouped activities.
D. Provide sub-schedules to define critical portions of the entire Schedule.
E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
F. Show coordination with District work and other contractors.
G. Show the network schedule logic on the schedule form of a CPM (or table if a bar chart is used).
H. Indicate Critical Path of project activities on the project schedule.

1.4 REVISIONS TO SCHEDULES

A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
B. Identify activities modified since previous submittal, major changes in scope and other identifiable changes.
C. Provide narrative report to define problem areas, anticipated delays and impact on Schedule. Report corrective action taken, or proposed, and its effect.
1.5 SUBMITTALS

A. Submit Preliminary Construction Schedule within 10 working days after date of Notice of Award.
B. Construction Progress Schedule to be submitted and accepted prior to first Application for Payment.
C. After the Owner’s Representative has accepted the Construction Progress Schedule, it shall become the basis for determining scheduled completion of the project.
D. Submit updated Construction Progress Schedules with each Application for Payment.
E. Submit the schedule by electronic distribution.

1.6 DISTRIBUTION

A. Distribute copies of Project Construction Schedule to project site file, Subcontractors, suppliers, and other concerned parties.
B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Schedules.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
1.1 SECTION INCLUDES
   A. Quality assurance and control of installation.
   B. References.
   C. Field samples.
   D. Mock-up.
   E. Inspection and testing laboratory services.
   F. Manufacturers’ field services and reports.

1.2 RELATED SECTIONS
   A. Section 01090 - Reference Standards.
   B. Section 01300 - Submittals: Submission of Manufacturers’ Instructions and Certificates.
   C. Section 01410 - Testing Laboratory Services
   D. Section 01600 - Material and Equipment: Requirements for material and product quality.

1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION
   A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
   B. Comply fully with manufacturers' instructions, including each step in sequence.
   C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner’s Representative before proceeding.
   D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
   E. Perform work by persons qualified to produce workmanship of specified quality.
   F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.4 REFERENCES
   A. Conform to reference standards in effect on date of Contract Documents unless otherwise specified in product Sections.
   B. Obtain copies of standards when required by Contract Documents.
   C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.5 FIELD SAMPLES
   A. Install field samples at the site as required by individual specification sections for review.
   B. Acceptable samples represent a quality level for the Work.
   C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect.

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1.6 MOCK-UP

A. Mock-ups shall be prepared in a timely manner to allow review and acceptance by the Owner’s Representative, Owner and Architect.

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

C. Where mock-up is specified in individual Sections to be removed, clear area after mock-up has been accepted by Architect.

1.7 INSPECTION AND TESTING LABORATORY SERVICES

A. Owner will appoint, employ and pay for services of an independent firm to perform inspection and testing.

B. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Architect.

C. Reports will be submitted by the independent firm to the Architect and Owner’s Representative in writing indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.

   1. Notify Architect, Inspector and Owner’s Representative 48 hours prior to expected time for operations requiring services.

   2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

1.8 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. Submit qualifications of observer to Owner’s Representative 30 days in advance of required observations. Observer subject to approval of Owner’s Representative and Architect.

B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide: qualified staff personnel to observe site conditions, conditions of surfaces and installation; quality of workmanship; start-up of equipment; test, adjust, and balance of equipment; and other as applicable, and to initiate instructions when necessary.

C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Submit report in triplicate within 30 days of observation to Owner’s Representative for review.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. District provided testing laboratory services.
B. Contractor provided testing and inspection services.

1.2 RELATED SECTIONS

A. Section 01700 - Contract Closeout: Record documents.
B. Individual Specification Sections: Inspections and tests required, and standards for testing.
C. Divisions 15 and 16 - Mechanical and Electrical: Testing, adjusting and balancing of mechanical and electrical systems.

1.3 SELECTION AND PAYMENT

A. The District will employ and pay for the services of testing to conduct required tests and inspections for the project.

1. Soils: The District will employ and pay for the services of a Soils Engineer to observe excavating, grading, and filling operations and to provide testing of soil materials as specified in individual sections of this specification. The Soils Engineer will have management, laboratory and field supervisory personnel with minimum 5 years experience in testing and inspection of soils materials and will have adequate facilities, equipment, and technical references to permit performance of testing and inspections within applicable regulations and standards.

2. Other Construction: The District will employ and pay for the services of a testing laboratory to conduct tests, inspections, and special inspections as required and as specified in individual sections of this specification.

a. For construction requiring testing and inspection other than special inspection. The testing laboratory will have management, laboratory and field supervisory personnel with minimum 5 years experience in testing and inspection of work and materials of construction and will have adequate facilities, equipment, and technical references to permit performance of testing and inspections within applicable regulations and standards.

B. Re-testing: Per paragraph G.C. 20, when initial tests indicate non-compliance with the Contract Documents, subsequent re-testing occasioned by the non-compliance shall be performed by the same testing agency and the costs thereof will be deducted by the District from the Contract Sum by Change or Field Order.

C. Re-testing Covered Work: Re-examination of previously tested and inspected work may be ordered by the Architect and by the Owner. The Contractor shall uncover such work if re-testing is ordered. If work is found in accordance with Contract Documents, the District will pay costs of uncovering, removing, re-testing and replacing. If work is found not in accordance with Contract Documents, the District will deduct the cost of re-testing from the Contract Sum by Change Order and the Contractor will bear the costs of uncovering, removing and replacing work.

D. Testing and inspecting performed for Contractor’s convenience, such as testing and inspection to establish equivalence of substitutions, equivalence of repairs to damaged
materials, and testing and inspecting to expedite the operations, shall be the Contractor's responsibility.

1. The Contractor shall employ a licensed professional engineer of the discipline required to develop a testing program that will establish equivalency.

2. The Contractor shall submit the testing program to the Architect for review.

3. The Contractor shall arrange testing in accordance with the accepted testing program to be performed by the District's testing laboratory.

4. The costs of testing done by the District's testing laboratory for the Contractor will be deducted from the Contract Sum by Change Order.

5. The Contractor may not arrange for testing upon portions of the work already completed except with the written consent of the Architect.

E. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

F. The Architect shall have the right to make tests at any time on materials or work done whether those materials are specified or substituted items.

1.4 AGENCY RESPONSIBILITIES

A. Provide qualified personnel at site. Cooperate with Program Manager, Architect, and Contractor in performance of services.

B. Perform specified sampling and testing of materials in accordance with specified standards.

C. Ascertain compliance of materials and mixes with requirements of Contract Documents.

D. Promptly notify Program Manager, Architect, and Contractor of observed irregularities and non-conformance of work and products.

E. Perform additional tests required by Architect.

F. Attend Preconstruction Meeting. Attend Progress Meetings as requested.

G. Provide quantity estimates for all work associated with unforeseen conditions.

1.5 AGENCY REPORTS

A. Test/Inspection Reports:

1. Include every test and inspection made regardless of whether such tests and inspections indicate that the material and procedures are satisfactory or unsatisfactory.

2. Provide documentation describing scope of additional work associated with unforeseen conditions.

3. Include records of special sampling operations as required.

4. Indicate specified design strength of materials such as masonry, concrete and steel.

5. State whether or not materials and procedures comply with requirements of the Construction Documents.

6. Submit copies of reports to Program Manager, District, Architect, Structural Engineer, Civil Engineer, Soils Engineer and/or Contractor as applicable within 14
days of tests. Submit copies of reports of non-complying materials and procedures immediately.

1.6 LIMITS ON AGENCY AUTHORITY

A. Agency or laboratory may not release, revoke, alter or enlarge on requirements of Contract Documents.
B. Agency or laboratory may not approve or accept any portion of the work.
C. Agency or laboratory may not assume any duties of Contractor.
D. Agency or laboratory has no authority to stop work.

1.7 CONTRACTOR RESPONSIBILITIES

A. Package and deliver to laboratory at designated location adequate samples of materials proposed to be used which require testing. Samples shall be selected by laboratory personnel. Allow proper time for selecting samples, and making tests or considerations.
B. Cooperate with laboratory personnel, and provide access to work and to manufacturer's facilities.
C. Provide incidental labor and facilities to provide access to work to be tested, to obtain and handle samples as selected by laboratory personnel at the site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.
D. Notify Program Manager and Architect, minimum 24 hours prior to expected time for operations requiring inspection and testing services. Do not allow work to be covered prior to inspection and testing.

1.8 SCHEDULE OF INSPECTIONS AND TESTS

A. Testing Certificates Provided by Contractor as required:
   1. Mill test reports for reinforcing steel.
   2. Mill test reports for cement.
   3. Weighmasters tickets for each load of transit mixed concrete.
   4. Weighmasters affidavit.
   5. Certifications of welders.
   6. Certifications of materials.
B. Initial Testing Provided by Owner as required:
   1. Site Clearing: Test compaction of excavation backfill.
   2. Earthwork:
      a. Sample and test fill and base materials for compliance with specified requirements.
      b. Inspect placement of engineered fill.
      c. Inspect bottoms of footings and foundation trenches.
      d. Test compaction of each layer of engineered fill.
   3. Trenching:
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4. Asphalt Concrete Paving:
   a. Sample and test quality of paving and base if directed by Program Manager and Architect.
   b. Test compaction of paving and base if directed by Program Manager and Architect.

5. Portland Cement Concrete Paving:
   a. Review mix designs.
   b. Sample and test compressive strength of concrete.
   c. Sample and test slump of concrete.

6. Concrete Reinforcing:
   a. Inspect placement and installation of reinforcing steel.
   b. Inspect field welding of reinforcing steel.

7. Cast-In-Place Concrete:
   a. Sample and test cement.
   b. Sample and test aggregate.
   c. Review mix designs and confirm mix design proportions with weighmaster.
   d. Perform initial batch plant inspection.
   e. Inspect concrete placement.
   f. Sample and test slump of concrete.
   g. Test air content of concrete.
   h. Sample and test concrete for compressive strength.
   i. Test concrete for shrinkage.

8. Structural Steel:
   a. Inspect shop and field welding.
   b. Test full penetration welds.

9. Metal Fabrications:
   a. Inspect shop and field welding of load bearing fabrications.
   b. Test full penetration welds in load bearing fabrications.

10. Fire caulking:
    a. Inspection by city certified inspection agency.
    b. Test in accordance with accepted practice.

C. Initial Testing Performed by Owner's Testing Laboratory at Owner's Cost: The cost of the following initial tests, if required, will be deducted by the Owner from the Contract Sum by Change Order.
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1. Testing to establish equivalence of material not properly identified.
2. Testing to establish equivalence of substitutions.
3. Testing required in order to expedite Contractor’s operations.
4. Testing relating to repair of work which fails to meet specifications.
5. Testing and inspection required to correct damage to material in shipping and erection.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water service and sanitary facilities.

2. Temporary Controls: Barriers, fencing, water, noise and vibration control, dust and mud control, traffic control, interior and exterior enclosures, protection of installed work, security and fire protection.

3. Construction Facilities: Access roads, parking, progress cleaning, project identification, field offices and storage sheds, and construction aids.

B. Related Sections

1. Section 01700 - Contract Closeout: Final Cleaning.


1.2 REFERENCES

A. ASTM E84 - Surface Burning Characteristics of Building Materials.


1.3 SUBMITTALS

A. Submit under the provisions of Section 01300.

1.4 TEMPORARY ELECTRICITY

A. Contractor shall provide all additional materials required for temporary power (e.g. spider boxes, temporary panels and feeder cables) and to provide labor to relocate the panels as required for the project. Contractor shall provide the labor to tie in the temporary panels to the main switchboard and to provide periodic service and maintenance to the temporary panels.

B. Temporary electrical power will be available at the project site from existing outlets and panels. Contractor will replace damaged receptacles damaged by construction activities at no cost to the District.

C. Owner will pay cost of energy used. Contractor shall exercise measures to conserve energy.

D. Should the existing electrical power not be sufficient, Contractor will arrange with the utility company to provide the additional service required and pay the costs associated with providing the additional service or to provide generators. The Contractor will pay cost of this energy used.

Permanent convenience receptacles may be used during construction. Any devices damaged during construction shall be replaced at no cost to the Owner.

1.5 TEMPORARY LIGHTING (See Section 1.4)

1.6 TEMPORARY HEAT

A. The contractor shall supply any temporary heating systems and fuel required for the addition area to allow the continuous progression of the exterior and interior work on the
building. Contractor to install and maintain construction phase filters to prevent dust from entering the systems.

1.7 TEMPORARY VENTILATION
   A. Each Trade Contractor shall be responsible for providing adequate forced ventilation of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors and gases.

1.8 TEMPORARY TELEPHONE SERVICE
   A. The Contractor will be responsible for their phone / communications services.
   B. Trade Contractor’s Project Manager and on-site Project Supervisor shall carry mobile telephones with them during all work hours of the project and be available by phone during off hours for emergencies. Mobile phone numbers to be made available to the Owner prior to start of construction.

1.9 TEMPORARY WATER SERVICE
   A. The contractor can use the existing water services for ordinary uses. Contractor is responsible for getting water from the closest existing water source.
   B. Owner will pay cost of water used for ordinary uses. Exercise measures to conserve water.
   C. Contractor to provide water by tank truck or by hydrant meter for watering sod. Contractor to pay for water used.

1.10 SANITARY FACILITIES
   A. The contractor shall provide temporary chemical toilets for the use of their workmen.
   B. Existing and permanent sanitary facilities shall not be used.

1.11 BARRIERS
   A. Contractor’s, as required, shall provide temporary barriers as detailed below:
      1. Provide temporary barriers to prevent unauthorized entry to construction / building areas and to protect existing facilities and adjacent properties from damage from construction operations.
      2. Provide barricades as required by governing authorities for public rights of way and for public access.
      3. Provide barriers around trees and plants designated to remain. Provide temporary fencing around drip line of trees designated to remain. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials and puddling or continuous running water. Replace damaged plant life. Maintain existing tree and plant barriers and at the conclusion of construction operations remove temporary tree and plant barriers as directed by the Owner.
      4. Provide barricades around trenches. Barricade trenches less than 6 inches deep with warning tape. Cover trenches 6 inches deep and greater subject to pedestrian traffic with plywood covers or barricade with chain link fence as specified below. Cover trenches subject to vehicular traffic with suitable steel cover or barricade with chain link fence as specified below.
   B. Relocate barriers as required by progress of work.
C. Maintain temporary barriers in a structurally sound condition with a neat, orderly appearance. Observe temporary barriers daily for safety compliance.

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

E. Walkways and Barricades: If Contractor's portion of work interferes with pedestrians on the streets, provide pedestrian walkway protection and wood barricades conforming to City standards and requirements.

1.12 TEMPORARY FENCING
A. Temporary fencing is required as necessary to secure contractor work areas, storage areas and to protect the public. Temporary fencing and gates are to be installed and removed by the contractor. All fencing shall be 6’ high chain link with a top rail and new fabric. It shall be installed sound, maintained during its use and removed when work is complete.

1.13 CONTROL OF WATER
A. Each trade Contractor shall be responsible for water control as detailed below.
   1. Rainwater shall be prevented from entering the facilities while work is underway. Rainwater, surface or subsurface water, or other fluid, shall not be permitted to accumulate in excavations or under or about the structures. Should such conditions develop or be encountered, the areas affected shall be de-watered with temporary pumps, piping, ditches, dams or other methods at the expense of the Trade Contractor.
   2. Grade site to drain. Maintain excavations free of water. Provide, operate and maintain pumping equipment.
   3. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.14 NOISE AND VIBRATION CONTROL
A. Contractor shall insure noise and vibrations generated through the completion of the Work do not affect educational activities. The contractor and their subcontractors shall modify work schedules, at no cost to the owner, if necessary to prevent disruptions to educational activities.

B. Contractor shall comply with applicable regulatory requirements for the operation of powered equipment as detailed below.

C. Equipment and impact tools shall have intake and exhaust mufflers.

D. Cooperate with the Owner if the use of noisy and vibratory equipment becomes objectionable.

E. Speakers / radios will not be permitted.

1.15 DUST AND MUD CONTROL
A. Contractor shall be responsible for controlling dust and mud during construction.
   1. Execute Work by methods to minimize raising dust from construction operations.
   2. Conform with applicable Federal, State and Local regulatory requirements and ordinances concerning dust control.
   3. Contractor shall be responsible for additional cleaning required in in portions of the building outside of the work area that are impacted by dust and debris generated
from completing work activities.
B. Provide positive means to prevent airborne dust from dispersing into atmosphere.
C. Remove mud originating from construction site from city streets and sidewalks.

**1.16 TRAFFIC CONTROL**

A. Contractor: Furnish, erect and maintain sufficient warning and directional signs, barricades and warning lights and sufficient flag people to give adequate warning of construction to vehicular traffic at all times.
B. Coordinate lane closures with appropriate government agencies.
C. Maintain a minimum number of travel lanes for traffic specified by appropriate government agencies.

**1.17 EXTERIOR ENCLOSURES**

A. Contractor shall be responsible for exterior enclosures as detailed below.
   1. Provide temporary insulated weather-tight closures of openings in exterior surfaces to provide acceptable working conditions and protection for materials, to allow for temporary heating and maintenance of ambient temperatures identified in individual specification sections and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.
   2. Provide temporary roofing as required.

**1.18 INTERIOR ENCLOSURES**

1. Provide temporary dust and traffic control enclosures to prevent dust and debris from entering unaltered areas and to protect the public.
2. Certain interior enclosures shall be installed at the start of the project.

**1.19 PROTECTION OF INSTALLED WORK**

A. Contractor shall be responsible for protection of installed work as detailed below.
   1. Protect installed work and provide protection from damage.
   2. Provide temporary protection for installed products. Control activity in immediate work area to minimize damage.
   3. Provide protective coverings at walls, projections, jambs, sills and soffits of openings.
   4. Protect finished floors, stairs and other surfaces from traffic, dirt, wear, damage and movement of heavy objects by protecting with durable sheet materials.
   5. Prohibit traffic from landscaped areas.

**1.20 PROTECTION OF EXISTING FACILITIES**

A. Contractor shall be responsible for protection of existing facilities as detailed below.
   1. Provide temporary protection for existing facilities as specified for installed work.
   2. Replace or repair pipes, conduits and conductors broken or severed as a result of construction activities by the end of the workday in which they were broken or
3. Become familiar with existing conditions of all systems to remain. Provide temporary connections as required to maintain systems. Protect systems during construction. Provide temporary tie-in pipes, conduits and conductors as required to maintain systems completely operational during construction.

4. The trade contractor shall be responsible for the protection of tops, trunks, and root systems of existing trees and shrubs on the project site. Install planking with 2 x 4’s to 8’ minimum height to protect existing tree trunks on the project site that may be subject to construction damage. Installation of protective structure shall be made before any work is started and not removed until directed by the Owner. Alternate method is to fence around the drip lines of the trees.

Do not permit heavy equipment or stockpiles within the branch spread. No ropes, wires, cables, or other devices shall at any time be affixed to a tree or shrub so as to damage the bark, break branches, or destroy its natural shape.

The Trade Contractor shall be liable in cases of accidental damage to trees and shrubs that are to remain on the site.

The Trade Contractor shall notify the Owner immediately in cases of accidental damage so that the proper repairs can be made. Cost of such repairs will be assessed to the Trade Contractor. The Trade Contractor shall not attempt to make such repairs himself.

Evaluation of trees or shrubs damaged beyond repair shall be made on the basis of replacement cost, if replaceable, with material of equal size. In cases where it would not be possible to replace a tree with one of equal size, trees shall be evaluated on the basis on the "Shade Tree Evaluation" formula of the International Shade Tree Conference, current edition.

5. Maintain existing plumbing, mechanical, electrical, security, intercom and fire alarm systems operational at all times.

1.21 SECURITY

A. Contractor shall be responsible for the security of its own equipment and materials on the job site.

B. Provide sufficient security program and facilities to protect work, existing facilities and Owner operations within construction area from unauthorized entry, vandalism and theft.

C. Secure, maintain and protect the work, stored materials, equipment and temporary facilities until time of acceptance, or such earlier time as Owner may choose to assume such responsibility.

D. Contain and secure construction equipment and materials to satisfaction of the Owner.

E. Submit security program to Owner for review and coordination.

1.22 TEMPORARY FIRE PROTECTION

A. Provide and maintain fire extinguishers, fire hoses and other equipment necessary for fire protection.

B. Designate use and use such equipment for fire protection only.

1.23 LAWN AREAS
1. Contractor's vehicles may not be driven into lawn areas without prior approval of the Owner. In those cases where it is necessary to drive such a vehicle or vehicles, the Contractor shall provide planking material upon which to drive. The Contractor shall be held responsible for any damages incurred.

2. Lawn areas which are disturbed by construction shall be repaired to the satisfaction of the Owner and paid for by the Contractor.

1.24 PARKING
A. Contractor: The contractor may utilize school parking lots during non school hours. All other parking shall be off site.

1.25 PROGRESS CLEANING
A. Contractor shall provide all measures to secure debris and provide dumpsters for removal from the site.
B. Contractor shall maintain all work areas free of waste materials, debris and rubbish. Maintain site in a clean and orderly condition by removing waste materials weekly or more frequently as required. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces and other closed or remote spaces, prior to enclosing the space. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
C. Contractor shall supply labor for a general job site cleanup each Friday. The buildings shall be brought to a broom clean condition and all debris shall be deposited in the dumpsters. Break cartons and containers down for better use of dumpsters.

1.26 STORAGE
A. Trade contractors shall store all their materials onsite in a manner not to interfere with the work of any other trade contractor. Trade contractors shall move their stored materials as required for the work of all to proceed.

1.27 CONSTRUCTION AIDS
A. Furnish, operate and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment required under the Contract. Include elevators, hoists, derricks and conveyances for transportation of workers and transporting and placing materials and equipment necessary for performance of the work.
B. Maintain plant and equipment in safe and efficient operating condition. Repair damage due to defective plant and equipment and use thereof at no increase in Contract Sum.
C. Furnish, erect, and maintain for duration of work, scaffolds, runways, guardrails, platforms and similar temporary construction necessary for the performance of work. Such facilities shall be of type and arrangement required, structurally sound and well secured.

1.28 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS
A. Remove temporary above grade or buried utilities, materials, equipment and facilities prior to inspection at completion.
B. Clean and repair damage caused by installation or use of temporary facilities.
C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.29 TEMPORARY CONTROLS
A. Temporary Construction, Equipment and Protection
   1. Protection: Contractor must protect all workers and equipment from power lines and maintain safe distances and protective devices as required by OSHA.
   2. Temporary construction and equipment: Temporary construction and equipment shall conform to regulations, ordinances, laws and other requirements of authorities having jurisdiction, including insurance companies, with regards to safety precautions, operation and fire hazard.

B. Pollution Control
   1. Provide methods, means and facilities to prevent contamination of soil, water and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations.
   2. Waste solvents, oils and other materials which may be harmful to people, plant life, or the environment, shall be removed from the site in containers and disposed of in accordance with applicable laws and regulations.
   3. Erect, maintain and remove silt fencing and other erosion control measures as required.

C. Safety
   1. Contractor shall submit Company Safety Plan 10 days after Notice of Award under the Provisions of Section 01300.

PART 2 - PRODUCTS
   Not used

PART 3 - EXECUTION
   Not used

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes
   1. Products.
   2. Transportation and handling.
   3. Storage and protection.

B. Related Sections
   1. Section 01400 - Quality Control: Product quality monitoring.
   2. Section 01630 - Substitutions.

1.2 PRODUCTS

A. Products: Means new materials, machinery, components, equipment, fixtures and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Do not reuse materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. Provide interchangeable components of the same manufacturer, for similar components.

1.3 TRANSPORTATION AND HANDLING

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

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

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

1.4 STORAGE AND PROTECTION

A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.

B. For exterior storage of fabricated products, place on sloped supports, above ground.

C. Provide off-site storage and protection when site does not permit on-site storage or protection.

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

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

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION
1.1 SECTION INCLUDES
   A. Contractor’s options in selection of products.
   B. Requests for substitution of products.

1.2 RELATED SECTIONS
   B. Document 00800 - Supplementary Conditions
   C. Section 01040 - Coordination: Applicability of specified reference standards; coordination of construction.
   D. Section 01300 - Submittals: Proposed products list; product data submittals.
   E. Section 01700 - Contract Closeout: Record documents operation and maintenance data.

1.3 OPTIONS (Based on scope of project and products specified for use, review listed options below and coordinate with General Conditions 3.11.4.)
   A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.
   B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.
   C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting specifications; no substitutions of products by other manufacturers allowed.
   D. Products Specified by Naming Only One Manufacturer: No option due to necessity to match existing products or systems; no substitutions allowed.

1.4 LIMITATIONS ON SUBSTITUTIONS
   A. Requests for substitutions of products will be considered only during the bid period per G.C. - 35. Subsequent requests will be considered only in case of product unavailability or other conditions beyond control of Contractor.
   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 installed without written acceptance.
   D. Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
   E. Architect and Owner will determine acceptability of substitutions.
   F. Substitutions shall not extend the contract completion date.

1.5 REQUESTS FOR SUBSTITUTIONS
   A. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
B. Identify product 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.

C. Attach product data as specified in Section 01300.

D. List similar projects using product, dates of installation and names of Architect/Engineer and Owner.

E. Give itemized comparison of proposed substitution with specified product, listing variations and reference to Specifications section and Article numbers.

F. Give quality and performance comparison between proposed substitution and the specified product.

G. Give cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.

H. List availability of maintenance services and replacement materials.

I. State effect of substitution on construction schedule and changes required in other work or products.

J. State if use of proposed substitutions is subject to payment of license fee or royalty.

K. Submit sample of manufacturer's standard form of guarantee or warranty for proposed substitution.

1.6 CONTRACTOR REPRESENTATION

A. Request for substitution constitutes a representation that Contractor:

1. Has investigated proposed product and has determined that it is equal to or superior in all respects to specified product or that the cost reduction offered is ample justification for accepting the offered substitution.

2. Will provide same warranty for substitution as for specified product.

3. Will coordinate installation of accepted substitute, making such changes as may be required for work to be complete in all respects.

4. Will pay additional costs generated by an accepted substitution, including the cost of the Architect's additional services associated with reviewing and incorporating the substitution.

B. Contractor certifies that:

1. Cost data presented is complete and includes all related costs under this Contract.

2. Substitution is in full compliance with the Contract Documents and applicable regulatory requirements.

C. Contractor waives claims for additional costs related to substitution which may later become apparent.

1.7 SUBMITTAL PROCEDURES

A. Submit three copies of request for substitution.

B. Requests for substitutions will be reviewed and Contractor notified in writing of Owner’s decision to accept or reject requested substitution no later than five (5) calendar days before bid.
C. For accepted products, submit shop drawings, product data and samples under provisions of Section 01300.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.
To: Farnsworth Group

14225 University Avenue, Suite 110
Waukee, Iowa 50263

PROJECT: 2022 RESTROOM UPGRADES

Email: Sarah Huston shuston@F-W.com

We hereby submit for your consideration the following product as substitute for specified item for the above project:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
<th>Paragraph/Line</th>
<th>Specified Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

Proposed Substitution:

Attach complete product description, drawings, photographs, performance and test data, warranty, information and other information necessary for evaluation. Identify specific model numbers, finishes, options, etc.

A. Will changes be required to building design or drawing dimensions in order to properly install proposed substitution? Yes__ No__. If yes, explain.

B. Will the undersigned pay for changes to the building design, including engineering and drawings costs, caused by requested substitution? Yes__ No__.

C. Differences between proposed substitution and specified item.

D. What affect does substitution have on other trades?

E. Does manufacturer's warranty of the proposed substitution differ from that specified? Yes__ No__.

If yes, explain

January 26, 2004
Submitted by:

______________________________
Signature

______________________________
Firm

______________________________
Address

______________________________

Date: __________________________
Remarks: _________________________

Date: __________________________
Telephone: _______________________

For Architect’s Use Only:

___Accepted  ___Accepted as Noted

___Not Accepted  ___Received Too Late

By: _____________________________
Date: ___________________________
Remarks: _________________________

END OF SECTION
1.1 SECTION INCLUDES

A. Starting systems.
B. Demonstration and instructions.

1.2 RELATED SECTIONS

A. Section 01400 - Quality Control: Manufacturers field reports.
B. Section 01700 - Contract Closeout.

1.3 STARTING SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.
B. Notify Owner’s Representative seven days prior to start-up of each item.
C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence or other conditions which may cause damage.
D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.
E. Verify wiring and support components for equipment are complete and tested.
F. Execute start-up under supervision of responsible manufacturer’s technical representative in accordance with manufacturers’ instructions.
G. When specified in individual specifications sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
H. Submit a written report in accordance with Section 01400 that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.
B. Demonstrate Project equipment and instruct in a classroom environment located at the site and instructed by a qualified representative who is knowledgeable about the Project.
C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail, to explain all aspects of operation and maintenance.
D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance and shutdown of each item of equipment at scheduled times, at designated location.
E. All demonstrations and training sessions of equipment/products/systems by qualified personnel shall be video recorded by the Contractor. Two copies of the video recording shall be turned over to the Owner’s Representative.
F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES
A. Closeout procedures.
B. Final cleaning.
C. Adjusting.
D. Project Record Documents.
E. Operation and maintenance data.
F. Instruction of District personnel.
G. Warranties and bonds.
H. Certification of Asbestos-Free Construction.
I. Spare parts and maintenance materials.
J. Restoration of damaged work.
K. Remedial work.
L. Keys

1.2 RELATED SECTIONS
A. Section 01040 - Project Meetings
B. Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning
C. Section 01650 - Commissioning of Systems
D. Document 00700 – General Conditions

1.3 CLOSEOUT PROCEDURES
A. Submit written certification that Contract Documents have been reviewed, work has been inspected, and work is complete in accordance with Contract Documents and ready for Architect’s inspection.
B. Provide submittals to Architect required by governing or other authorities.
C. At the conclusion of the work and before final payment is made, furnish to the Owner a list with the names, contact persons, addresses and telephone numbers, of all the subcontractors and material suppliers who furnished labor and materials on the project. The list shall include identification of the services rendered and of the materials provided by each subcontractor.
D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due. Deliver Project Record Documents, Warranties and Bonds, Certification of Asbestos-Free Construction, Spare Parts and Maintenance Materials, final Operation and Maintenance Data at one time with final Application for Payment, and full releases from all subcontractors and suppliers.

1.4 FINAL CLEANING
A. Contractor shall perform the following cleaning:
   1. Execute cleaning prior to final inspection.
2. Comply with applicable regulatory requirements during cleaning and disposal operations.

3. Use cleaning materials which will not create hazards to health or property or cause damage to products or work.

4. Use cleaning materials and methods recommended by the manufacturers of the products to be cleaned.

5. Schedule operations to prevent dust and other contaminants resulting from cleaning operations from adhering to wet or newly finished surfaces.

6. Remove grease, stains, fingerprints, labels, spilled and spattered materials and other foreign materials from interior and exterior surfaces exposed to view including glazing.

7. Remove waste and surplus materials and rubbish from the site.

8. Leave areas which have been entered during the course of the work in a neat condition, free from debris, weeds and material not called for in the Construction Documents.

9. Wash and clean interior and exterior glass and window frames.

B. Contractor shall perform final cleaning of the equipment installation. This clean up will include:

1. Wash and shine and polish glossy surfaces to a clear shine.

2. Vacuum and wipe insides of casework.

3. Vacuum and mop floor

4. Clean equipment and fixtures to a sanitary condition.

5. Clean new and existing surfaces, equipment and fixtures within project area.

1.5 ADJUSTING

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

1.6 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following record documents; record actual revisions to the work:


2. Specifications.

3. Addenda.

4. Change Orders and other modifications to the Contract.

5. Reviewed shop drawings, product data and samples.

6. Construction schedule.

B. Store Record Documents separate from documents used for construction. Label each document "Project Record" in neat, large printed letters. Do not use Project Record Documents for construction.
C. Maintain Project Record Documents in a clean dry, legible condition and in good order.

D. Record information concurrent with construction progress. Do not conceal any work until required information is recorded.

E. Record information initially on set of opaque Drawings and in a copy of Project Manual provided by the District. Transfer information from opaque Drawings to reproducible Drawings provided by the District.

F. Make Project Record Documents available to Owner’s Representative, and Architect at all times.

G. Architect will review Project Record Documents at each billing meeting. Status of Project Record Documents will be considered in evaluating proposed monthly billings.

H. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name, the product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by addenda and modifications.

I. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Changes made by addenda and modifications.
   3. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements such as column lines and walls.
   4. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
   5. Measured locations of items, not necessarily concealed, which have been changed from locations shown on Contract Documents.
   6. Deviations from sizes, locations, and other features of installations shown in the Contract Documents.
   7. Details not on original Contract Drawings.

J. Construction Schedule: Submit a Final Construction Progress Schedule based on the latest, updated progress revised to indicate actual dates and durations of the various construction activities.

K. Submit documents to Owner’s Representative with final Application for Payment. Provide in format as acceptable to Architect.

1.7 OPERATION AND MAINTENANCE DATA

A. Operations and maintenance manuals shall be submitted in an electronic PDF format on a disc.

B. Prepare covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of project and subject matter of if multiple discs are required.

C. Internally subdivide the contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
D. Contents: Prepare a Table of Contents for each product or system description identified.

E. Part 1: Directory, listing names, addresses and telephone numbers of Architect, Engineer, Contractor, Subcontractors and major equipment suppliers.

F. Part 2: Operation and maintenance instructions arranged by specification section. For each category identify names, addresses and telephone numbers of Subcontractors and suppliers. Identify the following:
   1. Manufacturer’s trade or brand name, catalog or model number and, where applicable, serial number,
   2. Significant design criteria.
   3. List of equipment.
   4. Parts list for each component.
   5. Operating instructions.
   6. Maintenance instructions for equipment and systems.
   7. Maintenance instructions for finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

G. Part 3: Project documents and certificates, including the following:
   1. Approved copies of shop drawings and product data.
   2. Air and water balance reports.
   3. Certificates.
   4. Photocopies of warranties and bonds.

H. Submit one copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned after final inspection, with Architect comments. Revise content of documents as required prior to final submittal.

I. Submit final volumes revised, with final Application for Payment.

J. Provide data where specified in individual sections.

1.8 INSTRUCTION OF DISTRICT’S PERSONNEL
   A. Where specified in individual specification sections, furnish qualified personnel for on-the-job instruction of the Owner’s operation and maintenance personnel in accordance with section 01650.
   B. Furnish instruction including special start-ups and running time prior to occupancy of subject areas. Furnish at no additional cost to Owner.

1.9 WARRANTIES AND BONDS
   A. Warrant the entire work against defects in materials and workmanship for 12 months from date of acceptance. In addition, warrant or bond work as required in the individual specification sections.
   B. Warranties between Contractor and manufacturers and between Contractor and suppliers shall not affect warranties between the Contractor and the District.
C. Submit warranties typed on the Contractor's letterhead if for the entire work and on the subcontractor's letterhead if for the work of a specification section. Use the form in Section 01710.

D. Provide original and two (2), notarized copies. Execute and assemble documents from subcontractors, suppliers and manufacturers. Verify compliance with Contract Documents. Provide table of contents and assemble in binder with durable plastic cover. Identify on or readable through the front cover with the 2022 RESTROOM UPGRADES and address, the Contractor's name and address and the title 'WARRANTIES AND BONDS.'

E. Submit all material with final Application for Payment. For equipment put into use with Owner's permission during construction, submit within ten days after first operation. For items of work delayed beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.10 CERTIFICATION OF ASBESTOS-FREE CONSTRUCTION
   A. Certify that no materials containing asbestos were incorporated into the construction of work of the Contract.
   B. Submit certification typed on Contractor's letterhead. Identify the project by name, address, District Job Number. See Section 01710 for form.

1.11 SPARE PARTS AND MAINTENANCE MATERIALS
   A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
   B. Deliver to project site prior to final payment and place in location as directed by Owner's Representative/Owner; obtain receipt.

1.12 RESTORATION OF DAMAGED WORK
   A. Restore or replace, as specified or directed by the Architect, materials or finishes damaged from movement of equipment or other operations at no additional expense to the District.
   B. Restore to match original work. Finishes shall match appearance of original adjacent work.

1.13 REMEDIAL WORK
   A. Perform remedial work necessary due to faulty workmanship or materials at no additional expense to the District.
   B. Coordinate remedial work with District. Perform at such time and in such manner to cause minimal interruption and inconvenience to the District's operation.

1. 14 SERVICE AND MAINTENANCE CONTRACTS [for elevators, etc.]
   A. Compile, review and submit specified service and maintenance contracts.
   B. Provide in PDF format titled 'SERVICE AND MAINTENANCE CONTRACTS.'
   C. Submit with warranties and bonds.

PART 2 - PRODUCTS
   Not Used

PART 3 - EXECUTION
   Not Used

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES
   A. Procedures
   B. Values of Closeout Requirements
   C. Forms

1.2 RELATED SECTIONS
   A. Document 00700 – General Conditions of the Contract
   B. Section 01700 - Contract Closeout
   C. Section 01710 – Contract Closeout Forms

1.3 PROCEDURES
   A. In compliance with Chapter 38 Section 13 of the Iowa Code the Owner allows for the Contractor to request the early release of retained funds.
   B. Prior to Owner’s release of any retained funds, the Contractor shall submit the following forms:
      1. Request for Release of Retained Funds (Section 01705 – Page 2)
      2. Notice of Contractor’s Request for Early Release of Retained Funds (Section 01705 – Page 3) (This form is to be completed by all subcontractors, sub-subcontractors and suppliers on the Project).
      3. Consent of Surety to Early Release of Retained Funds (Section 01705 – Page 4)

1.4 VALUES OF CLOSEOUT REQUIREMENTS
   A. The Owner has established monetary values of closeout requirements for this Project. The Owner will retain funds equal to 200% of the value of any of the following items that are not complete at the time of the request for release of retained funds. This is in addition to funds retained for incomplete construction and punch list items.
      1. Project Record Documents (Section 01700 – Section 1.6) Value $ 2,000.00
      2. Operation and Maintenance Data (Section 01700 – Section 1.7) Value $ 2,000.00

PART 2 - PRODUCTS
   Not Used

PART 3 - EXECUTION
   Not Used

END OF SECTION
REQUEST FOR RELEASE OF RETAINED FUNDS

OWNER

TO: Des Moines Independent
Community School District
2100 Fleur Drive
Des Moines, IA 50321

PROJECT: ________________________________________________

FROM: ________________________________________________ (Contractor)

This is to certify that I, ____________________________________ am an authorized official of working in the capacity of _______________ and have been properly authorized by said firm or corporation to sign the following statements pertaining to the subject Contract:

On ______________________, the project described above was designated substantially complete as provided for by Chapter 38 of the Iowa Code. As of ____________________, the total amount retained by the Owner on this Contract is $___________________.

Pursuant to Iowa Code Chapter 38, Contractor is now making this formal request for the release of all / part (circle one) of the retained funds currently being withheld by the Owner on this Contract.

I know of my own personal knowledge, and do hereby certify, that at least ten (10) calendar days prior to filing this Request for Release of Retained Funds with the Owner, the required notice was given by the Contractor to all known subcontractors, sub-sub-contractors and suppliers on the Project that the Contractor was requesting the early release of retained funds. A signed copy of each said notice is attached hereto.

Notwithstanding this Request for Release for the Retained Funds, the Owner will continue to retain, as applicable:

   a. an amount equal to 200% of the value of labor or materials yet to be provided on the Project which will include the value of the itemized costs for closeout phase items of the Project as listed in Section 01705 of the documents, as determined by the Owner through its authorized contract representative.

   b. an amount equal to 200% of the value of any Chapter 573 claims currently on file at the time of this Request or as otherwise authorized by Iowa Code Chapter 573 Upon review by the Owner of this Request, any Chapter 573 claims on file, and the status of any work or materials still remaining to be provided on the Project, the Owner shall release all applicable retained funds at its next regularly scheduled board meeting or within thirty (30) days, whichever is less. The Contractor shall release the paid retained funds to the subcontractors and suppliers in the same manner as retained funds are released to the Contractor by the Owner. Each subcontractor shall pass through to each lower tier subcontractor or supplier all retained fund payments from the Contractor in the same manner.

If the Owner does not release all funds requested by the Contractor, Owner shall provide an itemization and/or reason(s) for the non-release to the Contractor within thirty (30) days of the Contractor’s request.

_________________________ ___________________________ __________________________
CONTRACTOR BY DATE

STATE OF IOWA, __________________ COUNTY, ss:

Subscribed and sworn to before me by the said ________________________ on this _______ day of ________

_________________________.

Notary Public in and for the State of Iowa
NOTICE OF CONTRACTOR’S REQUEST FOR EARLY RELEASE OF RETAINED FUNDS

PART A - NOTICE:
You are hereby notified that ____(Contractor)____ will be requesting an early release of funds on a public improvement designated as _____(Name of Project)____ for which you have or may have provided labor or materials. The request will be made pursuant to Iowa Code section 38.13. The request may be filed with the Des Moines Independent Community School District after ten calendar days from the date of this notice. The purpose of the request is to have the Des Moines Independent Community School District release and pay funds for all work that has been performed and charged to Des Moines Independent Community School District as of the date of this notice. This notice is provided in accordance with Iowa Code section 38.13.

This Notice was sent by ____(Contractor)____ on _____________, 202_.
This Notice was received by __________________________ on _____________, 202_.

____________________________
(Signature of Receiver)

PART B – SWORN STATEMENT:
The total aggregate value of our agreement, purchase order or Work on this Project to date is $__________________, of which we acknowledge receipt of total payments to date of $_________________.

The below stated entity, as a Subcontractor, Sub-Subcontractor and/or Supplier attests and certifies the amounts entered above are correct as of the date of this Affidavit, and: 1) that it has received Notice from the Prime Contractor that it intends to apply for partial (or full) Release of Retained Funds and/or Final Payment for the Project, 2) that it is current in payments received to date on this project, 3) that, as of this date, is not aware of any potential claims against the Project or the Owner, and 4) that it will submit all required final closeout substantiation and documents as required by the project documents for it’s area of the work within sixty calendar days.

____________________________  _______________________
(Entity)  (Date)
CONSENT OF SURETY FOR RELEASE OF RETAINED FUNDS

TO OWNER: Des Moines Independent Community School District
2100 Fleur Drive
Des Moines, IA 50321

PROJECT NO.: ________________________________

CONTRACT DATED: ________________________________

PROJECT: ________________________________________________________________

CONTRACTOR: ______________________________________________________________

In accordance with the provisions of the Contract between the Owner and the Contractor for the above project, the __________, SURETY, on bond number ______________________ dated ______________________ hereby approves of the release of retained funds of the Contractor as authorized by law, and agrees that the release of retained funds to the Contractor shall not relieve the Surety of any of its obligations to Des Moines Independent Community School District, 2100 Fleur Drive, Des Moines, Iowa, 50321, OWNER, as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:

______________________________  ____________________________
Surety  Signature of authorized representative

ATTEST: ________________________________

(Seal): ________________________________

Printed name and title
CONTRACTOR'S CERTIFICATE OF SUBSTANTIAL COMPLETION

OWNER                                  ARCHITECT

TO:  Des Moines Independent
     Community School District
     2100 Fleur Drive
     Des Moines, IA  50321

PROJECT: ____________________________________________

FROM: ____________________________________________ (Contractor)

This is to certify that I, ____________________________________________, am an authorized
official of __________________________ working in the capacity of __________________________ and
have been properly authorized by said firm or corporation to sign the following statements pertaining to
the subject contract:

I know of my own personal knowledge, and do hereby certify, that the work of the contract described
above has been performed in accordance with, and in conformity to, the contract drawings and
specifications. A list of all incomplete work is attached.

The Contractor hereby releases the Owner and its agents from all claims of and liability to the Contractor
for anything done or furnished for or relating to the work, as specified in the Project Manual, except
demands against the Owner for the remainder of progress payments retained to date, and unresolved
written claims prior to this date.

The contract work is now substantially complete, ready for its intended use, and ready for your
inspection.

A list of items to be completed or corrected is attached hereto. 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.

The Contractor will complete or correct the work on the list of items attached hereto within
__________________ days from the above date of Completion.

________________________________________________________________________

Contractor   By   Date

________________________________________________________________________

Architect   By   Date

The Owner accepts the work or designated portion thereof as substantially complete and will assume full
possession thereof at __________________________ (time) on __________________________ (date), which is also the date of
commencement of applicable warranties required by the contract documents, except as stated below:

________________________________________________________________________

Des Moines Independent Community School District   By   Date

This Document shall not become Valid until signed by the Contractor, Architect, and Owner
CERTIFICATE OF FINAL ACCEPTANCE

PROJECT: 2022 RESTROOM UPGRADES

PROJECT NO: 01710

CONTRACT DATED: --

FROM: OWNER: Des Moines Independent Community School District
2100 Fleur Drive
Des Moines, IA  50321

TO CONTRACTOR: Community School District

The Work performed under this contract has been reviewed and found, to the Owner’s Representative’s and Architect’s best knowledge, information and belief, to be complete, based on the Owner’s Representative’s and Architect’s on-site observations, inspections, and data gathered. The date of completion of the Project or portion thereof designated above is hereby established as ____________

Contractor

By ____________________________ Date ____________________________

Architect

By ____________________________ Date ____________________________

The Owner accepts the work or designated portion thereof as complete and will assume full acceptance thereof at ______________ (time) on ______________ (date).

DMPS Facility Management

Des Moines Independent Community School District

By ____________________________ Date ____________________________

This Document shall not become Valid until signed by the Contractor, Architect, and Owner.
FINAL WAIVER AND RELEASE OF CLAIMS

TO ALL WHOM IT MAY CONCERN:

WHEREAS, the undersigned has been employed by Des Moines Independent Community School District to furnish labor and materials for (A) __________________________ work, under a contract for the __________________________ School in the City of Des Moines, County of Polk, State of Iowa, of which the Des Moines Independent Community School District is the Owner.

NOW THEREFORE, this _______ day of ____________, 20___, for and in consideration of the sum of (B) __________________________ dollars paid simultaneously herewith, the receipt whereof is hereby acknowledged by the undersigned, the undersigned does hereby waive and release any claims*, liens, rights to, or claim of lien with respect to and on said above-described premises, and the improvements thereon, and on the monies or other consideration due or to become due from the Owner, on account of labor, services, materials, fixtures, apparatus or machinery heretofore or which may hereafter be furnished by the undersigned to or for the above-described premises by virtue of said contract.

(C)

________________________________________
(Name of sole ownership, corporation, or partnership)

________________________________________
(Signature of Authorized Representative)

________________________________________
(Title)

INSTRUCTIONS FOR FINAL WAIVER:

(A) Fill in nature and extent of work, strike the word labor or the word materials if not in your contract.

(B) Amount shown should be the amount actually received and equal to total amount of contract as adjusted.

(C) If waiver is for a corporation name should be used, and title of officer signing waiver should be set forth; if waiver is for a partnership, the partnership name should be used, partner should sign and designate himself as partner.

* The word claims as used herein shall include 573 Claims, Stop Orders, Stop Notices, or Freeze Orders on monies or other consideration of the Owner which are due or to become due on the Contract referenced above.
CONSENT OF SURETY TO FINAL PAYMENT

TO OWNER: Des Moines Independent Community School District
2100 Fleur Drive
Des Moines, IA 50321

PROJECT:

PROJECT NO: ________________________

CONTRACT DATED: ________________________

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

SURETY, on bond of ________________________

CONTRACTOR.

hereby approves of the final payment of the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to Des Moines Independent Community School District, 2100 Fleur Drive, Des Moines, Iowa, 50321, OWNER, as set forth in said Surety’s bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:

______________________________
Surety

______________________________
Signature of authorized representative

ATTEST:

(Seal):

______________________________
Printed name and title
CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS AND RELEASE OF CLAIMS

TO OWNER:  Des Moines Independent  
Community School District  
2100 Fleur Drive  
Des Moines, IA  50321

PROJECT NO:

PROJECT:

STATE OF:  Iowa

COUNTY OF:  Polk

The undersigned hereby certifies, except as listed below, payment has been made in full and all obligations have otherwise been satisfied 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 Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

The undersigned hereby further certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Release of Claims attached hereto include the Contractor, all subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have 573 claims, or encumbrances or the right to assert claims or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:
SUPPORTING DOCUMENTS ATTACHED

HERETO:
1. Consent of Surety to Final Payment. DMPSFM-640

BY:
Signature of authorized representative

Indicate attachment: ☐ yes ☐ no

Printed Name and Title

The following supporting documents are attached:
1. Contractor’s Waiver and Release of Claims
2. Separate Waiver and Releases of Claims from Subcontractors and material and equipment suppliers accompanied by a list thereof.

Subscribed and sworn before me on this date

Notary Public

My Commission Expires
ARCHITECT’S CERTIFICATE OF SPECIFICATIONS

TO OWNER: Director, Facility Management
Des Moines Independent Community
School District
2100 Fleur Drive
Des Moines, IA 50321

The undersigned hereby certifies as follows:
1. The above referenced Project is finally completed; and
2. No asbestos or asbestos-containing material was specified as a building material in any Construction Documents for the Project; and
3. To the best of my knowledge, no asbestos or asbestos-containing material was used as a building material in the Project.

Architect

Date

Subscribed and sworn before me on this date

Notary Public

My Commission Expires
HAZARDOUS MATERIALS STATEMENT

THE FORM BELOW IS FURNISHED FOR THE CONVENIENCE OF EQUIPMENT OR MATERIALS MANUFACTURERS, DISTRIBUTORS, SUPPLIERS AND THE CONTRACTOR AND MAY BE REPRODUCED AS NECESSARY TO COMPLY WITH SUBMITTAL DOCUMENTATION AS DEFINED IN "SUPPLEMENTARY CONDITIONS".

I, ____________________________, ____________________________
(Name) (Title)
of ____________________________ do hereby declare that in completing the work of the Bid # ____________________________ for project ____________________________ at ____________________________ school, no manufactured materials assembly/device or item of construction will contain, or in itself is composed of, any materials listed (by Federal or State EPA or Federal or State health agencies) as a hazardous material.

______________________________
Name

______________________________
Title

______________________________
Date

______________________________
Subscribed and sworn before me on this date

______________________________
Notary Public

______________________________
My Commission Expires

THIS STATEMENT MUST BE NOTARIZED
WARRANTY FOR

We hereby warrant that the ___________________________ which we have provided in the ___________________________ has been completed in accordance with the requirements of Specification Section(s) ___________________________ and the Contract Documents.

We agree to repair or replace any or all of our work, together with any other adjacent work which may be displaced by so doing, that may prove to be defective in its workmanship or material within a period of ___________________________ from the date of acceptance of the above named project by the Owner; and we also agree to repair any and all damages resulting from such defects, all without additional expense to the Owner, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above mentioned conditions within 30 days after being notified in writing by the Owner, we collectively or separately do hereby authorize the Owner to proceed to have such defective work repaired or replaced and made good at our expense, and we will honor and pay the costs and charges therefore upon demand.

Signed: ___________________________ Date: ___________________________
Subcontractor's name:
Address:
License Number:

Countersigned: ___________________________ Date ___________________________
Contractors name:
Address:
License Number:
or
Manufacturer's Name
Address:

OR

Signed: ___________________________ Date: ___________________________
Contractors name:
Address:
License Number:

THIS STATEMENT MUST BE NOTARIZED.
SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Selective demolition of building elements for alteration purposes.
B. Abandonment and removal of existing utilities and utility structures.
C. Refer to Construction Documents for specific items to be included. Refer to corresponding mechanical and electrical items to be included under this Section.

1.02 RELATED REQUIREMENTS
A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
D. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
   2. Identify demolition firm and submit qualifications.
C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE
A. Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of 3 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS
A. Except where noted otherwise, maintain possession of materials being demolished and immediately remove from site.
B. Carefully remove designated materials and equipment noted to be delivered to Owner. Deliver and store where directed by the Owner.
C. Carefully remove materials and equipment, to be re-used per Project requirements. Store and protect as required.

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS
A. Comply with other requirements specified in Section 01 70 00.
B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
1. Obtain required permits.
2. Use of explosives is not permitted.
3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permit.
8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

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

D. Survey: Before any work is started, Contractor shall make a thorough survey, with the Owner/Architect, of areas of the building where alterations will occur and of interior and exterior areas which are anticipated routes of access, and submit a signed report to the Owner and Architect. This report shall list by rooms, spaces and areas:
1. Existing condition and types of walls, roofing and other surfaces not required to be altered throughout affected areas of the building.
2. Existence and conditions of items, such as equipment and other items required by Drawings to be either re-used or relocated or both.
3. Shall note any discrepancies between Drawings and existing conditions at site.
4. Shall designate areas for working space, material storage and routes of access to areas within the building where alterations occur and which have been agreed upon by Contractor and the Owner.
5. Existing exterior conditions related to roadways, walkways and landscaped areas.

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

F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Erect and maintain dustproof partitions, as required, to prevent spread of dust and fumes to other parts of the building per requirements of Section 01 56 00 Temporary Barriers & Enclosures. On completion, remove partitions and repair damaged surfaces to match adjacent surfaces.

H. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB’s, and mercury.

I. Perform demolition in a manner that maximizes salvage and recycling of materials.
1. Comply with requirements of Section 01 74 19 - Waste Management.
2. Dismantle existing construction and separate materials.
3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

J. Resurvey: Before expected final inspection date, Contractor and Owner/Architect together shall make a resurvey of the areas of buildings and grounds involved. Contractor shall submit a report on conditions, then existing, of walls and other surfaces as compared with conditions of same as noted in first condition survey report.
1. Resurvey report shall list any damage caused by Contractor to surfaces despite protection measures; and will form the basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this Contract.

3.02 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

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

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

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

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

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

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

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

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

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

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. See Section 01 10 00 for other limitations on outages and required notifications.
   4. Verify that abandoned services serve only abandoned facilities before removal.
   5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL
   A. Remove debris, junk, and trash from site.
   B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.
   C. Leave site in clean condition, ready for subsequent work.
   D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION
PART 1  GENERAL

1.01  SECTION INCLUDES

A. Liquid-applied self-leveling floor underlayment.
   1. Use cementitious type at all locations requiring underlayment.

1.02  REFERENCE STANDARDS

   Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.
B. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of
   Hydraulic Cement Concrete; 2012.
   2015a.

1.03  SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide manufacturer's data sheets documenting physical characteristics and
   product limitations of underlayment materials. Include information on surface preparation,
   environmental limitations, and installation instructions.
C. Manufacturer's Instructions.

1.04  DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.
B. Keep dry and protect from direct sun exposure, freezing, and ambient temperature greater than
   105 degrees F.

1.05  FIELD CONDITIONS

A. Do not install underlayment until floor penetrations and peripheral work are complete.
B. Maintain minimum ambient temperatures of 50 degrees F 24 hours before, during and 72 hours
   after installation of underlayment.
C. During the curing process, ventilate spaces to remove excess moisture.

PART 2  PRODUCTS

2.01  MANUFACTURERS

A. Cementitious Underlayment:
   1. ARDEX Engineered Cements; ARDEX V 1200 with ARDEX P51 Primer:
      www.ardexamericas.com/#sle.
   2. LATICRETE International, Inc; LATICRETE DRYTEK Skimcoat with DRYTEK LEVELEX
      Primer:  www.laticrete.com/#sle.
   3. LATICRETE International, Inc; LATICRETE NXT Level Plus with NXT Primer:
      www.laticrete.com/#sle.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

2.02  MATERIALS

A. Cast Underlayments, General:
   1. Comply with applicable code for combustibility or flame spread requirements.
B. Cementitious Underlayment: Blended cement mix, that when mixed with water in accordance
   with manufacturer's directions will produce self-leveling underlayment with the following
   properties:
1. Compressive Strength: Minimum 4000 pounds per square inch after 28 days, tested per ASTM C109/C109M.
2. Flexural Strength: Minimum 1000 psi after 28 days, tested per ASTM C348.
3. Density: 125 pounds per cubic foot, nominal.
4. Final Set Time: 1-1/2 to 2 hours, maximum.
5. Thickness: Capable of thicknesses from feather edge to maximum 3-1/2 inch.
6. Surface Burning Characteristics: Flame spread/Smoke developed index of 0/0 in accordance with ASTM E84.

C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to underlayment mix materials.
D. Primer: Manufacturer's recommended type.
E. Joint and Crack Filler: Latex based filler, as recommended by manufacturer.

2.03 MIXING
A. Site mix materials in accordance with manufacturer's instructions.
B. Mix to self-leveling consistency without over-watering.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that substrate surfaces are clean, dry, unfrozen, do not contain petroleum byproducts, or other compounds detrimental to underlayment material bond to substrate.

3.02 PREPARATION
A. Wood: Install metal lath for reinforcement of underlayment.
C. Vacuum clean surfaces.
D. Prime substrate in accordance with manufacturer's instructions. Allow to dry.
E. Close floor openings.

3.03 APPLICATION
A. Install underlayment in accordance with manufacturer's instructions in preparation of new floor finish.
B. Place to indicated thickness, with top surface level to 1/8 inch in 10 ft.

3.04 CURING
A. Once underlayment starts to set, prohibit foot traffic until final set has been reached.
B. Air cure in accordance with manufacturer's instructions.

3.05 PROTECTION
A. Protect against direct sunlight, heat, and wind; prevent rapid drying to avoid shrinkage and cracking.
B. Do not permit traffic over unprotected floor underlayment surfaces.

END OF SECTION
SECTION 04 20 00
UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Concrete block.
   B. Mortar and grout.
   C. Reinforcement and anchorage.
   D. Accessories.

1.02 RELATED REQUIREMENTS
   A. Section 01 45 29 - Statement of Special Inspections: Testing and Inspections.
   B. Section 04 05 11 - Mortar and Masonry Grout.

1.03 REFERENCE STANDARDS
   F. ASTM C140/C140M - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2014.
   J. ASTM C744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units; 2014.

1.04 ADMINISTRATIVE REQUIREMENTS
   A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.05 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
   B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
   C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.06 QUALITY ASSURANCE
   A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
1. Maintain one copy of each document on project site.

1.07 DELIVERY, STORAGE, AND HANDLING
A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS
A. Concrete Block: Comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
      a. Hollow block.
      b. Normal weight.

2.02 MORTAR AND GROUT MATERIALS
A. Masonry Cement: ASTM C91/C91M, Type to match existing cement where new masonry is set into or adjacent to existing masonry.
B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
C. Hydrated Lime: ASTM C207, Type S.
D. Mortar Aggregate: ASTM C144.
E. Water: Clean and potable.
F. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.

2.03 REINFORCEMENT AND ANCHORAGE
A. Manufacturers:
   3. WIRE-BOND; _______www.wirebond.com/#sle.
B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi), deformed billet bars; uncoated.
C. Strap Anchors: Bent steel shapes, 1-1/2 inch width, 0.105 inch thick, 24 inch length, with 1-1/2 inch long, 90 degree bend at each end to form a U or Z shape or with cross pins, hot dip galvanized to ASTM A153/A153M, Class B.
D. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not less than 5/8 inch of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in.

2.04 ACCESSORIES
A. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available.
B. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
C. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.05 MORTAR AND GROUT MIXING
A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that field conditions are acceptable and are ready to receive masonry.
   B. Verify that related items provided under other sections are properly sized and located.
   C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION
   A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
   B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COURSING
   A. Establish lines, levels, and coursing indicated. Protect from displacement.
   B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
   C. Concrete Masonry Units:
      1. Bond: Running.
      2. Coursing: One unit and one mortar joint to equal 8 inches.

3.04 PLACING AND BONDING
   A. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
   B. Remove excess mortar and mortar smears as work progresses.
   C. Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.
   D. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
   E. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
   F. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.
   G. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.
   H. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.05 CAVITY MORTAR CONTROL
   A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
   B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.
   C. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.06 REINFORCEMENT AND ANCHORAGE - GENERAL AND SINGLE WYTHE MASONRY
   A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
   B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
   C. Place continuous joint reinforcement in first and second joint below top of walls.
   D. Lap joint reinforcement ends minimum 6 inches.
E. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

F. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches horizontally and 24 inches vertically.

3.07 TOLERANCES

A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.

B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

C. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

E. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch.

F. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.08 CLEANING

A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution.

D. Use non-metallic tools in cleaning operations.

END OF SECTION
SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Concealed wood blocking, nailers, and supports.
B. Miscellaneous wood nailers, furring, and grounds.

1.02 REFERENCE STANDARDS
B. PS 1 - Structural Plywood; 2009.

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.04 DELIVERY, STORAGE, AND HANDLING
A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.05 WARRANTY
A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS
A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
   4. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS
A. Sizes: Nominal sizes as indicated on drawings, S4S.
B. Moisture Content: S-dry or MC19.
C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS
A. Other Applications:
   1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
   2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
3. Other Locations: PS 1, C-D Plugged or better.

2.04 ACCESSORIES
   A. Fasteners and Anchors:
      2. Anchors: Toggle bolt type for anchorage to hollow masonry.

PART 3 EXECUTION

3.01 PREPARATION
   A. Coordinate installation of rough carpentry members specified in other sections.

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

3.03 BLOCKING, NAILERS, AND SUPPORTS
   A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
   B. Provide the following specific nonstructural framing and blocking:
      1. Grab bars.
      2. Towel and bath accessories.
      3. Wall-mounted door stops.

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

3.05 CLEANING
      1. Comply with applicable regulations.
      2. Do not burn scrap on project site.
      3. Do not burn scraps that have been pressure treated.
      4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
   B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
   C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION
SECTION 07 90 05  
JOINT SEALERS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Sealants and joint backing.

1.02  RELATED REQUIREMENTS
A. Section 07 25 00 - Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders:
B. Section 08 80 00 - Glazing: Glazing sealants and accessories.
C. Section 09 21 16 - Gypsum Board Assemblies: Acoustic sealant.
D. Section 09 30 00 - Tiling: Sealant used as tile grout.

1.03  REFERENCE STANDARDS

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordinate the work with other sections referencing this section.

1.05  SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, and color availability.
C. Samples: Submit two samples, 3 x 2 inch in size illustrating sealant colors for selection.
D. Manufacturer's Installation Instructions: Indicate special procedures.

1.06  QUALITY ASSURANCE
A. Maintain one copy of each referenced document covering installation requirements on site.
B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
C. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.

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

1.08  WARRANTY
A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
B. Correct defective work within a five year period after Date of Substantial Completion.
C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2  PRODUCTS

2.01  MANUFACTURERS
A. Gunnable and Pourable Sealants:
8. Substitutions: See Section 01 60 00 - Product Requirements.

B. Preformed Compressible Foam Sealers:
3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 SEALANTS

A. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
1. Color: Match adjacent finished surfaces.
2. Applications: Use for:
   a. Interior wall and ceiling control joints.
   b. Joints between door and window frames and wall surfaces.
   c. Other interior joints for which no other type of sealant is indicated.
3. Products:
   e. Substitutions: See Section 01 60 00 - Product Requirements.

B. Acoustical Sealant for Concealed Locations:
1. Composition: Acrylic latex emulsion sealant.
2. Applications: Use for concealed locations only:
   a. Sealant bead between top stud runner and structure and between bottom stud track and floor.
3. Products:
   d. Substitutions: See Section 01 60 00 - Product Requirements.

1. Color: Match adjacent finished surfaces.
2. Applications: Use for:
   a. Expansion joints in floors.
3. Products:
D. Type ___ - Silicone Sealant: ASTM C920, Grade NS, Class 25 minimum; Uses NT, A, G, M, O; single component, neutral curing, non-sagging, non-staining, fungus resistant, non-bleeding.
   1. Color: Match adjacent finished surfaces.
   3. Service Temperature Range: -65 to 180 degrees F.
   4. Products:
      d. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES
A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that substrate surfaces are ready to receive work.
B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION
A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Clean and prime joints in accordance with manufacturer's instructions.
C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION
A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
B. Perform installation in accordance with ASTM C1193.
C. Perform acoustical sealant application work in accordance with ASTM C919.
D. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
   2. Neck dimension no greater than 1/3 of the joint width.
   3. Surface bond area on each side not less than 75 percent of joint width.
E. Install bond breaker where joint backing is not used.
F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
H. Tool joints concave.

3.04 CLEANING
A. Clean adjacent soiled surfaces.
3.05 PROTECTION
   A. Protect sealants until cured.

   END OF SECTION
SECTION 08 71 00
DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hardware for wood and hollow metal doors.

1.02 REFERENCE STANDARDS


1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
B. Keying Requirements Meeting:
   1. Attendance Required:
      a. Contractor.
      b. Owner.
   2. Agenda:
      a. Establish keying requirements.
      b. Verify locksets and locking hardware are functionally correct for project requirements.
      c. Verify that keying and programming complies with project requirements.
   3. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
   4. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
   5. Deliver established keying requirements to manufacturers.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
   1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
   2. Provide complete description for each door listed.
   3. Provide manufacturer name, product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.05 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
   1. Locksets and Cylinders: Three years, minimum.
   2. Other Hardware: Two years, minimum.
PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA
A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
B. Provide individual items of single type, of same model, and by same manufacturer.
C. Provide door hardware products that comply with the following requirements:
   1. Applicable provisions of federal, state, and local codes.
D. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule.

2.02 MORTISE LOCKS
A. Manufacturers:
   1. Basis of Design: Match existing hardware systems within the District.
B. Mortise Locks: Comply with BHMA A156.13, Grade 1, Security, 1000 Series.
   1. Latchbolt Throw: 3/4 inch, minimum.
   2. Deadbolt Throw: 1 inch, minimum.
   4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
   5. Indicator: Provide ADA Thumbturn occupancy indicator on all locks.
      a. Finish: To match lock or latch.

2.03 FINISHES

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION
A. Install hardware in accordance with manufacturer's instructions and applicable codes.
B. Use templates provided by hardware item manufacturer.
C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 PROTECTION
A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
B. Do not permit adjacent work to damage hardware or finish.

HARDWARE GROUPS

4.01 HARDWARE GROUP NO. 01
A. For use on mark/door numbers: E2067-1
B. Provide each door(s) with the following:
   1. 1 each Mortise Lock w/ Occupancy Indicator Finish to match existing hardware

END OF SECTION
SECTION 09 30 00
TILING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Tile for wall applications.
   B. Cementitious backer board as tile substrate.
   C. Ceramic accessories.
   D. Ceramic trim.
   E. Non-ceramic trim.

1.02 RELATED REQUIREMENTS
   A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction
      and fixtures.
   B. Section 09 21 16 - Gypsum Board Assemblies: Installation of tile backer board.
   C. Section 22 40 00 - Plumbing Fixtures: Shower receptor.

1.03 REFERENCE STANDARDS
   A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of
      Ceramic Tile (Compendium); 2019.
   B. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the
      Wet-Set Method, with Portland Cement Mortar; 2014.
   C. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a
      Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999
      (Reaffirmed 2010).
   D. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the
      Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured
      Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).
      and Workmanship; 2019.
   F. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with
      Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
   G. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with
      Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
   H. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with
      Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
   I. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with
      Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
   J. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with
      Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).
      1999 (Reaffirmed 2010).
   L. ANSI A108.11 - American National Standard Specifications for Interior Installation of
      Cementitious Backer Units; 2018.
   M. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior
      Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).


Q. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).


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

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Tile: 10 square feet of each size, color, and surface finish combination.

1.05 QUALITY ASSURANCE
A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.

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

C. Installer Qualifications:
   1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING
A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.07 FIELD CONDITIONS
A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS
2.01 TILE
A. Manufacturers: All products by the same manufacturer.
   1. Basis of Design; Dal-tile; Volume 1.0; www.daltile.com/#sle.
2. Crossville; Gotham Porcelain Stone; www.crossvilleinc.com/#sle..  
3. Substitutions: See Section 01 60 00 - Product Requirements.  

B. Wall Tile: ANSI A137.1, and as follows:  
1. Ceramic Tile  
2. Moisture Absorption: 0 to 3.0 percent, maximum.  
3. Size: 12 inch by 24 inch  
4. Surface Finish: Matte  
5. Color: To be selected by Architect from manufacturer's standard range.  

2.02 TRIM AND ACCESSORIES  
A. Ceramic Trim: Matching bullnose ceramic shapes in sizes coordinated with field tile.  
   1. Applications:  
      a. Open Edges: Bullnose.  
      b. Inside Corners: Jointed.  
   2. Manufacturers: Same as for tile.  
B. Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.  
   1. Applications:  
      a. Open edges of wall tile.  
      b. Floor to wall joints.  
      c. Borders and other trim as indicated on drawings.  
   2. Manufacturers:  
      b. Substitutions: See Section 01 60 00 - Product Requirements.  

2.03 SETTING MATERIALS  
A. Provide setting and grout materials from same manufacturer.  
   1. Applications: Use this type of bond coat where indicated, and where no other type of bond coat is indicated.  
   2. Products:  
      a. ARDEX Engineered Cements; ARDEX X 5: www.ardexamericas.com/#sle.  
      c. Substitutions: See Section 01 60 00 - Product Requirements.  

2.04 GROUTS  
A. Manufacturers:  
   1. ARDEX Engineered Cements; _____: www.ardexamericas.com/#sle.  
B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.  
   1. Applications: Throughout project.  
   2. Color(s): As selected by Architect from manufacturer's full line. A darker color shall be selected.  

2.05 ACCESSORY MATERIALS  
A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.  
   1. Crack Resistance: No failure at 1/16 inch gap, minimum.  
   2. Fluid or Trowel Applied Type:  
      a. Thickness: 20 mils, maximum.  
      b. Products:
1) LATICRETE International, Inc; LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com/#sle.
2) Merkrete, by Parex USA, Inc; Merkrete Fracture Guard: www.merkrete.com/#sle.
3) Substitutions: See Section 01 60 00 - Product Requirements.

B. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 7/16 inch thick; 2 inch wide coated glass fiber tape for joints and corners.

C. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.

D. Bond Primer: Multipurpose, bond-promoting primer to enhance performance and adhesion to existing ceramics.
   1. Applications: Where tile is being installed over existing glazed block and other hard-to-bond surfaces to remain.
   2. Products:
      a. Mapei Eco Prim Grip
      b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

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

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

D. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.

E. Install Bond Primer on surfaces as required for proper adhesion.

F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.03 INSTALLATION - GENERAL

A. Install tile and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19, manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners neatly. Align wall joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install non-ceramic trim in accordance with manufacturer's instructions.

G. Sound tile after setting. Replace hollow sounding units.

H. Keep control and expansion joints free of mortar, grout, and adhesive.

I. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

J. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
K. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - WALL TILE

A. On exterior walls install in accordance with TCNA (HB) Method W244, thin-set over cementitious backer units, with waterproofing membrane.
B. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.
C. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.
D. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

3.05 CLEANING
A. Clean tile and grout surfaces.

3.06 PROTECTION
A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION
SECTION 09 51 00
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Suspended metal grid ceiling system.
   B. Acoustical units.

1.02 REFERENCE STANDARDS
   C. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

1.03 ADMINISTRATIVE REQUIREMENTS
   A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
   B. Do not install acoustical units until after interior wet work is dry.

1.04 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
   B. Shop Drawings: Indicate grid layout and related dimensioning, junctions with other ceiling finishes, and mechanical and electrical items installed in the ceiling.
   C. Product Data: Provide data on suspension system components and acoustical units.
   D. Samples: Submit two samples ____ by ____ inch in size illustrating material and finish of acoustical units.
   E. Samples: Submit two samples each, ____ inches long, of suspension system main runner, cross runner, and perimeter molding.
   F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
   G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
      1. See Section 01 60 00 - Product Requirements, for additional provisions.
      2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.05 QUALITY ASSURANCE
   A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
   B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 FIELD CONDITIONS
   A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 ACOUSTICAL UNITS
   A. Acoustical Units - General: ASTM E1264, Class A.
   B. Acoustical Panels: Painted mineral fiber, with the following characteristics:
1. Classification: ASTM E1264 Type III.
2. Size: 24 by 24 inches.
5. Tile Edge: Square.
7. Suspension System: Exposed grid.
8. Products:
   b. USG Corporation; Eclipse Acoustical Panels; www.usg.com/ceilings/#sle.
   c. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 SUSPENSION SYSTEM(S)

A. Suspension Systems - General: ASTM C635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required. Place hold down clips within all vestibules and 5 feet inside interior vestibule doors.

B. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; heavy-duty.
   1. Profile: Tee; 15/16 inch wide face.
   2. Construction: Double web.
   4. Manufacturer: Use same brand as acoustic units.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Perimeter Moldings: Same metal and finish as grid.
   1. At Exposed Grid: Provide C-shaped molding for mounting at same elevation as face of grid.

D. Acoustical Insulation: Specified in Section 07 21 00. (at suspended curved gypsum board ceiling only)
   1. Thickness: 2 inch.
   2. Size: To fit acoustical suspension system.

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

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

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

C. Locate system according to reflected ceiling plan.

D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.

E. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

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

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

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

E. Cutting Acoustical Units:
   1. Cut to fit irregular grid and perimeter edge trim.
   2. Make field cut edges of same profile as factory edges.
   3. Double cut and field paint exposed reveal edges.

3.04 TOLERANCES

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

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

END OF SECTION
SECTION 09 67 00
FLUID-APPLIED FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Fluid-applied flooring and base.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.
C. Samples: Submit two samples, 4 by 4 inch in size illustrating color and pattern for each floor material for each color specified.
D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and application rate for each coat.
E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.
F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.

1.04 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Store resin materials in a dry, secure area.
B. Store materials for three days prior to installation in area of installation to achieve temperature stability.

1.06 FIELD CONDITIONS
A. Maintain minimum temperature in storage area of 55 degrees F.
B. Store materials in area of installation for minimum period of 24 hours prior to installation.
C. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 24 hours after installation of materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Fluid-Applied Flooring:
   3. Substitutions: See Section 01 60 00 - Product Requirements.
2.02 FLUID-APPLIED FLOORING SYSTEMS
A. Fluid-Applied Flooring: Epoxy base coat(s), polyurethane top coat, no aggregate.
   1. System Thickness: 5.0 mils, nominal, dry film thickness (DFT).
   2. Texture: Slip resistant.
   5. Products:
      a. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES
A. Base Caps: Zinc with projecting base of 1/8 inch; ________ color.
B. Cant Strips: Molded material compatible with flooring.
C. Subfloor Filler: Type recommended by fluid-applied flooring manufacturer.
D. Primer: Type recommended by fluid-applied flooring manufacturer.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.
B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive flooring.
C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.
D. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.
E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION
A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Grind irregularities above the surface level. Prohibit traffic until filler is cured.
C. Vacuum clean substrate.
D. Apply primer to surfaces required by flooring manufacturer.

3.03 INSTALLATION - ACCESSORIES
A. Install cant strips at base of walls where flooring is to be extended up wall as base.
B. Install terminating cap strip at top of base; attach securely to wall substrate.

3.04 INSTALLATION - FLOORING
A. Apply in accordance with manufacturer’s instructions.
B. Apply each coat to minimum thickness required by manufacturer.
C. Finish to smooth level surface.
D. Cove at vertical surfaces.

3.05 PROTECTION
A. Prohibit traffic on floor finish for 48 hours after installation.
B. Barricade area to protect flooring until fully cured.

END OF SECTION
SECTION 09 68 13
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Carpet tile, fully adhered.
B. Removal of existing carpet tile.

1.02 REFERENCE STANDARDS
B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.
D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.04 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.
B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.05 FIELD CONDITIONS
A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Tile Carpeting:
   2. J+J Flooring Group; Catwalk II: www.jjflyinggroup.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 MATERIALS
A. Tile Carpeting, Type WLK: Tufted, manufactured in one color dye lot.
   1. Product: Basis of Design; First Step II manufactured by Mohawk Group.
   2. Tile Size: 24 by 24 inch, nominal.
   4. Pile Weight: 38 oz/sq yd.

2.03 ACCESSORIES
A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.
B. Edge Strips: Embossed aluminum, color as selected by Architect.
C. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.

3.02 PREPARATION
A. Remove existing carpet tile.
B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
C. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.
D. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
E. Vacuum clean substrate.

3.03 INSTALLATION
A. Starting installation constitutes acceptance of subfloor conditions.
B. Install carpet tile in accordance with manufacturer's instructions.
C. Blend carpet from different cartons to ensure minimal variation in color match.
D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
E. Lay carpet tile in square pattern, with pile direction alternating to next unit, set parallel to building lines.
F. Locate change of color or pattern between rooms under door centerline.
G. Trim carpet tile neatly at walls and around interruptions.
H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING
A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
B. Clean and vacuum carpet surfaces.

END OF SECTION
SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.
B. Field application of paints.
C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
      d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.
D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, tene-coated stainless steel, and lead items.
   6. Floors, unless specifically indicated.
   7. Glass.
   8. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

D. SSPC-SP 1 - Solvent Cleaning; 2015.
E. SSPC-SP 6 - Commercial Blast Cleaning; 2007.
F. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015); 2003.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. MPI product number (e.g., MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.  
1. Where sheen is specified, submit samples in only that sheen.

D. Samples: Submit one paper chip samples, 2 by 2 inch in size illustrating range of colors available for each surface finishing product scheduled.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.  
1. See Section 01 60 00 - Product Requirements, for additional provisions.
2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
3. Label each container with color in addition to the manufacturer's label.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.05 FIELD CONDITIONS
A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS
2.01 MANUFACTURERS
A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.
B. Paints:  
1. Base Manufacturer: ____________.  
C. Primer Sealers: Same manufacturer as top coats.
D. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL
A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.  
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.
C. Colors: To be selected from manufacturer's full range of available colors.
   1. Selection to be made by Architect after award of contract.
   2. Allow for minimum of five colors for each system, unless otherwise indicated, without additional cost to Owner. The design intent is a common field color for all eight school with possible accent walls.
   3. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.03 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, brick, wood, plaster, uncoated steel, shop primed steel, galvanized steel, aluminum, and acoustical ceilings.

B. Paint I-OP Medium Duty: For restroom surfaces, including walls, ceilings, doors and frames:
   1. Two top coats and one coat primer.
   2. Top Coat(s): Interior Light Industrial Coating, Water Based; MPI #151, 153 or 154.
      a. Products:
         3) Substitutions: Section 01 60 00 - Product Requirements.

C. Paint I-OP-DF - Dry Fall: Metals; exposed structure and overhead-mounted services in utilitarian spaces, including shop primed steel deck, structural steel, metal fabrications, and concrete structure.
   1. Shop primer by others.
   2. One top coat ______.
   3. Top Coat: Latex Dry Fall; MPI #118, 155, or 226.
      a. Products:
         1) Basis of Design: Sherwin-Williams Waterborne Acrylic Dryfall, Semi-Gloss. (MPI #226)
         3) Substitutions: Section 01 60 00 - Product Requirements.

4. Top Coat Sheen:
   a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Interior/Exterior Latex Block Filler; MPI #4. Provide on concrete and concrete masonry.
      a. Products:
         2) Diamond Vogel: Fil-Kote Acrylic Block Filler.
         3) Substitutions: Section 01 60 00 - Product Requirements.

2. Interior Drywall Primer Sealer.
   a. Products:
      3) Substitutions: Section 01 60 00 - Product Requirements.

3. Bonding Primer, Water Based; MPI #17. Provide where overcoating existing coatings.
   a. Products:
3) Substitutions: Section 01 60 00 - Product Requirements.

2.05 ACCESSORY MATERIALS
A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
B. Patching Material: Latex filler.
C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION
3.01 EXAMINATION
A. Do not begin application of paints and finishes until substrates have been adequately prepared.
B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
D. Test shop-applied primer for compatibility with subsequent cover materials.
E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Plaster and Stucco: 12 percent.
   3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
   4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION
A. Clean surfaces thoroughly and correct defects prior to application.
B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
D. Seal surfaces that might cause bleed through or staining of topcoat.
E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
F. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.
G. Masonry:
   1. Remove efflorescence and chalk. Do not coat surfaces if moisture content, alkalinity of surfaces, or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
   2. Prepare surface as recommended by top coat manufacturer.
H. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
I. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
J. Aluminum: Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
K. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.

3. **Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning".** Protect from corrosion until coated.

L. **Wood Surfaces to Receive Opaque Finish**: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

### 3.03 APPLICATION

A. **Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.**

B. **Apply products in accordance with manufacturer’s written instructions and recommendations in "MPI Architectural Painting Specification Manual".**

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

D. **Apply each coat to uniform appearance in thicknesses specified by manufacturer.**

E. **Dark Colors and Deep Clear Colors**: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

F. **Sand wood and metal surfaces lightly between coats to achieve required finish.**

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

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

### 3.04 PROTECTION

A. **Protect finishes until completion of project.**

B. **Touch-up damaged finishes after Substantial Completion.**

**END OF SECTION**
SECTION 10 21 13.19
PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Solid plastic toilet compartments.
B. Urinal screens.

1.02 RELATED REQUIREMENTS
A. Section 06 10 00 - Rough Carpentry: Blocking and supports.
B. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.03 REFERENCE STANDARDS
A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS
A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.05 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
C. Samples: Submit two samples of partition panels, _____by_____ inch in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Solid Plastic Toilet Compartments:
   1. AJW Architectural Products; _____: www.ajw.com/#sle.
   5. Substitutions: Section 01 60 00 - Product Requirements.

2.02 PLASTIC TOILET COMPARTMENTS
A. Solid Plastic Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), tested in accordance with NFPA 286; floor-mounted headrail-braced.
B. Doors:
   1. Thickness: 1 inch.
   2. Width: 24 inch.
   4. Height: 55 inch.
C. Panels:
   1. Thickness: 1 inch.
   2. Height: 55 inch.
D. Pilasters:
   1. Thickness: 1 inch.
2. Width: As required to fit space; minimum 3 inch.

2.03 COMPONENTS

A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), floor-mounted headrail-braced.
   1. Color: as selected from manufacturer's standard colors.

B. Door and Panel Dimensions:
   1. Thickness: 1 inch.
   2. Door Width: 24 inch.
   3. Door Width for Handicapped Use: 36 inch, out-swinging.
   4. Height: 55 inch.
   5. Thickness of Pilasters: 1 inch.

C. Urinal Screens: Wall mounted with two panel brackets, and floor-mounted vertical upright consisting of pilaster anchored to floor.

2.04 ACCESSORIES

A. Pilaster Shoes: Stainless steel, satin finish, 3 inches high; concealing floor fastenings.
   1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

B. Head Rails: Extruded aluminum, anti-grip profile.
   1. Size: Manufacturer's standard size.

C. Wall and Pilaster Brackets: Stainless steel; manufacturer's standard type for conditions indicated on drawings.

D. Head Rails: Hollow anodized aluminum tube, 1 x 1-5/8 inch size, with anti-grip strips and cast socket wall brackets.

E. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
   1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.

F. Hinges: Stainless steel, manufacturer's standard finish.
   1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify correct spacing of and between plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

3.03 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION
SECTION 10 28 00
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Commercial toilet accessories.
B. Electric hand/hair dryers.

1.02  RELATED REQUIREMENTS
A. Section 09 30 00 - Tiling: Ceramic washroom accessories.
B. Section 10 21 13.19 - Plastic Toilet Compartments.

1.03  REFERENCE STANDARDS
B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordinate the work with the placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

1.05  SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
C. Manufacturer’s Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2  PRODUCTS

2.01  MANUFACTURERS
A. Commercial Toilet, Shower, and Bath Accessories:
   1. AJW Architectural Products; _____: www.ajw.com/#sle.
   2. Bobrick, Inc.: www.bobrick.com
   5. Substitutions: Section 01 60 00 - Product Requirements.

2.02  MATERIALS
A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
B. Stainless Steel Sheet: ASTM A666, Type 304.
C. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
D. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
E. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03  FINISHES
A. Stainless Steel: Satin finish, unless otherwise noted.
2.04 COMMERCIAL TOILET ACCESSORIES

A. Mirrors: Stainless steel framed, 6 mm tempered glass mirror
   1. Size: 24 inch by 36 inch.
   2. Frame: 0.05 inch channel shapes with mitered corners, tamper proof hanging system, No. 4 finish.
   3. Product: B-165 2436 manufactured by Bobrick.

B. Grab Bars: Stainless steel, nonslip grasping surface finish.
   1. Standard Duty Grab Bars:
      a. Push/Pull Point Load: 250 pound-force, minimum.
      b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, concealed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
      c. Length and Configuration: As indicated on drawings.
      d. Products:
         1) American Specialties, Inc; Series 3200: www.americanspecialties.com/#sle.
         2) B-5806 by Bobrick.
         3) Substitutions: Section 01 60 00 - Product Requirements.

C. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.

2.05 ELECTRIC HAND/HAIR DRYERS

A. Electric Hand Dryers: With downward fixed nozzle.
   3. Sound: Average dBA not greater than 75 dBA.
      a. Tamper-resistant screw attachment of cover to mounting plate.
   6. Electric Hand Dryer Products:
      b. Saniflow Corporation; Machflow.
      c. Substitutions: Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.
B. Verify exact location of accessories for installation.
C. For electrically-operated accessories, verify that electrical power connections are ready and in the correct locations.
D. Verify that field measurements are as indicated on drawings.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.
B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers’ instructions in locations indicated on drawings.
B. Install plumb and level, securely and rigidly anchored to substrate.
C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
D. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings.
3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION
SECTION 12 36 00
COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Wall-hung counters and vanity tops.

1.02 REFERENCE STANDARDS
A. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.
C. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.
D. Installation Instructions: Manufacturer's installation instructions and recommendations.
E. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Store products in manufacturer's unopened packaging until ready for installation.
B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

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

PART 2 PRODUCTS

2.01 COUNTERTOPS
A. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
   1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
      a. Manufacturers:
         1) Formica Corporation; ______: www.formica.com/#sle.
         2) Wilsonart; _____: www.wilsonart.com/#sle.
         3) Substitutions: See Section 01 60 00 - Product Requirements.
      b. Finish: Matte or suede, gloss rating of 5 to 20.
      c. Surface Color and Pattern: As selected by Architect from the manufacturer's standard line.
   2. Back and End Splashes: Same material, same construction.

2.02 MATERIALS
A. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
B. Joint Sealant: Mildew-resistant silicone sealant, clear.

2.03 FABRICATION
A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against
cabinet or wall.
3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or
unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise
indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof
glue.
   2. Height: 4 inches, unless otherwise indicated.
C. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces, finished to match.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Do not begin installation until substrates have been properly prepared.
   B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory
      preparation before proceeding.
   C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets
      are installed in proper locations.

3.02 PREPARATION
   A. Clean surfaces thoroughly prior to installation.
   B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best
      result for the substrate under the project conditions.

3.03 INSTALLATION
   A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level;
      shim where required.
   B. Attach plastic laminate countertops using screws with minimum penetration into substrate board
      of 5/8 inch.
   C. Seal joint between back/end splashes and vertical surfaces.

3.04 TOLERANCES
   A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
   B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
   C. Field Joints: 1/8 inch wide, maximum.

3.05 CLEANING
   A. Clean countertops surfaces thoroughly.

3.06 PROTECTION
   A. Protect installed products until completion of project.
   B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION
SECTION 22 05 01
MINOR PLUMBING DEMOLITION

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Plumbing and mechanical demolition.

1.02 RELATED SECTIONS
A. Division 00 - Introductory Information, Bidding, and Contracting Requirements
B. Division 01 - General Requirements

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, piping arrangements and ducting arrangements are as shown on Drawings.
B. Verify that abandoned piping, ductwork and equipment serve only abandoned facilities.
C. Demolition drawings are based on casual field observation.
D. Report discrepancies to Architect/Engineer before disturbing existing installation.
E. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION
A. Provide temporary connections to maintain existing systems in service during construction. When work must be performed on active systems, use personnel experienced in such operations.
B. Existing Mechanical Systems: Maintain existing systems in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.
   1. Obtain permission from Owner at least 24 hours before partially or completely disabling system.
   2. Make temporary connections to maintain service in areas adjacent to work area.

3.03 DEMOLITION AND EXTENSION OF EXISTING MECHANICAL WORK
A. Remove, relocate, and extend existing installations to accommodate new construction.
B. Remove abandoned piping and ductwork to source of supply.
C. Remove exposed abandoned piping, including abandoned piping above accessible ceiling finishes. Cut piping flush with walls and floors and cap, and patch surfaces.
D. Disconnect and remove abandoned mechanical and plumbing equipment as indicated on the drawings.
E. Disconnect and remove mechanical devices and equipment serving utilization equipment that has been removed.
F. Repair adjacent construction and finishes damaged during demolition and extension work.
G. Maintain access to existing mechanical installations which remain active. Modify installation or provide access panel as appropriate.
H. Extend existing installations using materials and methods compatible with the existing mechanical installations, or as specified.

3.04 CLEANING AND REPAIR
A. Clean and repair existing materials and equipment which remain or are to be reused.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
A. Piping insulation.
B. Jackets and accessories.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 07 84 00 - Firestopping.
D. Section 22 10 05 - Plumbing Piping: Placement of hangers and hanger inserts.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.
C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.05 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.
B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum five years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING
A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.07 FIELD CONDITIONS
A. Maintain ambient conditions required by manufacturers of each product.
B. Maintain temperature before, during, and after installation for minimum of 24 hours.
PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS
A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.02 GLASS FIBER
A. Manufacturers:
   5. Engineer approved equivalent.
   6. Substitutions: See Section 01 60 00 - Product Requirements.
B. Insulation: ASTM C547 and ASTM C795; rigid molded, noncombustible.
   1. 'K' Value: ASTM C177, 0.24 at 75 degrees F.
   2. Maximum Service Temperature: 850 degrees F.
   3. Maximum Moisture Absorption: 0.2 percent by volume.
C. Vapor Barrier Jacket: White Kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches.
D. Vapor Barrier Lap Adhesive: Compatible with insulation.
   1. Compatible with insulation.
E. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.
   1. ASTM C195; hydraulic setting on mineral wool.

2.03 JACKETS
A. PVC Plastic.
   1. Manufacturers:
      b. Knauf; "Proto": www.knauffiberglass.com
      c. Engineer approved equivalent
      d. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Jacket: One piece molded type fitting covers and sheet material, off-white color.
      a. Minimum Service Temperature: 0 degrees F.
      b. Maximum Service Temperature: 150 degrees F.
      c. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
      d. Thickness: 10 mil.
      e. Connections: Brush on welding adhesive.
      a. Compatible with insulation.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that piping has been tested before applying insulation materials.
B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Install in accordance with North American Insulation Manufacturers Association (NAIMA) National Insulation Standards.
C. Exposed Piping: Locate insulation and cover seams in least visible locations.
D. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.
E. Glass fiber insulated pipes conveying fluids below ambient temperature:
   1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
   2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

F. For hot piping conveying fluids 140 degrees F or less, do not insulate flanges and unions at equipment, but bevel and seal ends of insulation.

G. Glass fiber insulated pipes conveying fluids above ambient temperature:
   1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples.
   2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

H. Inserts and Shields:
   1. Application: Piping 1-1/2 inches diameter or larger.
   2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
   3. Insert Location: Between support shield and piping and under the finish jacket.
   4. Insert Configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
   5. Insert Material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

I. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 07 84 00.

J. Pipe Exposed in Finished Spaces (less than 10 feet above finished floor): Finish with PVC jacket and fitting covers.

3.03 SCHEDULES

A. Plumbing Systems:
   1. Domestic Hot Water Supply:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: Up to 1-1/2 inch
         2) Thickness: 1 inch
         3) Pipe Size Range: 1-1/2 inch and above
         4) Thickness: 1-1/2 inch
   2. Domestic Cold Water:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: All sizes.
         2) Thickness: 1 inch.
   3. Plumbing Vents Within 10 Feet of the Exterior:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: All sizes.
         2) Thickness: 1 inch.

END OF SECTION
SECTION 22 10 05
PLUMBING PIPING

PART 1  GENERAL
1.01  SECTION INCLUDES
   A. Pipe, pipe fittings, specialties, and connections for piping systems.
      1. Sanitary sewer.
      2. Domestic water.
      3. Flanges, unions, and couplings.
      4. Pipe hangers and supports.
      5. Ball valves.
      6. Valves.

1.02  RELATED REQUIREMENTS
   A. Division 0 - Introductory Information, Bidding, and Contracting Requirements
   B. Division 1 - General Requirements
   C. Section 07 84 00 - Firestopping
   D. Section 22 07 19 - Plumbing Piping Insulation.

1.03  REFERENCE STANDARDS
   B. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; 2012.
   C. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings; 2013.
   E. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV; 2012.
   G. ASME B31.2 - Fuel Gas Piping; The American Society of Mechanical Engineers; 1968.
   H. ASME B31.9 - Building Services Piping; 2014.
   M. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2013.
   N. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV); 2013.
1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.
C. Welder Certificate: Include welders certification of compliance with ASME BPVC-IX.
D. Project Record Documents: Record actual locations of valves.

1.05 QUALITY ASSURANCE
A. Perform work in accordance with applicable codes.
B. Perform Work in accordance with State of Iowa, standards.
C. Valves: Manufacturer's name and pressure rating marked on valve body.
D. Welding Materials and Procedures: Conform to ASME BPVC-IX and applicable state labor regulations.
E. Welder Qualifications: Certified in accordance with ASME BPVC-IX.
F. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

1.06 REGULATORY REQUIREMENTS
A. Perform Work in accordance with State of Iowa plumbing code.
B. Conform to applicable code for installation of backflow prevention devices.
C. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices.

1.07 DELIVERY, STORAGE, AND HANDLING
A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
C. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS
2.01 GENERAL REQUIREMENTS
A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 SANITARY SEWER PIPING, ABOVE GRADE
A. Cast Iron Pipe: ASTM A74, service weight.
   1. Fittings: Cast iron.
   2. Joint Seals: ASTM C564 neoprene gaskets, or lead and oakum.
   3. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute and listed by NSF International.
B. Cast Iron Pipe: CISPI 301, hubless, service weight.
   1. Fittings: Cast iron.
   3. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute and listed by NSF International.
C. Copper Tube: ASTM B 306, DWV.

2.03 DOMESTIC WATER PIPING, ABOVE GRADE
A. Copper Tube: ASTM B88 (ASTM B88M), Type L (B), Drawn (H).
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
3. Press-fit with grooves designed to accept grooved end couplings of the same manufacturer. Fittings shall be wrought copper, conforming to ASTM B-75, ASTM B-152 or ASTM B-584-87. Flaring of tube and fitting ends to IPS dimensions is not allowed. Fittings shall have coupling gaskets of synthetic rubber conforming to the copper tube size outside diameter and coupling housing of elastomers having properties as designated in ASTM D-2000.

2.04 FLANGES, UNIONS, AND COUPLINGS

A. Unions for Pipe Sizes 3 Inches and Under:
   1. Ferrous pipe: Class 150 malleable iron threaded unions.
   2. Copper tube and pipe: Class 150 bronze unions with soldered joints.

B. Flanges for Pipe Size Over 1 Inch:
   1. Ferrous Pipe: Class 150 malleable iron threaded or forged steel slip-on flanges; preformed neoprene gaskets.
   2. Copper Tube and Pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.

C. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.05 PIPE HANGERS AND SUPPORTS

A. Provide hangers and supports that comply with MSS SP-58.
   1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
   3. Trapeze Hangers: Welded steel channel frames attached to structure.

B. Plumbing Piping - Water:
   2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: Malleable iron, adjustable swivel, split ring.
   3. Hangers for Cold Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
   5. Multiple or Trapeze Hangers: Steel channels with welded supports or spacers and hanger rods.
   7. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

2.06 BALL VALVES

A. Manufacturers:
   3. Hammond: www.hammondvalve.com
   4. Engineer approved equivalent
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Construction, 4 Inches and Smaller: MSS SP-110, NSF/ANSI 61 and NSF/ANSI 372, 400 psi CWP, forged DZR copper alloy, two-piece body, 304 stainless steel ball, full port, teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, solder, threaded, or grooved ends with union.

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. Install in accordance with manufacturer's instructions.
B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
D. Install piping to maintain headroom, conserve space, and not interfere with use of space.
E. Group piping whenever practical at common elevations.
F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
H. Provide access where valves and fittings are not exposed.
I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
J. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting.
K. Install valves with stems upright or horizontal, not inverted. Refer to Section 22 05 23.
L. Install water piping to ASME B31.9.
M. Copper Pipe and Tube: Make soldered joints in accordance with ASTM B828, using specified solder, and flux meeting ASTM B813; in potable water systems use flux also complying with NSF 61 and NSF 372.
N. Sleeve pipes passing through partitions, walls and floors.
O. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9.
   2. Support horizontal piping as indicated.
   3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
   4. Place hangers within 12 inches of each horizontal elbow.
   5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
   7. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   8. Provide copper plated hangers and supports for copper piping.
   9. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

3.03 APPLICATION
A. Install unions downstream of valves and at equipment or apparatus connections.
B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.
C. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.

3.04 TOLERANCES
A. Drainage Piping: Establish invert elevations within 1/2 inch vertically of location indicated and slope to drain at minimum of 1/8 inch per foot slope.
B. Water Piping: Slope at minimum of 1/32 inch per foot and arrange to drain at low points.

3.05 TESTING OF SYSTEMS
A. Plumbing and piping systems shall be pressure tested in accordance with the Uniform Plumbing Code.
   1. Sanitary and Storm Sewer: 10 foot hydrostatic pressure for 1 hour
   2. Domestic Water: 1.5 times working pressure, 100 psi minimum for 4 hours

3.06 SCHEDULES
A. Pipe Hanger Spacing:
   1. Metal Piping:
a. Pipe Size: 1/2 inches to 1-1/4 inches:
   1) Maximum Hanger Spacing: 6.5 ft.
   2) Hanger Rod Diameter: 3/8 inches.

b. Pipe Size: 1-1/2 inches to 2 inches:
   1) Maximum Hanger Spacing: 10 ft.
   2) Hanger Rod Diameter: 3/8 inch.

c. Pipe Size: 2-1/2 inches to 3 inches:
   1) Maximum Hanger Spacing: 10 ft.
   2) Hanger Rod Diameter: 1/2 inch.

d. Pipe Size: 4 inches to 6 inches:
   1) Maximum Hanger Spacing: 10 ft.
   2) Hanger Rod Diameter: 5/8 inch.

e. Pipe Size: 8 inches to 12 inches:
   1) Maximum hanger spacing: 14 ft.
   2) Hanger Rod Diameter: 7/8 inch.

END OF SECTION
PART 1  GENERAL

1.01  SECTION INCLUDES
A. Water Closet Flush Valve.
B. Urinal flush valve.
C. Lavatories.
D. Lavatory Faucets.
E. Wash fountains.

1.02  RELATED REQUIREMENTS
A. Division 0 - Introductory Information, Bidding, and Contracting Requirements
B. Division 1 - General Requirements
C. Section 07 90 05 - Joint Sealers: Seal fixtures to walls and floors.
D. Section 22 10 05 - Plumbing Piping.
E. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.03  REFERENCE STANDARDS
A. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; 1997 (Reaffirmed 2002).
B. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2013.
C. ASME A112.19.5 - Flush Valves and Spuds for Water Closets, Urinals, and Tanks; 2011.

1.04  SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
C. Manufacturer's Instructions: Indicate installation methods and procedures.
D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.
E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

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

1.06  REGULATORY REQUIREMENTS
A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.07  DELIVERY, STORAGE, AND HANDLING
A. Accept fixtures on site in factory packaging. Inspect for damage.
B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.08  WARRANTY
A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 WATER CLOSET FLUSH VALVE

A. Flush Valve Manufacturers:
   1. Hydrotek HB-8000C-A
   3. American Standard
   4. Engineer approved equivalent
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Sensor Operated Flush Valve:
   1. Exposed chrome plated, battery operated, slow closing solenoid valve, piston flushing mechanism, low battery indicator light, infrared sensor and manual over-ride button, sweat kit, flush tube, spud coupling, stop valve and vacuum breaker; maximum 1.6 gallon flush volume.

2.03 URINAL FLUSH VALVE

A. Flush Valve Manufacturers:
   1. Hydrotek HB-8000C-B1
   3. American Standard
   4. Engineer approved equivalent
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Sensor Operated Flush Valve:
   1. Exposed chrome plated, battery operated, slow closing solenoid valve, piston flushing mechanism, low battery indicator light, infrared sensor and manual over-ride button, sweat kit, flush tube, spud coupling, stop valve and vacuum breaker; maximum 1 gallon flush volume.

2.04 LAVATORIES (L-1)

A. Lavatory Manufacturers:
   4. Engineer approved equivalent
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Vitreous China Wall Hung Basin:
   1. ASME A112.19.2; vitreous china wall hung lavatory 20 x 18 inch minimum, with 4 inch high back, rectangular basin with splash lip, front overflow, and soap depression.
      a. Drilling Centers: 4 inch.

C. Accessories:
   1. Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon.
   2. Offset waste with perforated open strainer.
   3. Wheel handle stops.
   4. Flexible supplies.
   5. Install insulation on supplies and waste to comply with ADA.
   6. Carrier:
      a. Manufacturers:
         3) Engineer approved equal
         4) Substitutions: See Section 01 60 00 - Product Requirements.
      b. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, concealed arm supports, bearing plate and studs.
2.05 COUNTER TOP LAVATORY (L-2)

A. Manufacturers:
4. Engineer approved equivalent
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Vitreous China Counter Top Basin:
1. ASME A112.19.2M; vitreous china self-rimming counter top lavatory, 20 x 17 inches with drillings on 4 inch centers, front overflow, soap depression, seal of putty, calking, or concealed vinyl gasket.

C. Accessories:
1. Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon.
2. Wheel handle stops.
3. Rigid supplies.
4. Insulation on waste and supplies below lavatory to meet requirements of A.D.A.

2.06 LAVATORY FAUCET (HANAWALT, HUBBELL, LOVEJOY, OAK PARK, PLEASANT HILL, AND WOOLDAWN ONLY)

A. Supply Faucet Manufacturers:
1. Delta; Model #591-HGMHDF
3. Engineer approved equivalent
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Sensor Operated Faucet: Cast brass, chrome plated, deck mounted with sensor located on neck of spout.
2. Power Supply: 24 VAC.
   a. For 24V applications, provide transformer.
   b. Provide all low voltage wiring between 115V to 24 V transformer, and 24V to 6V transformer, and to lavatory faucet.
5. Aerator: Vandal resistant, 0.5 GPM, laminar flow device.
6. Automatic Shut-off: 45 seconds.
7. Finish: Polished chrome.
8. Accessories: 4 inch deck plate.
   a. 4-inch deck plate
   b. Grid strainer.

2.07 LAVATORY FAUCET (HOOVER AND NORTH HIGH SCHOOLS ONLY)

A. Supply Faucet Manufacturers:
1. Delta; Model 86T1053
2. Engineer approved equivalent
3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Metering Faucet: ASME A112.18.1; heavy duty, ADA compliant, chrome plated two handled metered mixing faucet with slow close cartridges, vandal resistant color coded tip action lever handles, vandal resistant handle actuator and spout outlet with open grid strainer.

2.08 WASH FOUNTAINS (WF-1)

A. Manufacturers:

B. Wall mounted, densified solid surface vandal resistant washfountain, pedestal and access panels. The unit shall have four independently controlled sprayheads. Each spray nozzle shall be controlled by a separate infrared activated solenoid valve. Shut-off shall be automatic after hands
are removed from the detection area. Infrared controls shall include solenoid valves and plug in adapter.

C. Mounting height shall be in accordance with ADA guidelines on reach, clearances and operation.

D. Bowl:
   1. 46 inch wide by 26 inch deep, densified solid surface.
   2. Color as selected by Architect from manufactures full line of color options.
   3. Provide juvenile height for elementary schools.
   4. Provide standard height for high schools.

E. Accessories: Spray head, thermostatic mixing valve, backsplash, supporting tube, spud and strainer, operating mechanism, combination stop, strainer and check valves, plug in adapter.

2.09 PIPING SAFETY COVERS

A. Manufacturers:
   2. Engineer approved equivalent
   3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Piping Insulation Accessories:
   1. Provide products that comply with the following:
      a. Characteristics: Three-piece molded assembly, minimum 1/8 inch wall thickness, with internal ribs to provide air space between piping and piping insulation jacket, molded to receive manufacturer's snap-clip fasteners.
      b. Vinyl Material: Impact-resistant and stain-resistant molded closed-cell anti-microbial vinyl compound, UV-stable, non-fading, non yellowing; having the following performance characteristics:
         1) Burning Characteristics: 0 seconds Average Time of Burning (ATB), 0 mm Area of Burning (AEB), when tested in accordance with ASTM D 635.
         2) Thermal Conductivity: K-value 1.17, when tested in accordance with ASTM C 177.
         3) Indentation Hardness: 60, minimum, when tested in accordance with ASTM D 2240, using Type A durometer.
      c. Trap Assembly Cover: Three-piece assembly, with removable clean-out nut enclosure.
      d. Angle Stop Covers: Formed with hinged cap for access to valve without requiring cover removal.
      e. Configurations: In accordance with manufacturer's product data for project piping configurations indicated on drawings.
      f. Color: China White, gloss finish; paintable.
      g. Fasteners: Manufacturer's standard re-usable snap-clip fasteners; wire-tie fasteners not permitted.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
B. Verify that electric power is available and of the correct characteristics.
C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.02 PREPARATION

A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.03 INSTALLATION

A. Install each fixture with trap, easily removable for servicing and cleaning.
B. Provide chrome plated rigid or flexible supplies to fixtures with loose key stops, reducers, and escutcheons.
C. Install components level and plumb.
D. Install and secure fixtures in place with wall supports and bolts.
E. Seal fixtures to wall and floor surfaces with sealant as, color to match fixture.
F. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS
A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.05 ADJUSTING
A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.06 CLEANING
A. Clean plumbing fixtures and equipment.

3.07 PROTECTION
A. Protect installed products from damage due to subsequent construction operations.
B. Do not permit use of fixtures by construction personnel.
C. Repair or replace damaged products before Date of Substantial Completion.

END OF SECTION
SECTION 23 05 48
VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1  GENERAL
1.01  SECTION INCLUDES
   A. Vibration isolators.

1.02  REFERENCE STANDARDS
   B. SMACNA (SRM) - Seismic Restraint Manual Guidelines for Mechanical Systems; Sheet Metal and Air Conditioning Contractors’ National Association; 2008.

1.03  SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Product Data:
      1. Provide manufacturer’s product literature documenting compliance with PART 2 PRODUCTS.
   C. Shop Drawings:
      1. Provide schedule of vibration isolator type with location and load on each.
      2. Fully dimensioned fabrication drawings and installation details for vibration isolation bases, member sizes, attachments to isolators, and supported equipment.
      3. Clearly indicate the load and capacity assumptions selected. Include copies of any calculations.
   D. Manufacturer’s Instructions: Indicate installation instructions with special procedures and setting dimensions.

1.04  QUALITY ASSURANCE
   A. Comply with applicable building code.
   B. Perform design and installation in accordance with applicable codes.
   C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
      1. Member of Vibration Isolation and Seismic Control Manufacturers Association (VISCMA).
   D. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

PART 2  PRODUCTS
2.01  MANUFACTURERS
   C. Vibration Eliminator: www.veco-ny.com
   D. Vibro-Acoustics: www.vibro-acoustics.com
   E. Amber Booth: www.amberbooth.com
   F. Engineer approved equivalent
   G. Substitutions: See Section 01 60 00 - Product Requirements.

2.02  PERFORMANCE REQUIREMENTS
   A. General:
      1. All vibration isolators, base frames and inertia bases to conform to all uniform deflection and stability requirements under all operating loads.
      2. Steel springs to function without undue stress or overloading.
      3. Steel springs to operate in the linear portion of the load versus deflection curve over deflection range of not less than 50 percent above specified deflection.
4. Lateral to vertical stiffness ratio to not exceed 0.08 with spring deflection at minimum 75 percent of specified deflection.

5. All equipment mounted on vibration isolated bases to have minimum operating clearance of 2 inches between the base and floor or support beneath unless noted otherwise.

2.03 VIBRATION ISOLATORS

A. Neoprene Pad Isolators:
   1. Rubber or neoprene waffle pads.
      a. Hardness: 30 durometer.
      b. Thickness: Minimum 1/2 inch.
      c. Maximum Loading: 50 psi.
      d. Rib Height: Maximum 0.7 times width.

B. Rubber Mount or Hanger: Molded rubber designed for 0.4 inch deflection with threaded insert.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Install in accordance with manufacturer's instructions.

B. Prior to making piping connections to equipment with operating weights substantially different from installed weights, block up equipment with temporary shims to final height. When full load is applied, adjust isolators to load to allow shim removal.

3.02 SCHEDULE

A. Equipment Isolation Schedule.
   1. Ceiling Exhaust Fan - Suspended
      a. Isolator Type: Neoprene Mount for Threaded Hanger

END OF SECTION
SECTION 23 05 93
TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Testing, adjustment, and balancing of air systems.
B. Measurement of final operating condition of HVAC systems.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 01 40 00 - Quality Requirements: Employment of testing agency and payment for services.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Installer Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.
C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.
   1. Submit to Architect.
   2. Include certification that the plan developer has reviewed the contract documents, the equipment and systems, and the control system with the Architect and other installers to sufficiently understand the design intent for each system.
   3. Include at least the following in the plan:
      a. List of all air flow, water flow, sound level, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
      b. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
      c. Discussion of what notations and markings will be made on the duct and piping drawings during the process.
      d. Final test report forms to be used.
      e. Expected problems and solutions, etc.
      f. Exhaust fan balancing and capacity verifications, including any required room pressure differentials.
      g. Procedures for formal deficiency reports, including scope, frequency and distribution.
D. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
   1. Submit under provisions of Section 01 40 00.
   2. Revise TAB plan to reflect actual procedures and submit as part of final report.
   3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect and for inclusion in operating and maintenance manuals.
   4. Provide reports in soft cover, letter size, 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with
air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.

5. Include actual instrument list, with manufacturer name, serial number, and date of calibration.

6. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.

7. Units of Measure: Report data in I-P (inch-pound) units only.

8. Include the following on the title page of each report:
   a. Name of Testing, Adjusting, and Balancing Agency.
   b. Address of Testing, Adjusting, and Balancing Agency.
   c. Telephone number of Testing, Adjusting, and Balancing Agency.
   d. Project name.
   e. Project location.
   f. Project Architect.
   g. Project Engineer.
   h. Project Contractor.
   i. Report date.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Perform total system balance in accordance with one of the following:
   1. AABC (NSTSB), AABC National Standards for Total System Balance.
   4. SMACNA (TAB).
   5. Maintain at least one copy of the standard to be used at project site at all times.

B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.

C. Where HVAC systems and/or components interface with life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with the authorities having jurisdiction.

D. TAB Agency Qualifications:
   1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
   2. Having minimum of three years documented experience.
   3. Certified by one of the following:
      b. NEBB, National Environmental Balancing Bureau: www.nebb.org/#sle.

E. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

F. Pre-Qualified TAB Agencies:
   2. Precision Facility Solutions, Waukee, Iowa.
   3. Engineer approved TAB Agency
   4. Substitutions: See Section 01 60 00 - Product Requirements.

3.02 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
   1. Systems are started and operating in a safe and normal condition.
   2. Temperature control systems are installed complete and operable.
3. Proper thermal overload protection is in place for electrical equipment.
4. Duct systems are clean of debris.
5. Fans are rotating correctly.
6. Access doors are closed and duct end caps are in place.
7. Air outlets are installed and connected.
8. Duct system leakage is minimized.

B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.
C. Beginning of work means acceptance of existing conditions.

3.03 PREPARATION

A. Hold a pre-balancing meeting at least one week prior to starting TAB work.
   1. Require attendance by all installers whose work will be tested, adjusted, or balanced.

B. Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Architect to facilitate spot checks during testing.
C. Provide additional balancing devices as required.

3.04 ADJUSTMENT TOLERANCES

A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
B. Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.

3.05 RECORDING AND ADJUSTING

A. Field Logs: Maintain written logs including:
   1. Running log of events and issues.
   2. Discrepancies, deficient or uncompleted work by others.
   4. Lists of completed tests.

B. Ensure recorded data represents actual measured or observed conditions.
C. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
D. Mark on drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.
E. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
F. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.
G. At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by the Owner.
H. Check and adjust systems approximately six months after final acceptance and submit report.

3.06 AIR SYSTEM PROCEDURE

A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.
B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
C. Measure air quantities at air inlets and outlets.
D. Measure existing airflows at exhaust grilles to be replaced, prior to replacing said exhaust grilles.

3.07 SCOPE

A. Test, adjust, and balance the following:
   1. Fans.
2. Air Inlets and Outlets.

3.08 MINIMUM DATA TO BE REPORTED

A. Electric Motors:
   1. Manufacturer.
   2. Model/Frame.
   3. HP/BHP.
   4. Phase, voltage, amperage; nameplate, actual, no load.
   5. RPM.

B. Exhaust Fans:
   1. Location.
   2. Manufacturer.
   3. Model number.
   4. Serial number.
   5. Air flow, specified and actual.
   6. Total static pressure (total external), specified and actual.
   7. Inlet pressure.
   8. Discharge pressure.
   9. Fan RPM.

C. Air Distribution Tests:
   1. Air terminal number.
   2. Room number/location.
   3. Terminal type.
   4. Terminal size.
   5. Initial Airflow.
   6. Test (final) air flow.
   7. Percent of design airflow.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
A. Duct insulation.

1.02 RELATED REQUIREMENTS
A. Division 0 - Introductory Information, Bidding, and Contracting Requirements
B. Division 1 - General Requirements
C. Section 23 31 00 - HVAC Ducts and Casings

1.03 REFERENCE STANDARDS
F. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.04 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.
C. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.

1.05 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section with not less than three years of documented experience.
B. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum five years of experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING
A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.
B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.07 FIELD CONDITIONS
A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS
A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.
2.02 GLASS FIBER, FLEXIBLE
   A. Manufacturer:
      5. Engineer approved equal
      6. Substitutions: See Section 01 60 00 - Product Requirements.
   B. Vapor Barrier Jacket:
      1. Kraft paper with glass fiber yarn and bonded to aluminized film.
      2. Moisture Vapor Permeability: 0.029 ng/Pa s m (0.02 perm inch), when tested in accordance with ASTM E96/E96M.
      3. Secure with pressure sensitive tape.
   C. Vapor Barrier Tape:
      1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber based adhesive.

PART 3 EXECUTION
3.01 EXAMINATION
   A. Verify that ducts have been tested before applying insulation materials.
   B. Verify that surfaces are clean, foreign material removed, and dry.

3.02 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Install in accordance with NAIMA National Insulation Standards.
   C. Insulated ducts conveying air below ambient temperature:
      1. Provide insulation with vapor barrier jackets.
      2. Finish with tape and vapor barrier jacket.
      3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
      4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.

3.03 SCHEDULES
   A. Exhaust Ducts Within 10 ft of Exterior Openings:
      1. Flexible Glass Fiber Duct Insulation: 2 inches thick.

END OF SECTION
SECTION 23 31 00
HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Metal ductwork.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 23 07 13 - Duct Insulation: External insulation and duct liner.
D. Section 23 33 00 - Air Duct Accessories.
E. Section 23 05 93 - Testing, Adjusting, and Balancing for HVAC.

1.03 REFERENCE STANDARDS
C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
F. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.04 PERFORMANCE REQUIREMENTS
A. No variation of duct configuration or sizes permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.05 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide data for duct materials.
C. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.06 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience, and approved by manufacturer.
B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum five years of documented experience.

1.07 REGULATORY REQUIREMENTS
A. Construct ductwork to NFPA 90A standards.

1.08 FIELD CONDITIONS
A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
B. Maintain temperatures within acceptable range during and after installation of duct sealants.
PART 2 PRODUCTS

2.01 MATERIALS

A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.

B. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
   1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
   2. VOC Content: Not more than 250 g/L, excluding water.
   3. Surface Burning Characteristics: Flame spread index of zero and smoke developed index of zero, when tested in accordance with ASTM E84.
   4. For Use With Flexible Ducts: UL labeled.
   5. Manufacturers:
      b. Substitutions: See Section 01 60 00 - Product Requirements.

C. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.02 DUCTWORK FABRICATION

A. Fabricate and support in accordance with SMACNA (DCS) and as indicated.

B. No variation of duct configuration or size permitted except by written permission. Size round duct installed in place of rectangular ducts in accordance with ASHRAE (FUND) Handbook - Fundamentals.

C. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

D. Construct T’s, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes of perforated metal with glass fiber insulation.

E. T’s, bends, and elbows: Construct according to SMACNA (DCS).

F. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

G. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA (DCS).

H. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Joints shall be minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.

2.03 DUCT MANUFACTURERS


C. Sheet Metal Connectors: www.smcduct.com

D. Engineer approved equivalent.

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

2.04 MANUFACTURED DUCTWORK AND FITTINGS

A. Manufacture in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

B. Flat Oval and Round Ducts: Machine made from round spiral lockseam duct with light reinforcing corrugations; fittings manufactured of at least two gages heavier metal than duct.
   1. Manufacture in accordance with SMACNA (DCS).
   2. Fittings: Manufacture at least two gages heavier metal than duct.
   3. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
PART 3 EXECUTION

3.01 INSTALLATION

A. Install, support, and seal ducts in accordance with SMACNA (DCS).
B. Install in accordance with manufacturer's instructions.
C. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
D. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
E. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
F. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.
G. Use double nuts and lock washers on threaded rod supports.
H. At exterior wall louvers and caps, seal duct to louver or wall cap frame where required.

3.02 SCHEDULES

A. Ductwork Material:
   1. General Exhaust: Galvanized Steel.
B. Ductwork Pressure Class:
   1. General Exhaust: 1 inch.

END OF SECTION
SECTION 23 33 00
AIR DUCT ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Flexible duct connections.
B. Miscellaneous products:
   1. Duct opening closure film.

1.02 RELATED REQUIREMENTS
A. Section 07 84 00 - Firestopping.
B. Division 00 - Procurement and Contracting Requirements
C. Division 01 - General Requirements
D. Section 23 31 00 - HVAC Ducts and Casings.
E. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.03 REFERENCE STANDARDS
B. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide for shop fabricated assemblies including volume control dampers. Include electrical characteristics and connection requirements.
C. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers.
D. Manufacturer's Installation Instructions: Provide instructions for fire dampers.
E. Project Record Drawings: Record actual locations of access doors and test holes.

1.05 PROJECT RECORD DOCUMENTS
A. Record actual locations of access doors and test holes.

1.06 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.07 EXTRA MATERIALS
A. See Section 01 60 00 - Product Requirements, for additional provisions.
B. Provide two of each size and type of fusible link.

PART 2 PRODUCTS

2.01 FLEXIBLE DUCT CONNECTIONS
A. Manufacturers:
   1. Carlisle HVAC Products; Dynair Connector Plus G90 Steel Offset Seam Neoprene Fabric:
      www.carlislehvac.com/#sle.
   3. Engineer approved equivalent.
   4. Substitutions: See Section 01 60 00 - Product Requirements.
B. Fabricate in accordance with SMACNA (DCS) and as indicated.
C. Flexible Duct Connections: Fabric crimped into metal edging strip.
   1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd.
2. Metal: 3 inches wide, 24 gage, 0.0239 inch thick galvanized steel.

2.02 MISCELLANEOUS PRODUCTS
A. Duct Opening Closure Film: Mold-resistant, self-adhesive film to keep debris out of ducts during construction.
   1. Thickness: 2 mils.
   2. High tack water based adhesive.
   3. UV stable light blue color.
   5. Manufacturers:
      a. Carlisle HVAC Products; Dynair Duct Protection Film: www.carlislehvac.com/#sle.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install accessories in accordance with manufacturer’s instructions, NFPA 90A, and follow SMACNA (DCS). Refer to Section 23 31 00 for duct construction and pressure class.

B. At fans and motorized equipment associated with ducts, provide flexible duct connections immediately adjacent to the equipment.

C. At equipment supported by vibration isolators, provide flexible duct connections immediately adjacent to the equipment.

END OF SECTION
SECTION 23 34 23
HVAC POWER VENTILATORS

PART 1  GENERAL

1.01  SECTION INCLUDES
   A. Ceiling exhaust fans.

1.02  RELATED REQUIREMENTS
   A. Division 00 - Procurement and Contracting Requirements
   B. Division 01 - General Requirements
   C. Section 23 05 48 - Vibration Controls for HVAC Piping and Equipment.
   D. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.03  REFERENCE STANDARDS
   C. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data; 2014.
   D. NEMA MG 1 - Motors and Generators; 2014.
   F. UL 705 - Power Ventilators; Current Edition, Including All Revisions.

1.04  SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on fans and accessories including fan curves with specified operating point clearly plotted, power, RPM, sound power levels at rated capacity, and electrical characteristics and connection requirements.
   C. Manufacturer's Instructions: Indicate installation instructions.
   D. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.05  QUALITY ASSURANCE
   A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
   B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.06  FIELD CONDITIONS
   A. Permanent ventilators may not be used for ventilation during construction.

PART 2  PRODUCTS

2.01  CEILING EXHAUST FANS
   A. Manufacturers:
      3. Carnes: www.carnes.com
      4. Engineer approved equivalent.
      5. Substitutions: See Section 01 60 00 - Product Requirements.
   B. The fan housing shall be a low profile design, and made with heavy gauge galvanized steel. Motor enclosure to be open drip-proof, and be accessible for maintenance. Motor shall be mounted on
vibration isolators. Fan wheel shall be a forward curved centrifugal wheel, and statically and dynamically balanced. Fan wheel shall be constructed of calcium carbonate filled polypropylene. Unit shall be supplied with integral wiring box and disconnect receptacle shall be standard.

C. Disconnect Switch: Cord and plug in housing for thermal overload protected motor and fan mounted, adjustable speed control.

D. Grille: Molded white plastic.

E. Wall cap: Provide fan with an aluminum wall cap with birdscreen.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Hung Ceiling Fans:
   1. Install fans with resilient mountings and flexible electrical leads. Refer to Section 22 05 48.
   2. Install flexible connections specified in Section 23 33 00 between fan and ductwork. Ensure metal bands of connectors are parallel with minimum one inch flex between ductwork and fan while running.

C. Provide backdraft dampers on outlet from cabinet and ceiling exhauster fans and as indicated.

END OF SECTION
SECTION 23 37 00
AIR OUTLETs AND INLETS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Grilles.

1.02  RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements

1.03  REFERENCE STANDARDS
C. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.04  SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.
C. Project Record Documents: Record actual locations of air outlets and inlets.

1.05  QUALITY ASSURANCE
A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.
B. Test and rate louver performance in accordance with AMCA 500-L.

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

PART 2  PRODUCTS

2.01  GRILLES
A. Manufacturer:
   4. Nailor: www.nailor.com
   5. Engineer approved equivalent.
   6. Substitutions: See Section 01 60 00 - Product Requirements.
B. Grilles, Registers and Diffusers:
   1. See schedule on drawings for air inlet and outlet types and performance.

PART 3  EXECUTION

3.01  INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
C. Install diffusers to ductwork with air tight connection.

END OF SECTION
SECTION 26 05 05
SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Electrical demolition.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 02 84 00 - Polychlorinate Biphenyl (PCB) Remediation: Removal of equipment and materials containing substances regulated under the Federal Toxic Substances Control Act (TSCA), including but not limited to those containing PCBs and mercury.

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 indicated.
B. Verify that abandoned wiring and equipment serve only abandoned facilities.
C. Demolition drawings are based on casual field observation.
D. Report discrepancies to Architect before disturbing existing installation.
E. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION
A. Disconnect electrical systems in walls, floors, and ceilings to be removed.
B. Coordinate utility service outages with utility company.
C. 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. Perform work for removal and disposal of equipment and materials containing toxic substances regulated under the Federal Toxic Substances Control Act (TSCA) in accordance with applicable federal, state, and local regulations. Applicable equipment and materials include, but are not limited to:
   1. PCB-containing electrical equipment, including transformers, capacitors, and switches.
   2. PCB- and DEHP-containing lighting ballasts.
   3. Mercury-containing lamps and tubes, including fluorescent lamps, high intensity discharge (HID), arc lamps, ultra-violet, high pressure sodium, mercury vapor, ignitron tubes, neon, and incandescent.
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. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets that are not removed.
F. Disconnect and remove abandoned panelboards and distribution equipment.
G. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
H. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.

I. Repair adjacent construction and finishes damaged during demolition and extension work.

J. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

K. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

3.04 CLEANING AND REPAIR

A. See Section 01 74 19 - Construction Waste Management and Disposal for additional requirements.

B. Clean and repair existing materials and equipment that remain or that are to be reused.

C. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

END OF SECTION
SECTION 26 05 19
LOW-VOLTAGE ELECTRICAL CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Single conductor building wire.
B. Metal-clad cable.
C. Wiring connectors.
D. Electrical tape.
E. Heat shrink tubing.
F. Wire pulling lubricant.
G. Cable ties.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 07 84 00 - Firestopping
D. Section 26 05 05 - Selective Demolition for Electrical: Disconnection, removal, and/or extension of existing electrical conductors and cables.
E. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
F. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS
G. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
H. NECA 120 - Standard for Installing Armored Cable (AC) and Metal-Clad Cable (MC); 2012.
J. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
N. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.
P. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.
Q. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS
   A. Coordination:
      1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
      2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
      3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.

1.06 QUALITY ASSURANCE
   A. Conform to requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND HANDLING
   A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS
   A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
   B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
   C. Nonmetallic-sheathed cable is not permitted.
   D. Underground feeder and branch-circuit cable is not permitted.
   E. Service entrance cable is not permitted.
   F. Armored cable is not permitted.
   G. Metal-clad cable is permitted only as follows:
      1. Where not otherwise restricted, may be used:
         a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
            1) Maximum Length: 6 feet.
      2. In addition to other applicable restrictions, may not be used:
         a. Unless approved by Owner.
         b. Where not approved for use by the authority having jurisdiction.
         c. Where exposed to view.
         d. Where exposed to damage.
         e. For damp, wet, or corrosive locations, unless provided with a PVC jacket listed as suitable for those locations.

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS
   A. Provide products that comply with requirements of NFPA 70.
   B. Provide products listed, classified, and labeled as suitable for the purpose intended.
   C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
   D. Comply with NEMA WC 70.
   E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

G. Conductors for Grounding and Bonding: Also comply with Section 26 05 26.

H. Conductor Material:
   1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
   2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
   3. Tinned Copper Conductors: Comply with ASTM B33.

I. Minimum Conductor Size:
   1. Branch Circuits: 12 AWG.
      a. Exceptions:
         1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
         2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
   2. Control Circuits: 14 AWG.
   3. Exterior Lighting Circuits: 8 AWG.

J. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

K. Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.
      a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
   3. Color Code:
      a. 208Y/120 V, 3 Phase, 4 Wire System:
         1) Phase A: Black.
         2) Phase B: Red.
         3) Phase C: Blue.
         4) Neutral/Grounded: White.
      c. Travelers for 3-Way and 4-Way Switching: Pink.
      d. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.
      e. For control circuits, comply with manufacturer's recommended color code.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Description: Single conductor insulated wire.

B. Conductor Stranding:
   1. Feeders and Branch Circuits:
      b. Size 8 AWG and Larger: Stranded.
   2. Control Circuits: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation:
   1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.
      a. Size 4 AWG and Larger: Type XHHW-2, THHN/THWN, or THHN/THWN-2.
      b. Installed Underground: Type XHHW-2, THHN/THWN, or THHN/THWN-2.
      c. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.
2.04 METAL-CLAD CABLE
A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.
B. Conductor Stranding:
   2. Size 8 AWG and Larger: Stranded.
C. Insulation Voltage Rating: 600 V.
D. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.
E. Provide dedicated neutral conductor for each phase conductor where indicated or required.
F. Grounding: Full-size integral equipment grounding conductor.
G. Armor: Steel, interlocked tape.
H. Provide PVC jacket applied over cable armor where indicated or required for environment of installed location.

2.05 WIRING CONNECTORS
A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
B. Connectors for Grounding and Bonding: Comply with Section 26 05 26.
C. Wiring Connectors for Splices and Taps:
   1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
   2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
D. Wiring Connectors for Terminations:
   1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
   2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
   3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
   4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
   5. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
   7. Conductors for Control Circuits: Use crimped terminals for all connections.
E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.
F. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
G. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
H. Mechanical Connectors: Provide bolted type or set-screw type.
I. Compression Connectors: Provide circumferential type or hex type crimp configuration.
J. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.

2.06 WIRING ACCESSORIES
A. Electrical Tape:
1. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.

2. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.

3. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil; suitable for continuous temperature environment up to 194 degrees F and short-term 266 degrees F overload service.

4. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil; suitable for continuous temperature environment up to 176 degrees F.

5. Varnished Cambric Electrical Tape: Cotton cambric fabric tape, with or without adhesive, oil-primed and coated with high-grade insulating varnish; minimum thickness of 7 mil; suitable for continuous temperature environment up to 221 degrees F.

6. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil.

B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.

C. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.

D. Cable Ties: Material and tensile strength rating suitable for application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.

D. Verify that field measurements are as indicated.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

A. Circuiting Requirements:
   1. Unless dimensioned, circuit routing indicated is diagrammatic.
   2. When circuit destination is indicated without specific routing, determine exact routing required.
   3. Arrange circuiting to minimize splices.
   4. Include circuit lengths required to install connected devices within 10 ft of location indicated.
   5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
   6. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
   7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is permitted, under the following conditions:
      a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
      b. Increase size of conductors as required to account for ampacity derating.
      c. Size raceways, boxes, etc. to accommodate conductors.
   8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
B. Install products in accordance with manufacturer's instructions.
C. Perform work in accordance with NECA 1 (general workmanship).
D. Install metal-clad cable (Type MC) in accordance with NECA 120.
E. Installation in Raceway:
   1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
   2. Pull all conductors and cables together into raceway at same time.
   3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
   4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
F. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
G. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
   1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system.
H. Terminate cables using suitable fittings.
   1. Metal-Clad Cable (Type MC):
      a. Use listed fittings.
      b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
I. Install conductors with a minimum of 6 inches of slack at each outlet.
J. Where conductors are installed in enclosures for future termination by others, provide a minimum of 5 feet of slack.
K. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
L. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
M. Make wiring connections using specified wiring connectors.
   1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
   2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
   3. Do not remove conductor strands to facilitate insertion into connector.
   4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminants. Do not use wire brush on plated connector surfaces.
   5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
   6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
N. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
   1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
      a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
      b. For taped connections likely to require re-entering, including motor leads, first apply varnished cambric electrical tape, followed by adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
   a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
   b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.

O. Insulate ends of spare conductors using vinyl insulating electrical tape.

P. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.

Q. Identify conductors and cables in accordance with Section 26 05 53.

R. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

S. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Perform inspection, testing, and adjusting in accordance with Section 01 40 00.

C. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION
SECTION 26 05 26
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Grounding and bonding requirements.
B. Conductors for grounding and bonding.
C. Connectors for grounding and bonding.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 19 - Low-Voltage Electrical Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.
D. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS
A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
C. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.04 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS
A. Do not use products for applications other than as permitted by NFPA 70 and product listing.
B. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
C. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
D. Bonding and Equipment Grounding:
   1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
   2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
   3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
   4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
   5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
   6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.

2.02 GROUNDING AND BONDING COMPONENTS
A. General Requirements:
   1. Provide products listed, classified, and labeled as suitable for the purpose intended.
   2. Provide products listed and labeled as complying with UL 467 where applicable.
B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 05 26:
1. Use insulated copper conductors unless otherwise indicated.
   a. Exceptions:
      1) Use bare copper conductors where installed underground in direct contact with earth.
      2) Use bare copper conductors where directly encased in concrete (not in raceway).

C. Connectors for Grounding and Bonding:
   1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
   2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
   3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that work likely to damage grounding and bonding system components has been completed.
   B. Verify that field measurements are as indicated.
   C. Verify that conditions are satisfactory for installation prior to starting work.
   D. Verify existing conditions prior to beginning work.

3.02 INSTALLATION
   A. Install products in accordance with manufacturer's instructions.
   B. Perform work in accordance with NECA 1 (general workmanship).
   C. Make grounding and bonding connections using specified connectors.
      1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
      2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
      3. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
   D. Identify grounding and bonding system components in accordance with Section 26 05 53.

3.03 FIELD QUALITY CONTROL
   A. See Section 01 40 00 - Quality Requirements, for additional requirements.

END OF SECTION
SECTION 26 05 29
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Support and attachment components for equipment, conduit, cable, boxes, and other electrical work.

1.02  RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 33.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.
D. Section 26 05 33.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.
E. Section 26 51 00 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

1.03  REFERENCE STANDARDS
D. MFMA-4 - Metal Framing Standards Publication; 2004.
E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordination:
1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
2. Coordinate the work with other trades to provide additional framing and materials required for installation.
3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
B. Sequencing:
1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 03 30 00.

1.05  QUALITY ASSURANCE
A. Comply with NFPA 70.
B. Comply with applicable building code.

PART 2  PRODUCTS

2.01  SUPPORT AND ATTACHMENT COMPONENTS
A. General Requirements:
1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer’s application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
5. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
   a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
   b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel, stainless steel, or approved equivalent unless otherwise indicated.
   c. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
   d. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
   1. Conduit Straps: One-hole or two-hole type; steel.
   2. Conduit Clamps: Bolted type unless otherwise indicated.
C. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.
D. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
   2. Channel Material:
      a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
      b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel.
   3. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch.
E. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
   1. Minimum Size, Unless Otherwise Indicated or Required:
      a. Equipment Supports: 1/2 inch diameter.
      b. Single Conduit up to 1 inch (27 mm) trade size: 1/4 inch diameter.
      c. Single Conduit larger than 1 inch (27 mm) trade size: 3/8 inch diameter.
      d. Trapeze Support for Multiple Conduits: 3/8 inch diameter.
      e. Outlet Boxes: 1/4 inch diameter.
      f. Luminaires: 1/4 inch diameter.
F. Non-Penetrating Rooftop Supports for Low-Slope Roofs: Steel pedestals with thermoplastic or rubber bases that rest on top of roofing membrane, not requiring any attachment to the roof structure and not penetrating the roofing assembly, with support fixtures as specified.
   1. Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
   2. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports.
   3. Mounting Height: Provide minimum clearance of 6 inches under supported component to top of roofing.
G. Anchors and Fasteners:
   1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
   2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
   3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
6. Steel: Use beam clamps, machine bolts, or welded threaded studs.
7. Sheet Metal: Use sheet metal screws.
8. Wood: Use wood screws.
9. Plastic and lead anchors are not permitted.
10. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
   b. Channel Material: Use galvanized steel.
11. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that field measurements are as indicated.
B. Verify that mounting surfaces are ready to receive support and attachment components.
C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION
A. Install products in accordance with manufacturer's instructions.
B. Perform work in accordance with NECA 1 (general workmanship).
C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.
D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
E. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
F. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.
H. Equipment Support and Attachment:
   1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
   2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
   3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
   4. Unless otherwise indicated, mount floor-mounted equipment on properly sized 3 inch high concrete pad constructed in accordance with Section 03 30 00.
   5. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
I. Conduit Support and Attachment: Also comply with Section 26 05 33.13.
J. Box Support and Attachment: Also comply with Section 26 05 33.16.
K. Interior Luminaire Support and Attachment: Also comply with Section 26 51 00.
L. Exterior Luminaire Support and Attachment: Also comply with Section 26 56 00.
M. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.
N. Secure fasteners according to manufacturer's recommended torque settings.
O. Remove temporary supports.

3.03 FIELD QUALITY CONTROL
A. See Section 01 40 00 - Quality Requirements, for additional requirements.
B. Inspect support and attachment components for damage and defects.
C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION
SECTION 26 05 33.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Galvanized steel rigid metal conduit (RMC).
B. Intermediate metal conduit (IMC).
C. Flexible metal conduit (FMC).
D. Liquidtight flexible metal conduit (LFMC).
E. Electrical metallic tubing (EMT).
F. Rigid polyvinyl chloride (PVC) conduit.
G. Conduit fittings.
H. Accessories.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 07 84 00 - Firestopping.
D. Section 26 05 19 - Low-Voltage Electrical Conductors and Cables.
E. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
   1. Includes additional requirements for fittings for grounding and bonding.
F. Section 26 05 29 - Hangers and Supports for Electrical Systems.
G. Section 26 05 33.16 - Boxes for Electrical Systems.
H. Section 26 05 33.23 - Surface Raceways for Electrical Systems.
I. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS
A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2005.
B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT); 2005.
C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit (EIMC); 2005.
D. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
E. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2013.
F. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC); 2003.
G. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2012.
H. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit; 2013.
I. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing; 2015.
J. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
K. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
L. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
M. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
N. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
O. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings; Current Edition, Including All Revisions.
P. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
Q. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.
1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
   4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
   5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.05 SUBMITTALS

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

B. Project Record Documents: Record actual routing for conduits installed underground and conduits 2 inch (53 mm) trade size and larger.

1.06 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

B. Accept conduit on site. Inspect for damage.

C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

D. Protect PVC conduit from sunlight.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.

C. Concealed Within Masonry Walls: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).

D. Concealed Within Hollow Stud Walls: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).

E. Concealed Above Accessible Ceilings: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).

F. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit.

G. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).

H. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
   1. Locations subject to physical damage include, but are not limited to:
a. Where exposed below 8 feet, except within electrical and communication rooms or closets.

I. Exposed, Exterior: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or PVC-coated galvanized steel rigid metal conduit.

J. Concealed, Exterior, Not Embedded in Concrete or in Contact With Earth: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).

K. Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit.
   1. Maximum Length: 6 feet.

L. Connections to Vibrating Equipment:
   1. Dry Locations: Use flexible metal conduit.
   2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
   3. Maximum Length: 6 feet unless otherwise indicated.
   4. Vibrating equipment includes, but is not limited to:
      a. Transformers.
      b. Motors.

2.02 CONDUIT REQUIREMENTS

A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.

B. Fittings for Grounding and Bonding: Also comply with Section 26 05 26.

C. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.

D. Provide products listed, classified, and labeled as suitable for the purpose intended.

E. Minimum Conduit Size, Unless Otherwise Indicated:
   1. Branch Circuits: 1/2 inch (16 mm) trade size.
   2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
   3. Control Circuits: 1/2 inch (16 mm) trade size.
   4. Flexible Connections to Luminaires: 3/8 inch (12 mm) trade size.
   5. Underground, Interior: 3/4 inch (21 mm) trade size.
   6. Underground, Exterior: 1 inch (27 mm) trade size.

F. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

B. Fittings:
   1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.
      a. Do not use die cast zinc fittings.
   3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.04 INTERMEDIATE METAL CONDUIT (IMC)

A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.

B. Fittings:
   1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.
      a. Do not use die cast zinc fittings.
   3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.
2.05 FLEXIBLE METAL CONDUIT (FMC)
   A. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as
      complying with UL 1, and listed for use in classified firestop systems to be used.
   B. Fittings:
      1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL
         514B.
      2. Material: Use steel or malleable iron.
         a. Do not use die cast zinc fittings.

2.06 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)
   A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit
      listed and labeled as complying with UL 360.
   B. Fittings:
      1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL
         514B.
      2. Material: Use steel or malleable iron.
         a. Do not use die cast zinc fittings.

2.07 ELECTRICAL METALLIC TUBING (EMT)
   A. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and
      listed and labeled as complying with UL 797.
   B. Fittings:
      1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL
         514B.
      2. Material: Use steel or malleable iron.
         a. Do not use die cast zinc fittings.
      3. Connectors and Couplings: Use compression (gland) or set-screw type.
         a. Do not use indenter type connectors and couplings.
      4. Damp or Wet Locations (where permitted): Use fittings listed for use in wet locations.
      5. Embedded Within Concrete (where permitted): Use fittings listed as concrete-tight. Fittings
         that require taping to be concrete-tight are acceptable.

2.08 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT
   A. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and
      listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80
      where subject to physical damage; rated for use with conductors rated 90 degrees C.
   B. Fittings:
      1. Manufacturer: Same as manufacturer of conduit to be connected.
      2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL
         651; material to match conduit.

2.09 ACCESSORIES
   A. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the
      conduit to be installed.
   B. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and
      fittings to be installed.
   C. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that field measurements are as indicated.
   B. Verify that mounting surfaces are ready to receive conduits.
   C. Verify that conditions are satisfactory for installation prior to starting work.
   D. Verify routing and termination locations of conduit prior to rough-in.
E. Conduit routing is shown on drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.
B. Perform work in accordance with NECA 1 (general workmanship).
C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
D. Install intermediate metal conduit (IMC) in accordance with NECA 101.
E. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.

F. Conduit Routing:
1. Unless dimensioned, conduit routing indicated is diagrammatic.
2. When conduit destination is indicated without specific routing, determine exact routing required.
3. Conceal all conduits unless specifically indicated to be exposed.
4. Conduits in the following areas may be exposed, unless otherwise indicated:
   a. Electrical rooms.
   b. Mechanical equipment rooms.
   c. Within joists in areas with no ceiling.
5. Unless otherwise approved, do not route conduits exposed:
   a. Across floors.
   b. Across roofs.
   c. Across top of parapet walls.
   d. Across building exterior surfaces.
6. Conduits installed underground or embedded in concrete may be routed in the shortest possible manner unless otherwise indicated. Route all other conduits parallel or perpendicular to building structure and surfaces, following surface contours where practical.
7. Arrange conduit to maintain adequate headroom, clearances, and access.
8. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
9. Arrange conduit to provide no more than 150 feet between pull points.
10. Route conduits above water and drain piping where possible.
11. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
12. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
13. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
   a. Heaters.
   b. Hot water piping.
   c. Flues.
14. Group parallel conduits in the same area together on a common rack.

G. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
4. Use conduit strap to support single surface-mounted conduit.
   a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
5. Use metal channel (strut) with accessory conduit clamps to support multiple parallel surface-mounted conduits.
6. Use trapeze hangers assembled from threaded rods and metal channel (strut) with accessory conduit clamps to support multiple parallel suspended conduits.
7. Use non-penetrating rooftop supports to support conduits routed across rooftops (only where approved).
8. Use of spring steel conduit clips for support of conduits is not permitted.
9. Use of wire for support of conduits is not permitted.
10. Where conduit support intervals specified in NFPA 70 and NECA standards differ, comply with the most stringent requirements.

H. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
6. Where spare conduits stub up through concrete floors and are not terminated in a box or enclosure, provide threaded couplings equipped with threaded plugs set flush with finished floor.
7. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
8. Secure joints and connections to provide maximum mechanical strength and electrical continuity.

I. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.
5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
8. Provide metal escutcheon plates for conduit penetrations exposed to public view.
9. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

J. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.
3. Where conduits are subject to earth movement by settlement or frost.

K. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits pass from outdoors into conditioned interior spaces.
2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
L. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.
M. Provide grounding and bonding in accordance with Section 26 05 26.
N. Identify conduits in accordance with Section 26 05 53.

3.03 FIELD QUALITY CONTROL
A. See Section 01 40 00 - Quality Requirements, for additional requirements.
B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
C. Correct deficiencies and replace damaged or defective conduits.

3.04 CLEANING
A. Clean interior of conduits to remove moisture and foreign matter.

3.05 PROTECTION
A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION
SECTION 26 05 33.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

1.02  RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 07 84 00 - Firestopping.
D. Section 08 31 00 - Access Doors and Panels: Panels for maintaining access to concealed boxes.
E. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
F. Section 26 05 29 - Hangers and Supports for Electrical Systems.
G. Section 26 05 33.13 - Conduit for Electrical Systems:
   1. Conduit bodies and other fittings.
   2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.
H. Section 26 05 33.23 - Surface Raceways for Electrical Systems:
   1. Accessory boxes designed specifically for surface raceway systems.
I. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
J. Section 26 27 26 - Wiring Devices:
   1. Wall plates.

1.03  REFERENCE STANDARDS
A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2010.
C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2012.
D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; 2013.
E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.
F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
6. Coordinate the work with other trades to preserve insulation integrity.
7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
8. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.05 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.

1.06 DELIVERY, STORAGE, AND HANDLING
A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 BOXES
A. General Requirements:
1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.
B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use cast iron boxes or cast aluminum boxes where exposed galvanized steel rigid metal conduit or exposed intermediate metal conduit (IMC) is used.
4. Use suitable concrete type boxes where flush-mounted in concrete.
5. Use suitable masonry type boxes where flush-mounted in masonry walls.
6. Use raised covers suitable for the type of wall construction and device configuration where required.
7. Use shallow boxes where required by the type of wall construction.
8. Do not use "through-wall" boxes designed for access from both sides of wall.
9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
13. Minimum Box Size, Unless Otherwise Indicated:
   a. Wiring Devices (Other Than Communications Systems Outlets): 4 inch square by 1-1/2 inch deep (100 by 38 mm) trade size.
   b. Communications Systems Outlets: 4 inch square by 2-1/8 inch (100 by 54 mm) trade size.
C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
2. NEMA 250 Environment Type, Unless Otherwise Indicated:
   a. Indoor Clean, Dry Locations: Type 1, painted steel.
   b. Outdoor Locations: Type 3R, painted steel.

3. Junction and Pull Boxes Larger Than 100 cubic inches:
   a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

4. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.
B. Verify that mounting surfaces are ready to receive boxes.
C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.
B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
D. Provide separate boxes for emergency power and normal power systems.
E. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.
F. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.
G. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.
H. Box Locations:
   1. Locate boxes to be accessible. Provide access panels in accordance with Section 08 31 00 as required where approved by the Architect.
   2. Unless dimensioned, box locations indicated are approximate. Adjust box locations up to 10 feet if required to accommodate intended purpose.
   3. Locate boxes as required for devices installed under other sections or by others.
      a. Switches, Receptacles, and Other Wiring Devices: Comply with Section 26 27 26.
   4. Locate boxes so that wall plates do not span different building finishes.
   5. Locate boxes so that wall plates do not cross masonry joints.
   6. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
   7. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
   8. Acoustic-Rated Walls: Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches horizontal separation.
   9. Fire Resistance Rated Walls: Install flush-mounted boxes such that the required fire resistance will not be reduced.
      a. Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches separation where wall is constructed with individual noncommunicating stud cavities or protect both boxes with listed putty pads.
      b. Do not install flush-mounted boxes with area larger than 16 square inches or such that the total aggregate area of openings exceeds 100 square inches for any 100 square feet of wall area.
   10. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 26 05 33.13.
   11. Locate junction and pull boxes in the following areas, unless otherwise indicated or approved by the Architect:
      a. Concealed above accessible suspended ceilings.
b. Within joists in areas with no ceiling.

I. Box Supports:
   1. Secure and support boxes in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
   2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
   3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
   4. Use far-side support to secure flush-mounted boxes supported from single stud in hollow stud walls. Repair or replace supports for boxes that permit excessive movement.

J. Install boxes plumb and level.

K. Flush-Mounted Boxes:
   1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
   2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
   3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.

L. Install boxes as required to preserve insulation integrity.

M. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

N. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

O. Close unused box openings.

P. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

Q. Provide grounding and bonding in accordance with Section 26 05 26.

R. Identify boxes in accordance with Section 26 05 53.

3.03 CLEANING
   A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.04 PROTECTION
   A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION
SECTION 26 05 33.23
SURFACE RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Surface raceway systems.

1.02  RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
D. Section 26 05 29 - Hangers and Supports for Electrical Systems.
E. Section 26 05 33.13 - Conduit for Electrical Systems.
F. Section 26 05 33.16 - Boxes for Electrical Systems.
G. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
H. Section 26 27 26 - Wiring Devices: Receptacles.

1.03  REFERENCE STANDARDS
A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
C. UL 5 - Surface Metal Raceways and Fittings; Current Edition, Including All Revisions.

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordination:
   1. Coordinate the placement of raceways with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate rough-in locations of outlet boxes provided under Section 26 05 33.16 and conduit provided under Section 26 05 33.13 as required for installation of raceways provided under this section.
   3. Verify minimum sizes of raceways with the actual conductors and components to be installed.
   4. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
B. Sequencing:
   1. Do not install raceways until final surface finishes and painting are complete.
   2. Do not begin installation of conductors and cables until installation of raceways is complete between outlet, junction and splicing points.

1.05  QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.

PART 2  PRODUCTS

2.01  RACEWAY REQUIREMENTS
A. Provide all components, fittings, supports, and accessories required for a complete raceway system.
B. Provide products listed, classified, and labeled as suitable for the purpose intended.
C. Do not use raceways for applications other than as permitted by NFPA 70 and product listing.

2.02  SURFACE RACEWAY SYSTEMS
A. Manufacturers:
   3. Substitutions: See Section 01 60 00 - Product Requirements.
B. Surface Metal Raceways: Listed and labeled as complying with UL 5.

C. Surface Raceway System:
   1. Raceway Type: Single channel, painted steel.
   2. Color: To be selected by Architect.
   3. Accessory Device Boxes: Suitable for the devices to be installed; color to match raceway.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that field measurements are as indicated.
B. Verify that outlet boxes and conduit terminations are installed in proper locations and are properly sized in accordance with NFPA 70 to accommodate raceways.
C. Verify that mounting surfaces are ready to receive raceways and that final surface finishes are complete, including painting.
D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION
A. Install products in accordance with manufacturer's instructions.
B. Perform work in accordance with NECA 1 (general workmanship).
C. Install raceways plumb and level.
D. Secure and support raceways in accordance with Section 26 05 29 at intervals complying with NFPA 70 and manufacturer's requirements.
E. Use suitable insulating bushings and inserts at connections to outlets and corner fittings.
F. Close unused raceway openings.
G. Provide grounding and bonding in accordance with Section 26 05 26.
H. Identify raceways in accordance with Section 26 05 53.
I. Use and routing of surface raceway shall be approved by the Architect prior to installation. Surface raceway installed without prior approval is subject to re-working at the Contractor's expense.

3.03 CLEANING
A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.04 PROTECTION
A. Protect installed raceways from subsequent construction operations.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
A. Electrical identification requirements.
B. Identification nameplates and labels.
C. Wire and cable markers.
D. Voltage markers.
E. Warning signs and labels.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 19 - Low-Voltage Electrical Conductors and Cables: Color coding for power conductors and cables 600 V and less; vinyl color coding electrical tape.
D. Section 26 27 26 - Wiring Devices - Lutron: Device and wallplate finishes; factory pre-marked wallplates.

1.03 REFERENCE STANDARDS
C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
D. NFPA 70E - Standard for Electrical Safety in the Workplace; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
   1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
B. Sequencing:
   1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
   2. Do not install identification products until final surface finishes and painting are complete.

1.05 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.

PART 2 PRODUCTS

2.01 IDENTIFICATION REQUIREMENTS
A. Existing Work: Unless specifically excluded, identify existing elements to remain that are not already identified in accordance with specified requirements.
B. Identification for Equipment:
   1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
      a. Panelboards:
         1) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.
      b. Enclosed switches:
         1) Identify voltage and phase.
         2) Identify power source and circuit number. Include location when not within sight of equipment.
3) Identify load(s) served. Include location when not within sight of equipment.

2. Use identification nameplate to identify disconnect location for equipment with remote disconnecting means.

3. Use identification label on inside of door at each fused switch to identify required NEMA fuse class and size.

4. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.
   a. Minimum Size: 3.5 by 5 inches.
   b. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.

C. Identification for Conductors and Cables:
   1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 05 19.
   2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.
   3. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
      a. At each source and load connection.
      b. Within boxes when more than one circuit is present.
      c. Within equipment enclosures when conductors and cables enter or leave the enclosure.

D. Identification for Boxes:
   1. Use voltage markers or color coded boxes to identify systems other than normal power system.
      a. Color-Coded Boxes: Field-painted in accordance with Section 09 91 23 and 09 91 13 per the same color code used for raceways.
         1) Fire Alarm System: Red.
   2. Use identification labels or handwritten text using indelible marker to identify circuits enclosed.
      a. For exposed boxes in public areas, use only identification labels.

E. Identification for Devices:
   1. Identification for Communications Devices: Comply with Section 27 10 00.
   2. Wiring Device and Wallplate Finishes: Comply with Section 26 27 26.
   3. Use identification label or engraved wallplate to identify serving branch circuit for all receptacles.
      a. For receptacles in public areas or in areas as directed by Architect, provide identification on inside surface of wallplate.

2.02 IDENTIFICATION NAMEPLATES AND LABELS

A. Identification Nameplates:
   1. Materials:
      a. Indoor Clean, Dry Locations: Use plastic nameplates.
   2. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.
   3. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.

B. Identification Labels:
   1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
      a. Use only for indoor locations.
2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.

C. Format for Equipment Identification:
1. Minimum Size: 1 inch by 2.5 inches.
2. Legend:
   a. Equipment designation or other approved description.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height:
   a. Equipment Designation: 1/2 inch.
5. Color:
   b. Fire Alarm System: White text on red background.

D. Format for Caution and Warning Messages:
1. Minimum Size: 2 inches by 4 inches.
2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height: 1/2 inch.
5. Color: Black text on yellow background unless otherwise indicated.

E. Format for Receptacle Identification:
1. Minimum Size: 3/8 inch by 1.5 inches.
2. Legend: Power source and circuit number or other designation indicated.
   a. Include voltage and phase for other than 120 V, single phase circuits.
3. Text: All capitalized unless otherwise indicated.
5. Color: Black text on clear background.

F. Format for Control Device Identification:
1. Minimum Size: 3/8 inch by 1.5 inches.
2. Legend: Load controlled or other designation indicated.
3. Text: All capitalized unless otherwise indicated.
5. Color: Black text on clear background.

2.03 WIRE AND CABLE MARKERS
A. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.

B. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.

C. Legend: Power source and circuit number or other designation indicated.

D. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.

E. Minimum Text Height: 1/8 inch.

F. Color: Black text on white background unless otherwise indicated.

2.04 VOLTAGE MARKERS
A. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.

B. Minimum Size:
   1. Markers for Pull Boxes: 1 1/8 by 4 1/2 inches.

C. Legend:
   1. Markers for System Identification:

D. Color: Black text on orange background unless otherwise indicated.
2.05 WARNING SIGNS AND LABELS
A. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.
B. Warning Signs:
   1. Materials:
   2. Minimum Size: 7 by 10 inches unless otherwise indicated.
C. Warning Labels:
   1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
   3. Minimum Size: 2 by 4 inches unless otherwise indicated.

PART 3 EXECUTION
3.01 PREPARATION
A. Clean surfaces to receive adhesive products according to manufacturer's instructions.
B. Degrease and clean surfaces to receive nameplates and labels.

3.02 INSTALLATION
A. Install products in accordance with manufacturer's instructions.
B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
   3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
   4. Elevated Equipment: Legible from the floor or working platform.
   5. Interior Components: Legible from the point of access.
   6. Boxes: Outside face of cover.
   7. Conductors and Cables: Legible from the point of access.
   8. Devices: Outside face of cover.
C. Install identification products centered, level, and parallel with lines of item being identified.
D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.
E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
F. Mark all handwritten text, where permitted, to be neat and legible.

3.03 FIELD QUALITY CONTROL
A. See Section 01 40 00 - Quality Requirements, for additional requirements.
B. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION
SECTION 26 05 83
WIRING CONNECTIONS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Electrical connections to equipment.

1.02  RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 19 - Low-Voltage Electrical Conductors and Cables.
D. Section 26 05 33.13 - Conduit for Electrical Systems.
E. Section 26 05 33.16 - Boxes for Electrical Systems.
F. Section 26 27 26 - Wiring Devices.

1.03  REFERENCE STANDARDS
A. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (R 2010).
B. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2012.
C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04  ADMINISTRATIVE REQUIREMENTS
A. Coordination:
   1. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other sections.
   2. Determine connection locations and requirements.
B. Sequencing:
   1. Install rough-in of electrical connections before installation of equipment is required.
   2. Make electrical connections before required start-up of equipment.

1.05  QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.

PART 2  PRODUCTS

2.01  MATERIALS
A. Cords and Caps: NEMA WD 6; match receptacle configuration at outlet provided for equipment.
   1. Colors: Conform to NEMA WD 1.
   2. Cord Construction: NFPA 70, Type SO, multiconductor flexible cord with identified equipment grounding conductor, suitable for use in damp locations.
   3. Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.
B. Disconnect Switches: As specified in Section 26 28 16.16.
C. Wiring Devices: As specified in Section 26 27 26.
D. Flexible Conduit: As specified in Section 26 05 33.13.
E. Wire and Cable: As specified in Section 26 05 19.
F. Boxes: As specified in Section 26 05 33.16.

2.02  EQUIPMENT CONNECTIONS
A. Make connections to equipment as shown on the drawings

PART 3  EXECUTION

3.01  EXAMINATION
A. Verify that equipment is ready for electrical connection, wiring, and energization.
B. Coordinate electrical power and rough-in requirements for equipment provided by others.

3.02 ELECTRICAL CONNECTIONS

A. Make electrical connections in accordance with equipment manufacturer’s instructions.

B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.

C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.

D. Provide receptacle outlet to accommodate connection with attachment plug.

E. Provide cord and cap where field-supplied attachment plug is required.

F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.

G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.

H. Install terminal block jumpers to complete equipment wiring requirements.

I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

END OF SECTION
SECTION 26 09 23
LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Occupancy sensors.
   B. In-wall time switches.

1.02 RELATED REQUIREMENTS
   A. Division 00 - Procurement and Contracting Requirements
   B. Division 01 - General Requirements
   C. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
   D. Section 26 05 29 - Hangers and Supports for Electrical Systems.
   E. Section 26 05 33.16 - Boxes for Electrical Systems.
   F. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
   G. Section 26 27 26 - Wiring Devices: Devices for manual control of lighting, including wall switches.
   H. Section 26 51 00 - Interior Lighting.

1.03 REFERENCE STANDARDS
   A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
   B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2010.
   C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.
   D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
   F. UL 917 - Clock-Operated Switches; Current Edition, Including All Revisions.
   G. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS
   A. Coordination:
      1. Coordinate the placement of lighting control devices with millwork, furniture, equipment, etc. installed under other sections or by others.
      2. Coordinate the placement of wall switch occupancy sensors with actual installed door swings.
      3. Coordinate the placement of occupancy sensors with millwork, furniture, equipment or other potential obstructions to motion detection coverage installed under other sections or by others.
      4. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.
   B. Sequencing:
      1. Do not install lighting control devices until final surface finishes and painting are complete.

1.05 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Product Data: Include ratings, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.
      1. Occupancy Sensors: Include detailed motion detection coverage range diagrams.
   C. Shop Drawings:
      1. Occupancy Sensors: Provide lighting plan indicating location, model number, and orientation of each occupancy sensor and associated system component.
   D. Field Quality Control Reports.
E. Manufacturer's Installation Instructions: Include application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

F. Operation and Maintenance Data: Include detailed information on device programming and setup.

G. Project Record Documents: Record actual installed locations and settings for lighting control devices.

1.06 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Store products in a clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.08 WARRANTY

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

B. Provide five year manufacturer warranty for all occupancy sensors.

PART 2 PRODUCTS

2.01 LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled as suitable for the purpose intended.

B. Unless specifically indicated to be excluded, provide all required conduit, wiring, connectors, hardware, components, accessories, etc. as required for a complete operating system.

2.02 OCCUPANCY SENSORS

A. Manufacturers:
   1. Hubbell Building Automation, Inc; www.hubbellautomation.com
   5. Crestron.
   6. Substitutions: See Section 01 60 00 - Product Requirements.
   7. Source Limitations: Furnish products produced by a single manufacturer and obtained from a single supplier.

B. All Occupancy Sensors:
   1. Description: Factory-assembled commercial specification grade devices for indoor use capable of sensing both major motion, such as walking, and minor motion, such as small desktop level movements, according to published coverage areas, for automatic control of load indicated.
   2. Sensor Technology:
      a. Passive Infrared (PIR) Occupancy Sensors: Designed to detect occupancy by sensing movement of thermal energy between zones.
      3. Provide LED to visually indicate motion detection.
   4. Operation: Unless otherwise indicated, occupancy sensor to turn load on when occupant presence is detected and to turn load off when no occupant presence is detected during an adjustable turn-off delay time interval.
   5. Passive Infrared Lens Field of View: Field customizable by addition of factory masking material, adjustment of integral blinders, or similar means to block motion detection in selected areas.
   6. Turn-Off Delay: Field adjustable, with time delay settings up to 30 minutes.
   7. Sensitivity: Field adjustable.
   8. Adaptive Technology: Field selectable; capable of self-adjusting sensitivity and time delay according to conditions.
   9. Load Rating for Line Voltage Occupancy Sensors: As required to control the load indicated on drawings.
C. Wall Switch Occupancy Sensors:
   1. All Wall Switch Occupancy Sensors:
      a. Description: Occupancy sensors designed for installation in standard wall box at standard wall switch mounting height with a field of view of 180 degrees, integrated manual control capability, and no leakage current to load in off mode.
      b. Unless otherwise indicated or required to control the load indicated on drawings, provide line voltage units with self-contained relay.
      c. Occupancy sensor to be field selectable as either manual-on/automatic-off or automatic on/off.
      d. Manual-Off Override Control: When used to turn off load while in automatic-on mode, unit to revert back to automatic mode after no occupant presence is detected during the delayed-off time interval.
      e. Finish: Grey.

2.03 IN-WALL TIME SWITCHES

2.04 IN-WALL INTERVAL TIMERS

A. Manufacturers:
   1. Intermatic, Inc: www.intermatic.com/#sle.
   4. Lutron.
   5. Substitutions: See Section 01 60 00 - Product Requirements.
   6. Source Limitations: Furnish products produced by a single manufacturer and obtained from a single supplier.

B. Digital Electronic In-Wall Interval Timers:
   1. Description: Factory-assembled solid state programmable controller with LCD display, suitable for mounting in standard wall box, and listed and labeled as complying with UL 916 or UL 917.
   2. Program Capability: Designed to turn load off at end of preset time interval.
   3. Time Interval: Field selectable range of presets available up to 60 minutes.
   4. Provide field selectable audible and visual indication to warn that end of interval operation is about to turn off load.
   5. Provide power outage backup to retain programming and maintain clock.
   6. Manual override: Capable of both turning load off and resetting timer to original preset time interval.
   7. Switch Configuration: Suitable for use in either SPST or 3-way application.
   8. Contact Ratings: As required to control the load indicated on drawings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.
B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
C. Verify that openings for outlet boxes are neatly cut and will be completely covered by devices or wall plates.
D. Verify that final surface finishes are complete, including painting.
E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to lighting control devices.
F. Verify that the service voltage and ratings of lighting control devices are appropriate for the service voltage and load requirements at the location to be installed.
G. Verify that conditions are satisfactory for installation prior to starting work.
3.02 PREPARATION
   A. Provide extension rings to bring outlet boxes flush with finished surface.
   B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION
   A. Install lighting control devices in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
   B. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of lighting control devices provided under this section.
      1. Mounting Heights: Unless otherwise indicated, as follows:
         a. Wall Switch Occupancy Sensors: 48 inches above finished floor.
         b. Locate wall switch occupancy sensors on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.
   C. Install lighting control devices in accordance with manufacturer's instructions.
   D. Unless otherwise indicated, connect lighting control device grounding terminal or conductor to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
   E. Install lighting control devices plumb and level, and held securely in place.
   F. Where required and not furnished with lighting control device, provide wall plate in accordance with Section 26 27 26.
   G. Provide required supports in accordance with Section 26 05 29.
   H. Where applicable, install lighting control devices and associated wall plates to fit completely flush to mounting surface with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

3.04 FIELD QUALITY CONTROL
   A. See Section 01 40 00 - Quality Requirements, for additional requirements.
   B. Inspect each lighting control device for damage and defects.
   C. Test occupancy sensors to verify proper operation, including time delays and ambient light thresholds where applicable. Verify optimal coverage for entire room or area. Record test results in written report to be included with submittals.
   D. Test time switches to verify proper operation.
   E. Correct wiring deficiencies and replace damaged or defective lighting control devices.

3.05 ADJUSTING
   A. Adjust devices and wall plates to be flush and level.
   B. Adjust occupancy sensor settings to minimize undesired activations while optimizing energy savings, and to achieve desired function as indicated or as directed by Architect.
   C. Adjust time switch settings to achieve desired operation schedule as indicated or as directed by Owner.

3.06 CLEANING
   A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.07 COMMISSIONING
   A. See Section 01 91 13 - General Commissioning Requirements for commissioning requirements.

3.08 CLOSEOUT ACTIVITIES
   A. See Section 01 79 00 - Demonstration and Training, for additional requirements.
B. Training: Train Owner's personnel on operation, adjustment, programming, and maintenance of lighting control devices.
   1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
   2. Location: At project site.

END OF SECTION
SECTION 26 27 26
WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Wall switches.
B. Receptacles.
C. Wall plates.

1.02 RELATED REQUIREMENTS
A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 19 - Low-Voltage Electrical Conductors and Cables: Manufactured wiring systems for use with access floor boxes with compatible pre-wired connectors.
D. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
E. Section 26 05 33.16 - Boxes for Electrical Systems.
F. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
G. Section 26 05 83 - Wiring Connections: Cords and plugs for equipment.
H. Section 26 09 23 - Lighting Control Devices
   Devices for automatic control of lighting, including occupancy sensors.

1.03 REFERENCE STANDARDS
B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush-mounted (General Specification); Federal Specification; Revision F, 1999.
C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
D. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2010.
E. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (R 2010).
F. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2012.
G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
I. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.
L. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
   1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
   3. Coordinate the placement of outlet boxes for wall switches with actual installed door swings.
   4. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
   5. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.
B. Sequencing:
   1. Do not install wiring devices until final surface finishes and painting are complete.

1.05 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.
C. Project Record Documents: Record actual installed locations of wiring devices.

1.06 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.
B. Products: Listed, classified, and labeled as suitable for the purpose intended.

1.07 DELIVERY, STORAGE, AND PROTECTION
A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS
C. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us
F. Substitutions: See Section 01 60 00 - Product Requirements.
G. Source Limitations: Where possible, for each type of wiring device furnish products produced by a single manufacturer and obtained from a single supplier.

2.02 WIRING DEVICE APPLICATIONS
A. Provide wiring devices suitable for intended use and with ratings adequate for load served.
B. For single receptacles installed on an individual branch circuit, provide receptacle with ampere rating not less than that of the branch circuit.
C. Provide weather resistant GFCI receptacles with specified weatherproof covers for receptacles installed outdoors or in damp or wet locations.
D. Provide GFCI protection for receptacles installed within 6 feet of sinks.
E. Unless noted otherwise, do not use combination switch/receptacle devices.

2.03 WIRING DEVICE FINISHES
A. Provide wiring device finishes as described below unless otherwise indicated.
B. Wiring Devices, Unless Otherwise Indicated: Gray with stainless steel wall plate.

2.04 WALL SWITCHES
A. Wall Switches - General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable, FS W-S-896; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.
B. Standard Wall Switches: Commercial specification grade, 20 A, 120/277 V with standard toggle type switch actuator and maintained contacts; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.
C. Locking Wall Switches: Commercial specification grade, 20 A, 120/277 V with lever type keyed switch actuator and maintained contacts; switches keyed alike; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.
2.05 RECEPTACLES
A. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
   2. NEMA configurations specified are according to NEMA WD 6.
B. GFCI Receptacles:
   1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
      a. Provide test and reset buttons of same color as device.
   2. Tamper Resistant GFCI Receptacles: Commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as tamper resistant type.

2.06 WALL PLATES
A. Wall Plates: Comply with UL 514D.
   1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
   2. Size: Standard;
   3. Screws: Metal with slotted heads finished to match wall plate finish.
B. Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that field measurements are as indicated.
B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
D. Verify that final surface finishes are complete, including painting.
E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION
A. Provide extension rings to bring outlet boxes flush with finished surface.
B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION
A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
B. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of wiring devices provided under this section.
   1. Mounting Heights: Unless otherwise indicated, as follows:
      a. Wall Switches: 48 inches above finished floor.
      b. Receptacles: 18 inches above finished floor or 6 inches above counter.
   2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
   3. Provide minimum of 24 inches horizontal separation between flush mounted outlet boxes installed on opposite sides of fire rated walls.
   4. Where multiple receptacles are installed at the same location and at the same mounting height, gang devices together under a common wall plate.
   5. Unless otherwise indicated, provide separate outlet boxes for line voltage and low voltage devices.
6. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.

7. Locate receptacles for electric drinking fountains concealed behind drinking fountain according to manufacturer's instructions.

8. Locate outlet boxes so that wall plate does not span different building finishes.

9. Locate outlet boxes so that wall plate does not cross masonry joints.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.

F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

H. Provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.

I. Install wiring devices plumb and level with mounting yoke held rigidly in place.

J. Install wall switches with OFF position down.

K. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.

L. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

M. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

N. Identify wiring devices in accordance with Section 26 05 53.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Inspect each wiring device for damage and defects.

C. Operate each wall switch with circuit energized to verify proper operation.

D. Verify that each receptacle device is energized.

E. Test each receptacle to verify operation and proper polarity.

F. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.

G. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.05 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.06 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior luminaires.
B. Ballasts and drivers.

1.02 RELATED REQUIREMENTS

A. Division 00 - Procurement and Contracting Requirements
B. Division 01 - General Requirements
C. Section 26 05 33.16 - Boxes for Electrical Systems.
D. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
E. Section 26 09 23 - Lighting Control Devices: Automatic controls for lighting including occupancy sensors.
F. Section 26 27 26 - Wiring Devices: Manual wall switches.

1.03 REFERENCE STANDARDS

C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
H. UL 1598 - Luminaires; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
   2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
   3. Coordinate the placement of exit signs with furniture, equipment, signage or other potential obstructions to visibility installed under other sections or by others.
   4. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Shop Drawings:
   1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
   1. LED Luminaires:
      a. Include estimated useful life, calculated based on IES LM-80 test data.
      b. Include IES LM-79 test report upon request.
   2. Lamps: Include rated life, color temperature, color rendering index (CRI), and initial and mean lumen output.

D. Project Record Documents: Record actual connections and locations of luminaires and any associated remote components.

1.06 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70 and NFPA 101.

1.07 DELIVERY, STORAGE, AND PROTECTION
A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting) and manufacturer's written instructions.
B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.08 WARRANTY
A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
B. Provide three year manufacturer warranty for all LED luminaires, including drivers.

PART 2 PRODUCTS
2.01 LUMINAIRE TYPES
A. Furnish products as included on the drawings.
B. Substitutions: See Section 01 60 00 - Product Requirements, except where individual luminaire types are designated with substitutions not permitted.

2.02 LUMINAIRES
A. Provide products that are listed and labeled as complying with UL 1598, where applicable.
B. Provide products that comply with requirements of NFPA 70 and NFPA 101.
C. Provide products listed, classified, and labeled as suitable for the purpose intended.
D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.
E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.
G. LED Luminaires:
   1. Components: UL 8750 recognized or listed as applicable.
   2. Tested in accordance with IES LM-79 and IES LM-80.
   3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

2.03 BALLASTS AND DRIVERS
A. Ballasts/Drivers - General Requirements:
   1. Provide ballasts containing no polychlorinated biphenyls (PCBs).
   2. Minimum Efficiency/Efficacy: Provide ballasts complying with all current applicable federal and state ballast efficiency/efficacy standards.
PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that field measurements are as indicated.
B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.
C. Verify that suitable support frames are installed where required.
D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.
E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION
A. Provide extension rings to bring outlet boxes flush with finished surface.
B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION
A. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of luminaires provided under this section.
B. Perform work in accordance with NECA 1 (general workmanship).
C. Install products in accordance with manufacturer's instructions.
D. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).
E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
F. Wall-Mounted Luminaires: Unless otherwise indicated, specified mounting heights are to center of luminaire.
G. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
H. Install wall mounted luminaires at height as indicated on Drawings.
I. Install accessories furnished with each luminaire.
J. Connect luminaires to branch circuit outlets provided under Section 26 05 37 as indicated.
K. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
L. Bond products and metal accessories to branch circuit equipment grounding conductor.
M. Install specified lamps in each luminaire.

3.04 FIELD QUALITY CONTROL
A. See Section 01 40 00 - Quality Requirements, for additional requirements.
B. Inspect each product for damage and defects.
C. Operate each luminaire after installation and connection to verify proper operation.
D. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Architect.

3.05 ADJUSTING
A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Architect. Secure locking fittings in place.

3.06 CLEANING
A. Clean surfaces according to NECA 500 (commercial lighting) and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.
3.07 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

END OF SECTION
Des Moines Independent Community School District

Restroom Upgrades

<table>
<thead>
<tr>
<th>PROJECT LOCATION</th>
</tr>
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</table>
| LOVEJOY ELEMENTARY SCHOOL  
801 E. KENYON AVENUE  
DES MOINES, IA 50315 |
| HANAWALT ELEMENTARY SCHOOL  
225 56TH STREET  
DES MOINES, IA 50312 |
| NORTH HIGH SCHOOL  
501 HOLCOMB AVENUE  
DES MOINES, IA 50313 |
| HUBBELL ELEMENTARY SCHOOL  
800 42ND STREET  
DES MOINES, IA 50312 |
| WOODLAWN EDUCATION CENTER  
4000 LOWER BEAVER RD.  
DES MOINES, IA 50310 |
| PLEASANT HILL ELEMENTARY SCHOOL  
4801 E. OAKWOOD DR.  
PLEASANT HILL, IA 50327 |
| OAK PARK ELEMENTARY SCHOOL  
3928 6TH AVENUE  
DES MOINES, IA 50313 |
| NORTH HIGH SCHOOL  
501 HOLCOMB AVENUE  
DES MOINES, IA 50313 |

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DEMOPLION GENERAL NOTES

1. MATERIALS SUCH AS TURNED PLAQUE, PANELS, OIL PAINT, OR METAL COATINGS MUST BE REMOVED PRIOR TO REMOVAL OF EXISTING BUILDING COMPONENTS.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING ELECTRICAL WIRING, INCLUDING BUT NOT LIMITED TO: WIRE, CABLE, SUPPORTS, WIRING DEVICES, SAFETY SWITCHES, FIRE ALARM SYSTEMS, AND OTHER ELECTRICAL OR COMMUNICATION DEVICES.

3. CONSTRUCTION SHOWN DASHED IS TO BE DEMOLISHED EXCEPT ENTRANCE, EXISTING WALL TILE TO REMAIN.

4. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING EXISTING TOILET, PREPARING THE FLOOR FOR NEW FINISH, AND REPLACING TOILET PARTITIONS ENTIRELY. PATCH WALLS & FLOORS AS REQUIRED.

5. REMOVE AND SALVAGE COUNTERTOP TO BE REPLACED. PATCH AND PREP WALLS FOR NEW FIXTURE.

6. REMOVE AND SALVAGE HAND DRYER TO BE REPLACED. PATCH AND PREP WALL FOR NEW FIXTURE.

7. REMOVE AND SALVAGE TOILET ACCESSORIES TO BE REINSTALLED. PATCH AND PREP WALLS FOR NEW FINISH.

8. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

9. DEMOLISH MIRROR. PATCH AND PREP WALLS FOR NEW FINISH.

10. DEMOLISH TOILET PARTITIONS ENTIRELY. PATCH WALLS & FLOORS AS REQUIRED.

11. EXISTING WALL TILE TO REMAIN.

12. EXISTING FLOOR TO REMAIN.

13. DEMOLISH ACOUSTIC CEILING TILES. GRID TO REMAIN.

14. REMOVE AND SALVAGE HAND DRYER ENTIRELY. PATCH AND PREP WALL FOR NEW FIXTURE.

15. REMOVE AND SALVAGE TOILET ACCESSORIES TO BE REINSTALLED. PATCH AND PREP WALLS FOR NEW FINISH.

16. REMOVE AND SALVAGE COUNTERTOP TO BE REPLACED. PATCH AND PREP WALLS FOR NEW FIXTURE.

17. REMOVE AND SALVAGE HAND DRYER TO BE REPLACED. PATCH AND PREP WALL FOR NEW FIXTURE.

18. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

19. DEMOLISH MIRROR. PATCH AND PREP WALLS FOR NEW FINISH.

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22. EXISTING FLOOR TO REMAIN.

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28. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

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32. EXISTING FLOOR TO REMAIN.

33. DEMOLISH ACOUSTIC CEILING TILES. GRID TO REMAIN.

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37. REMOVE AND SALVAGE HAND DRYER TO BE REPLACED. PATCH AND PREP WALL FOR NEW FIXTURE.

38. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

39. DEMOLISH MIRROR. PATCH AND PREP WALLS FOR NEW FINISH.

40. DEMOLISH TOILET PARTITIONS ENTIRELY. PATCH WALLS & FLOORS AS REQUIRED.

41. EXISTING WALL TILE TO REMAIN.

42. EXISTING FLOOR TO REMAIN.

43. DEMOLISH ACOUSTIC CEILING TILES. GRID TO REMAIN.

44. REMOVE AND SALVAGE HAND DRYER ENTIRELY. PATCH AND PREP WALL FOR NEW FIXTURE.

45. REMOVE AND SALVAGE TOILET ACCESSORIES TO BE REINSTALLED. PATCH AND PREP WALLS FOR NEW FINISH.

46. REMOVE AND SALVAGE COUNTERTOP TO BE REPLACED. PATCH AND PREP WALLS FOR NEW FIXTURE.

47. REMOVE AND SALVAGE HAND DRYER TO BE REPLACED. PATCH AND PREP WALL FOR NEW FIXTURE.

48. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

49. DEMOLISH MIRROR. PATCH AND PREP WALLS FOR NEW FINISH.

50. DEMOLISH TOILET PARTITIONS ENTIRELY. PATCH WALLS & FLOORS AS REQUIRED.

51. EXISTING WALL TILE TO REMAIN.

52. EXISTING FLOOR TO REMAIN.

53. DEMOLISH ACOUSTIC CEILING TILES. GRID TO REMAIN.

54. REMOVE AND SALVAGE HAND DRYER ENTIRELY. PATCH AND PREP WALL FOR NEW FIXTURE.

55. REMOVE AND SALVAGE TOILET ACCESSORIES TO BE REINSTALLED. PATCH AND PREP WALLS FOR NEW FINISH.

56. REMOVE AND SALVAGE COUNTERTOP TO BE REPLACED. PATCH AND PREP WALLS FOR NEW FIXTURE.

57. REMOVE AND SALVAGE HAND DRYER TO BE REPLACED. PATCH AND PREP WALL FOR NEW FIXTURE.

58. DEMOLISH TOILET ACCESSORIES. PATCH AND PREP WALLS FOR NEW FINISH.

59. DEMOLISH MIRROR. PATCH AND PREP WALLS FOR NEW FINISH.
**Room Finish Schedule**

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**Scale:** 1/4" = 1'-0"
INTERIOR ELEVATION GENERAL NOTES

A. SEE G0.1 FOR STANDARD MOUNTING HEIGHTS.

B. CONTROL JOINTS SHOWN ARE DESIGNATED FOR AESTHETIC PURPOSES. WHERE CONTROL JOINTS ARE NOT SHOWN, COMPLY WITH REQUIREMENTS AS DICTATED IN THE PARTITION GENERAL NOTES.