PROJECT MANUAL

BUILDING A-1 RENOVATE LATRINES
CAMP DODGE, JOHNSTON, IOWA

Project No. 19083795
Contract No. C322A1047

JULY 16, 2024

SCHEMMER

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IOWA ARMY NATIONAL GUARD

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PROJECT MANUAL

BUILDING A-1 RENOVATE LATRINES
CAMP DODGE, JOHNSTON, IOWA

For The
IOWA ARMY NATIONAL GUARD

Project No. 19083795
Contract No. C322A1047

JULY 16, 2024

THE ARMORY BOARD
DEPARTMENT OF PUBLIC DEFENSE (MILITARY DIVISION)

THE ADJUTANT GENERAL
Major General STEPHEN E. OSBORN
CHAIRMAN OF THE ARMORY BOARD

ISSUED BY:

STATE COMPTROLLER OFFICE:

Zach Gillen, Contracting Officer
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7105 NW 70th Avenue
Johnston, IA 50131-1824
Phone: (515) 252-4522

CONSTRUCTION & FACILITIES MANAGEMENT OFFICE:

Michael Brothers, Design Branch Chief
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Johnston, IA 50131-1824
Phone: (515) 252-4225

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DOCUMENT 00 01 02

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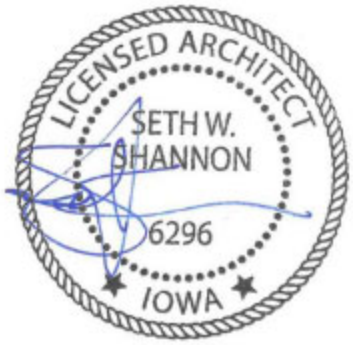
DOCUMENT 00 01 05

CERTIFICATIONS

ARCHITECTURE:
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.



PRINTED NAME: SETH SHANNON, AIA, LEED BD+C, GGP

DATE: 07/16/2024

LICENSE NUMBER: 06296

RENEWAL DATE: 07/01/2025

DIVISIONS: 02 THRU 12

FIRE PROTECTION, MECHANICAL, AND PLUMBING:
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.

PRINTED NAME: JEFF KULHANEK, PE

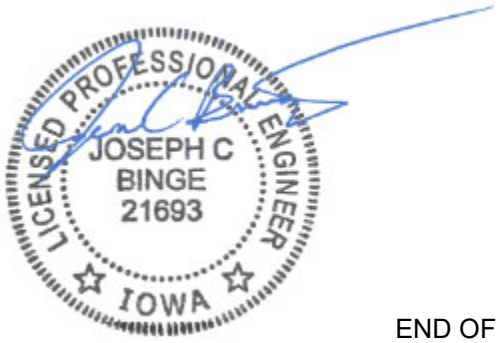
DATE: 07/16/2024

LICENSE NUMBER: P26985

RENEWAL DATE: 01/01/2025

DIVISIONS: 21, 22, & 23

ELECTRICAL:
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.



PRINTED NAME: JOE BINGE, PE

DATE: 07/16/2024

LICENSE NUMBER: 21693

RENEWAL DATE: 01/01/2025

DIVISIONS: 26

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Legend:

IAARNG: Iowa Army National Guard
TSA: The Schemmer Associates

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

DIVISION 9 - FINISHES

DIVISION 10 – SPECIALTIES

DIVISION 12 - FURNISHINGS

DIVISION 21 – FIRE SUPPRESSION

DIVISION 22 - PLUMBING

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING

DIVISION 26 - ELECTRICAL

END OF DOCUMENT 00 01 10

Legend:

IAARNG: Iowa Army National Guard
TSA: The Schemmer Associates

DOCUMENT 00 11 00

ADVERTISEMENT FOR BIDS

PROJECT TITLE:
BUILDING A-1 RENOVATE LATRINES

BID DATE: AUGUST 8, 2024

PROJECT LOCATION:
CAMP DODGE, JOHNSTON, IOWA

PROJECT NO.: 19083795
CONTRACT NO.: C322A1047

The Iowa Department of Public Defense, on behalf of the Iowa National Guard (IANG), will be receiving sealed bids until **1:00 P.M.** local time in the west conference room of **BUILDING 3535 (B-61)**, **CAMP DODGE**, 7105 NW 70TH AVENUE, JOHNSTON, IOWA 50131-1824 for the proposed BUILDING A-1 RENOVATE LATRINES, CAMP DODGE, JOHNSTON, IOWA. The general scope of work includes, but is not limited to:

Base Bid: Renovation of sixteen (16) public restrooms with the A-1 Joint Forces Headquarters Building, with alterations to existing systems serving the restrooms to adapt to the new design. The renovations will be architectural upgrades and mechanical system redesign, with associated electrical work. Specific restrooms will be brought up to ADAAG / A117.1 Accessibility Standards.

Alternate Bid No.1: Hall Latrines on all floors in the north wing.

Alternate Bid No.2: Hall Latrines on all floors in the south wing.

Bids received will be opened and read aloud at the time and place stated. Late bids will not be considered. Bids must be hand-delivered (bids received via mail, delivery service, oral, telephonic, facsimile or other electronically transmitted bids will not be accepted). Interested parties are invited to attend.

Bids shall be submitted on the Bid Form and shall be accompanied by a Bid Security as set forth in the Instructions to Bidders in the amount of five percent (5%) of the total bid amount. Each bid shall be accompanied by a bid bond executed by corporations authorized to contract as surety in Iowa, cashier's check or a certified check drawn upon a solvent bank chartered under the laws of the United States of America, made payable to Iowa Department of Public Defense; as a guarantee that the accepted bidder shall enter into a contract with the State of Iowa and file an approved surety company Performance and Payment Bond for the faithful performance thereof. Upon failure to comply, said check or bid bond shall become forfeited as liquidated damages.

Any construction contractor performing work in Iowa (including out-of-state contractors) must comply with Chapter 91C of Iowa Code

Bidders must comply with all affirmative action/equal employment opportunity provisions of the State of Iowa and the Federal Government. The Iowa Department of Public Defense, Iowa Army National Guard, seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa. A listing of certified Targeted Small Businesses can be obtained by visiting the Iowa Department of Economic Development website at https://iowaeda.microsoftcrmportals.com/tsb-search/

The Iowa Department of Public Defense reserves the right to reject any and all bids, and to waive irregularities and to accept a bid that is deemed in the best interest of the State of Iowa and the IANG.

This project is exempt from Iowa Sales Tax. Davis Bacon Wages **will not** apply to this project.

Bidding Documents may be obtained from Beeline and Blue (2507 Ingersoll Avenue, Des Moines, Iowa 50312, (515) 244-1611 or 1-800-347-1610) and will be loaned to qualified contract bidders upon receipt of Master Builders of Iowa non-cash deposit card or a check in the amount of fifty dollars ($50.00) deposit per set payable to “Iowa Department of Public Defense”. Deposit will be refunded to bidders upon return of their complete set of Bidding Documents, including any addenda, properly bound and in good condition to Beeline and Blue within 14 calendar days after opening of bids. Cash deposits will not be accepted.

Bidding Documents may also be viewed online or downloaded at www.beelineandblue.com. Click on “EPLANROOM” and then “PUBLIC JOBS”. Register and log in, then select the project name or enter the project name in the search window.

The Plan Holders List may be viewed online at www.beelineandblue.com. Navigate to the project as outlined above and click on the “PLAN HOLDERS” tab.

For questions regarding the website, please call (515) 244-1611 or 1-800-347-1610.

A set of the Bidding Documents is also available for review at the Construction and Facilities Management Office, Bldg 3535 (B-61), Camp Dodge.

Award of this contract is dependent on receiving requested Federal and/or State funding. If such funding is not received within the sixty (60) day bid guarantee after the date of receiving bids, all rights and obligations under this agreement are considered null and void.

A Pre-Bid Conference will be held at **10:00 A.M.** local time**, THURSDAY, JULY 25, 2024,** in the west conference room of **BUILDING 3535 (B-61)** Camp Dodge, 7105 NW 70th Avenue, Johnston, Iowa to review the Plans and Project Manual and to answer questions on this project. All interested parties are invited to attend.

For further information regarding this project please call Michael Brothers at (515) 252-4225.

END OF DOCUMENT 00 11 00

DOCUMENT 00 21 00

INSTRUCTIONS TO BIDDERS

TABLE OF ARTICLES

ARTICLE 1 - DEFINITIONS

1.1 The following definitions add to the list of definitions included in the General Conditions of the Contract and shall be used in conjunction with them as a part of the Bidding Documents.

1.2 Bidding Documents include The Bidding Requirements and the proposed Contract Documents:

1.3 The Bidding Requirements consists of:

.1 Advertisement For Bids.
.2 Instructions to Bidders.
.3 Form of Bid
.4 Supplements to Form of Bid:

.(1) Supplement A: Bid Bond .....(Submit With Form of Bid)
.(2) Supplement D: Targeted Small Business Form .....(Submit With Form of Bid)
.(3) Supplement F: Substitution Request Form (Bidding Phase).
.(4) Supplement G: Proposed Subcontractor Form.
.(5) Supplement H: Wage Rate Requirements Statement
.(6) Supplement J: 889 Representation Form

1.4 The Proposed Contract Documents consists of:

.1 Form of Agreement between the Owner and Contractor.
.2 Conditions of the Contract (General, Supplementary, and other Conditions).
.3 Drawings.
.4 Specifications.
.5 Addenda issued prior to execution of the Contract.
.6 Modifications issued after execution of the Contract.
.7 Other documents listed in the Agreement.

1.5 Definitions set forth in the General Conditions of the Contract for Construction or in other Contract Documents are applicable to the Bidding Documents.

1.6 Addenda are a written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

1.7 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

1.8 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work as described in the Bidding Documents.

1.9 An Allowance is a specified monetary sum, specified quantity or time not otherwise defined by the specifications or drawings, but which the contractor is required to include in the bid price.

1.10 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

1.11 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

1.12 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

1.13 A Sub-bidder is a person or entity who submits a Bid to a Bidder for materials, equipment or labor for a portion of the Work.

ARTICLE 2 - RECEIPT AND OPENING OF BIDS

2.1 The Iowa Department of Public Defense (Military Division), Iowa Army National Guard, hereinafter called the Owner, will receive Bids in the west conference room of Building **3535 (B-61)**, Camp Dodge, 7105 NW 70th Avenue, Johnston, Iowa 50131-1824, until the established bid date and time (see Section 00 41 00 - Form of Bid). The Owner will then publicly open and read all properly submitted Bids.

2.2 The Owner will secure, unopened, all Bids received prior to the established bid date and time. The Owner's representative whose duty it is to open Bids will decide when the specified time has arrived and will not consider any Bid received thereafter.

2.3 The Owner will reject and return unopened any Bid received after the time specified for the receipt of Bids.

2.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

2.5 Mailed or Delivery Service Bids will not be considered.

2.6 Each Bidder shall be solely responsible for the delivery of their Bid to the Owner at the place and before the time specified in Paragraph 2.1 above.

2.7 Photo identification will be required to gain entrance at the front gate of Camp Dodge.

2.8 The Owner acknowledges the responsibility of the Iowa Public Bidding Requirements in advertising and receiving bids for this project.

ARTICLE 3 - BIDDING DOCUMENTS

3.1 Bidders may obtain complete sets of the Bidding Documents from the issuing entity designated in the Advertisement for Bid for the deposit sums stated therein. Deposits will be refunded as designated in the Advertisement for Bid.

3.2 Bidders and Sub-bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.3 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the Purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

ARTICLE 4 - PREPARATION OF BIDS

4.1 Prepare Bids on an exact copy of the "Form of Bid" included in these documents. Fill in all applicable blank spaces, typewritten or in ink. The amount must be in both words and figures. If words and figures do not agree, the amount as written in words shall govern.

4.2 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change".

4.3 The person signing the Bid must initial all erasures or corrections.

4.4 Bids must indicate the full name of the Bidder, must be signed in the firm or corporate name of the Bidder, and must bear the longhand signature of a principal duly authorized to execute contracts for the Bidder. Bids signed by an agent of the Bidder must be accompanied by evidence of the agent's authority to execute contracts for the Bidder. Type or print below the signature the name of each person signing the Bid.

ARTICLE 5 - SUBMITTAL OF BIDS

5.1 Enclose in its own sealed envelope the "Form of Bid for Construction Contract" separate from the other required Supplements to the Form of Bid identified below and label with the name of the Bidder and the following designation:

SEALED BID for:
BUILDING A-1 RENOVATE LATRINES
CAMP DODGE, JOHNSTON, IOWA
Contract Number C322A1047
Iowa Army National Guard

5.2 Enclose in a second sealed envelope along with the separately sealed "Form of Bid for Construction Contract" the following Supplements to the Form of Bid:

1. Supplement A: The Bid Security (Contractor provided document).
2. Supplement D: Targeted Small Business Form (use provided form).

Label this second sealed envelope with the name and address of the Bidder and the following designation:

BID DOCUMENTS for:
BUILDING A-1 RENOVATE LATRINES
CAMP DODGE, JOHNSTON, IOWA
Contract Number C322A1047
Iowa Army National Guard

5.3 **HAND CARRIED BIDS:** Deliver to address indicated in Article 2.1 above.

ARTICLE 6 - MODIFICATION OF BIDS

6.1 No modification of submitted Bids in any way or form will be permitted.

ARTICLE 7 - WITHDRAWAL OF BIDS

7.2 Any Bid may be withdrawn and resubmitted prior to the time set for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

7.3 No bid may be withdrawn for a period of sixty (60) calendar days after the time set for the receipt of Bids.

ARTICLE 8 - IOWA TARGETED SMALL BUSINESS REQUIREMENTS

8.1 PROGRAM DESCRIPTION AND REQUIREMENTS:

8.1.1 On construction contracts bid competitively for which a participation goal is indicated, each Bidder who is not a Targeted Small Business and who will be using a Certified Targeted Small Business Subcontractor or supplier must:

.1 Submit with the Form of Bid: Supplement D: Targeted Small Business Form provided herein.
.2 Comply with all relevant provisions of the Iowa Civil Rights Act, Chapter 601A; Executive Order #11, 1984, and #15, 1973, as appended by Executive Order #34, dated July 22, 1988; Federal Executive Order #11245, 1965, as amended by Federal Executive Order #11375, 1967; the Equal Employment Opportunity Act of 1972; and Iowa Code Section 19B.7.
.3 Comply with all provisions of the State of Iowa relevant to fair employment practices, and furnish all information and submit all reports requested by these provisions.

.4 Continue to use the Iowa Targeted Small Business certification guidelines as set out in 481-Chapter 25 of the Iowa Administrative Code for the purpose of identifying Targeted Small Businesses for participation in the award of general and subcontracts.

8.1.2 The mandatory set-aside requirements and bid preferences required by Iowa Code Sections 73.16 to 73.21 are not currently in effect. Use the following guidelines to encourage Targeted Small Business participation.

8.1.3 DEFINITIONS:

.1 Actively manage means exercising the power to make policy decisions affecting the business.
.2 Minority person means an individual who is black, Hispanic, Pacific Island native, American Indian, or Alaskan Native.
.3 Operated means actively involved in the day-to-day management of the business.
.4 Small Business means any enterprise which is located in this State, which is operated for profit under a single management, and which has either fewer than twenty employees or an annual gross income of less than three million dollars computed as an average of the three previous years.

8.2 The Department of Public Defense (Military Division), Iowa Army National Guard (IAARNG), seeks to provide opportunities for Targeted Small Businesses in the awarding of contracts. The IAARNG may award contracts to Targeted Small Businesses under the terms of the Iowa Small Business Procurement Act of 1986 and the Iowa Administrative Code. The IAARNG is also authorized to establish certified Targeted Small Business participation requirements for construction contracts.

8.3 When entering into this contract with the IAARNG, the General Contractor will take documented steps to encourage participation from Targeted Small Businesses for the purpose of subcontracting or supplying of materials. This project has a Targeted Small Business participation goal of ten percent (10%).

8.4 If a prime contractor fails to meet the Targeted Small Business participation goal indicated, the prime contractor shall still be required to submit with the Form of Bid (on the Targeted Small Business Form provided herein) the names of Targeted Small Businesses contacted.

8.5 If the Bidder intends to subcontract with a certified Targeted Small Business in the absence of a stated Targeted Small Business participation goal, the Bidder should inform the State Comptroller Office of this intent by submitting a Targeted Small Business Form so that they may receive credit for this participation.

ARTICLE 9 - BID SECURITY FOR TARGETED SMALL BUSINESS BIDDERS

9.1 On projects where Bid amount exceeds $25,000.00, the instructions in Article 10, Bid Security for Non-Targeted Small Business Bidders, apply.

9.2 On Bids of $25,000.00 or less, Certified Targeted Small Businesses, as part of the Bid Documents, may either provide a Bid Bond or a bond waiver from the Department of Economic Development.

ARTICLE 10 - BID SECURITY FOR NON-TARGETED SMALL BUSINESS BIDDERS

10.1 Secure Bids with a cashier's check, certified check, or a Bid Bond in an amount of at least five percent (5%) of the Bid. The Owner will automatically disqualify Bids secured by other means.

10.2 Make certified checks and cashier's checks payable to "IOWA DEPARTMENT OF PUBLIC DEFENSE".

10.3 Submit Bid Bonds in the form prescribed in these documents. Bid Bonds must be executed solely by corporations authorized to contract a surety in Iowa and, in addition to all other provisions, clearly designate an Iowa resident agent as attorney-in-fact. Attorneys-in-fact who sign surety bonds must file with each bond a certified and effectively dated copy of their power of attorney.

10.4 Bid security acts as the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver a signed contract stipulating performance of the Work in unqualified compliance with Contract Documents within ten (10) days after notification of award of contract is given.

10.5 The Owner will return Bid security when submitted in the form of either a cashier's check or a certified check by any Bidder except the three lowest Bidders within forty-eight (48) hours after opening.

10.6 The Owner will all return retained Bid securities (cashier's check, or certified check) within forty-eight (48) hours of executing a contract, performance and payment bond with the successful Bidder. If the award process involves more than the bid holding time established in the Bidding Documents, those Bidders whose securities are retained shall have the right to negotiate with the Owner on the matter.

ARTICLE 11 - QUALIFICATION OF BIDDERS

11.1 Bidders must be registered with the Iowa Labor Commissioner. The Bidders must include an Iowa registration number as provided for on the Form of Bid.

11.2 Non-resident corporations submitting Bids must be in compliance with Section 490.1501 of the Code of Iowa and legally authorized thereby to carry on such business in the State of Iowa as is required by the Contract Documents.

11.3 Non-resident corporations certify by submittal of a Bid that the corporation shall comply with Chapter 73 of the Iowa Code.

11.4 The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work, and the Bidder must furnish to the Owner all such information and data for these purposes as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work described herein.

11.5 The Owner gives preference to Iowa domestic labor in the constructing or building of any public improvement. By virtue of statutory authority, preference is given to products and provisions produced or grown within the State of Iowa.

11.6 Bidders and all Subcontractors shall be prepared to represent post-bid whether they do or do not use prohibited telecommunications equipment or services in accordance with Section 889 Part B of the FY 2019 National Defense Authorization Act (NDAA). Refer to Article 22 – Post-Bid Information

ARTICLE 12 - SUBCONTRACTORS

12.1 In accordance with Iowa law, the successful Bidder must furnish in writing to the Owner a list of the names of subcontractors who will work on the project as described in Article 22.

12.2 The Bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must (1) be registered in the State of Iowa and have contractor's registration number, and (2) be acceptable to the Owner.

ARTICLE 13 - BIDDERS REPRESENTATION

13.1 Each Bidder by submitting a Bid represents that:

13.1.1 The Bidder has read and completely understands the Bidding Requirements and Contract Documents.

13.1.2 The Bidder has visited the site, become familiar with the local conditions under which the Work is to be performed, including availability and cost of labor and materials, and has carefully correlated personal observations with the requirements of the Contract Documents.

.1 A tour of the site will be conducted following the Pre-Bid Conference identified in the Advertisement for Bids. Bidders shall arrange for other site visits in advance by contacting Brenda Wilder at **(515) 252-4370**.

13.1.3 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

13.1.4 The Bidder has familiarized himself/herself with Federal, State, and Local laws, ordinances, rules, and regulations affecting performance of the Work.

13.1.5 The Bidder agrees that the Contract Time will begin upon receipt of a Notice to Proceed from the Owner, and will achieve Substantial Completion of all the Work within the Contract Time stated on the Bid Form, excepting for delays covered in Article 8 of the General Conditions of the Contract.

13.1.6 The Bidder has given preference to use of Iowa domestic labor and products and provisions produced or grown within the State of Iowa.

13.2 Failure of the selected Bidder to fulfill the provisions of this Article in no way relieve the obligation of the Bidder to furnish all materials and labor necessary to carry out the provisions of the Contract, nor shall such failure constitute grounds for extra compensation over the price stated in the accepted Bid.

ARTICLE 14 - SUBSTITUTIONS

14.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

14.2 No substitution will be considered during the bidding period unless written request has been submitted to the Architect for approval, on the form provided herein, at least 5 days prior to the bid date. Each such request must include the name of the material, product or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, cuts, performance and test data, and any other data or information necessary for a complete evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer.

14.3 Request for approval of a substitution will not be considered if Substitution Request Form provided herein is not completely filled out.

14.4 If the Architect approves any proposed substitution, such approval is not official until set forth in an addendum. Do not include any substitutions not confirmed by written addenda.

14.5 Substitutions after the Contract Award may be considered only as provided for in the Conditions of the Contract and Division 1 of the Project Manual.

ARTICLE 15 - ADDENDA AND INTERPRETATIONS

15.1 Bidders must carefully examine and compare the Bidding Documents, examine the site and local conditions and at once report any ambiguity, inconsistency, or error discovered. Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make written request to the Architect for interpretation or correction. Such requests must reach the Architect at least seven (7) days prior to the bid date.

15.2 The Architect will issue any and all interpretations, corrections, revisions, and amendments to all holders of Bidding Documents in the form of written addenda. Addenda will be transmitted at least forty-eight (48) hours prior to the time set for the receipt of Bids to all who are known by the issuing office to have received a complete set of Bidding Documents. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose. Each Bidder is responsible to ascertain prior to submitting a Bid that the Bidder has received all Addenda issued. All addenda issued shall become part of the Contract Documents and Bidders must acknowledge them in the Form of Bid.

15.3 Only those interpretations, corrections, revisions, and amendments confirmed by written addenda are binding. Bidders are cautioned to refrain from including in their Bid any interpretations, corrections, revisions, or amendments which are not confirmed by written addenda.

15.4 Any question relating to the technical specifications may be directed to the individuals identified on Document 00 01 02 – Project Design Team.

ARTICLE 16 - BID PREFERENCE

16.1 All Bidders must certify their state or foreign country of residence by completing the official address section of the Form of Bid.

16.2 Under Iowa law, as described in the Iowa Administrative Code, resident Bidders on public improvements are allowed a preference equal to the preference given or required by the state or foreign country in which the nonresident Bidder is a resident. “Resident Bidder” means a person or firm authorized to transact business in this State, and having a place of business at which it is and has conducted business for at least six months prior to the first advertisement for the public improvement and, in the case of a corporation, at least fifty percent (50%) of the common stock is owned by residents of this State.

ARTICLE 17 - METHOD OF AWARD

17.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner may reject any or all Bids, waive any irregularities, informalities, or technicalities in any Bid, and accept any Bid in whole or in part which it deems to be in the Owner’s best interests.

17.2 All requested Alternates shall be bid. The Owner reserves the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternate(s) accepted.

17.3 Generally, all Bids received by the Owner which require allocation of appropriated Government funding are subject to the acceptance of the issuing department for the State of Iowa. Each prime Bidder, subcontractor, and material supplier on this project agrees to guarantee their Bid for a period of sixty (60) calendar days after the time set for the receipt of Bids.

17.4 Award of this contract is dependent on receiving requested Federal and/or State funding. If such funding is not received within the sixty (60) day Bid guarantee after the date of receiving Bids, all rights and obligations to enter into a contract are considered null and void.

17.5 The Owner sending a "Notice of Award" to the selected Bidder constitutes award of the Contract.

ARTICLE 18 - EXECUTION OF CONTRACT

18.1 Selected Bidder must, within ten (10) calendar days after receiving Notice of Award, enter into a written contract with the Owner on the Form of Agreement prescribed in these documents.

18.2 The Contract, when duly executed, represents the entire agreement between parties.

18.3 Simultaneously with the delivery of the executed Contract, the Contractor must furnish a performance and payment surety bond in the amount of 100% of the Contract Sum as security for faithful performance of the Contract and for the payment of all persons performing labor and furnishing materials for the work, or evidence of eligibility for waiver of the bond requirements. The bond shall be on the form prescribed in these documents (Submit one copy only). The surety on such bond shall be by a corporation duly authorized to do business in the State of Iowa, and said bond shall be signed or countersigned by an Iowa Resident Agent. Attorneys-in-fact who sign surety bonds must file with each bond a certified and effectively dated copy of their power of attorney.

18.4 Completed Contract and Contract Performance and Payment Bond must be dated the same and executed as per State contracting instruction procedures.

18.5 The Owner will maintain a contract administration system ensuring that contractors perform in accordance with the terms, conditions, and specification of their Contract Document.

ARTICLE 19 - IOWA STATE BUILDING CODE

19.1 All construction under this Contract must conform to the requirements of the Iowa State Building Code. Adhere to the provisions of the Iowa State Building Code which takes precedence over local governmental bodies' regulations. Perform work not regulated by the Iowa State Building Code in accordance with other applicable local regulations.

ARTICLE 20 - TAXES

20.1 This project is TAX EXEMPT. Refer to Article 3.6 of the General Conditions (as modified by the Supplementary Conditions) and Article 22.3 of the Instructions To Bidders.

ARTICLE 21 - PREBID CONFERENCE

21.1 The Owner requests Bidders to attend a pre-bid conference on the date, time, and location specified in the Advertisement for Bids.

ARTICLE 22 - POST-BID INFORMATION

22.1 Prior to consideration for Award of Contract, the Apparent Low Bidder shall submit for the general contractor and ALL subcontractors a completed:

22.1.1 Supplement J: 889 Representation Form.

.1 Failure of the bidding entity to successfully meet the requirements of Section 889 Part B of the 2019 NDAA, either through non-use of the prohibited equipment or meeting the mitigation requirements as outlined in Supplement J, will result in the bid being rejected. Failure to meet these requirements by a proposed subcontractor will result in their rejection and trigger the actions outlined in Section 22.2.1 below.

22.2 The Awarded Bidder shall, within forty eight (48) hours of notification of selection for the award of a Contract for the Work, submit:

22.2.1 Supplement G - Proposed Subcontractor Form:

.1 Include the following:

(1). A designation of the Work to be performed by the Bidder with his/her own forces.
(2). A list of names of the subcontractors or other persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work including but not limited to Mechanical Work, Electrical Work, Masonry Work, and Telecommunication Work (as applicable).
(3). The list must include Iowa Contractor's registration numbers for all Subcontractors.

.2 The Bidder will be required to establish to the satisfaction of the Architect and the Owner the reliability and responsibility of the proposed subcontractors or other persons or entities to furnish and perform the Work described in the Bidding Documents.

.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or the Architect, after due investigation, has reasonable objection to any subcontractor, person or entity on such list. If the Owner or Architect has a reasonable objection to any subcontractor, person or entity on such list, the Bidder may, at the Bidder's option:

(1). Withdraw the Bid.
(2). Submit an acceptable substitute subcontractor, person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may, accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification under this subparagraph, bid security will not be forfeited, notwithstanding anything to the contrary in Paragraph "Bid Security" of this Section.

.4 Subcontractors and other persons and entities proposed by the Bidder and to whom the Owner and the Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and the Architect.

22.3 The Awarded Bidder shall, within one week following the Pre-Construction meeting and prior to purchasing any materials for the Work, submit a completed 'Sales Tax Exempt Application Form'. The Owner will email an electronic copy of the form to the General Contractor shortly after the Pre-Construction Meeting.

END OF DOCUMENT 00 21 00

DOCUMENT 00 41 00

FORM OF BID for CONSTRUCTION CONTRACT

I. PROJECT TITLE:
BUILDING A-1 RENOVATE LATRINES

PROJECT LOCATION:
CAMP DODGE, JOHNSTON, IOWA

BID DATE: AUGUST 8, 2024
AT: 1:00 p.m. Local time

PROJECT NO.: 19083795

CONTRACT NO.: C322A1047

TO: Iowa Army National Guard
State Comptroller Office
Attn: Contracting Officer
(Reference Section 00 21 00 for Submittal of Bids)

II. ACKNOWLEDGEMENT

A. The undersigned Bidder, in response to your Advertisement for Bids for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the proposed Contract Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents of which this bid is a part.

B. Accompanying this proposal are the following required documents:

1) Supplement A: The Bid Security .....(Contractor provided document).
2) Supplement D: Targeted Small Business Form .....(use provided form).

C. Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents:

Numbers _____ , _____ , _____ , _____ , _____ , _____.

III. LUMP SUM PROPOSAL

A. **BASE BID:** Bidder agrees to perform all of the work described in the proposed Contract Documents and shown on the Drawings for the Sum of:

_____

_____ Dollars ($ _____)

B. **ALTERNATE No. 1:** Bidder agrees to perform all of the work described in the proposed Contract Documents and shown on the Drawings. ADD / DEDUCT the Sum of:

_____

_____ Dollars ($ _____)

C. **ALTERNATE No. 2:** Bidder agrees to perform all of the work described in the proposed Contract Documents and shown on the Drawings. ADD / DEDUCT the Sum of:

_____

_____ Dollars ($ _____)

D. **Amounts will be shown in both words and figures. In case of discrepancy, the amount in words will govern.**

IV. SCHEDULE

A. It is estimated that work can commence by..…….. _____ (mm/dd/yyyy).

and be completed by…… _____ (mm/dd/yyyy).

(Note: Not a bid award determining factor.)

V. SUBMISSION CONDITIONS

A. In submitting this bid, it is understood that the Owner reserves the right to accept Alternates in any order or combination and to determine the low Bidder on the basis of the sum of the Base Bid and Alternate(s) accepted.

B. Bidder hereby certifies: (a) that his bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm, or corporation; (b) that Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; (c) that Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; (d) that Bidder has not sought by collusion to obtain any advantage over any other bidder or over Owner.

VI. CONTRACTOR SIGNATURE

A. Respectfully Submitted:

Firm Name: _____ Telephone No.: _____

Official Address: _____ FAX No.: _____

_____ EMAIL: _____

Mailing Address: _____
(if different from above)

_____

Signed By: _____

Printed Name: _____

_____
(Title)

Date: _____

Federal ID No.: _____

Iowa Contractor Registration No.: _____

END OF DOCUMENT 00 41 00

DOCUMENT 00 43 13

SUPPLEMENT A:
BID BOND

(To be submitted with the Form of Bid if securing Bid with a Bid Bond)

AIA Document A310 - Bid Bond, 2010 Edition, is hereby a part of the Specifications as if it were bound herein.

Copies and samples for preview of the document can be obtained online from: https://www.aiacontracts.org/purchase.

END OF DOCUMENT 00 43 13

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DOCUMENT 00 43 16

SUPPLEMENT D: TARGETED SMALL BUSINESS FORM

(To be submitted with Form of Bid)

I. PROJECT TITLE:
BUILDING A-1 RENOVATE LATRINES

PROJECT LOCATION:
CAMP DODGE, JOHNSTON, IOWA

PROJECT NO.: 19083795
CONTRACT NO.: C322A1047

_____ _____
Bidder's Company Name Area Code/Telephone

_____
Address City State Zip Code

Bidder is _____ is not _____ a certified Iowa Targeted Small Business.

INSTRUCTIONS: Bidder shall provide the information requested below showing any Targeted Small Business Enterprise contacts made prior to bid submission for the project listed. Bidder shall use the construction-related Iowa Targeted Small Business Directory as certified by the Department of Economic Development, State of Iowa. Bidders shall comply with all affirmative action/equal opportunity provisions of State and Federal laws. The Owner seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa. Information is subject to verification and confirmation.

TSB Company Name and Phone #	Date Contacted	Quote Rec'd (Y/N)	$ Amount Proposed (if quote used in bid)

(Use second sheet if needed)

_____ _____
Date Signature of Bidder (same person signing the Form of Bid)

END OF DOCUMENT 00 43 16

(This page intentionally left blank)

DOCUMENT 00 43 25

SUPPLEMENT F:
SUBSTITUTION REQUEST FORM (BIDDING PHASE)

TO: **FORWARD ALL SUBSTITUTION REQUESTS TO:**
Seth Shannon, AIA, LEED AP BD+C, GGP, Schemmer
1840 NW 118th Street, Suite 110, Clive, IA 50325
515.650.4715 (phone) sshannon@schemmer.com (email)

PROJECT: BUILDING A-1 RENOVATE LATRINES, CAMP DODGE, JOHNSTON, IOWA

Specification: Title, Section, Page, Paragraph / Article

_____

Proposed Substitution: Description, Manufacturer, Model, Phone No., Trade Name

_____

_____

_____

Product Data: Drawings, Specifications, Performance Data, Test Data – Attached

_____

_____

_____

The Undersigned Certifies: (Check each)

_____ Substitution is equal or superior in all respects to specified item.
_____ Will provide same warranty as specified item.
_____ Same maintenance service and source of replacement parts, as applicable, are available.
_____ Substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
_____ Substitution does not affect dimensions or functional clearances.
_____ Will coordinate installation and adjust other work which may be required, at no additional cost to the Owner.
_____ Waives claims for additional costs or time extensions which may subsequently become apparent.
_____ Will reimburse Owner for review or design services for re-approval by authorities, for changes in building design, detailing, and construction costs caused by the substitutions.

Requested By: _____ Signature: _____

Company: _____ Telephone: _____

Address: _____ Fax: _____

END OF DOCUMENT 00 43 25

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DOCUMENT 00 43 36

SUPPLEMENT G:
PROPOSED SUBCONTRACTOR FORM

(To be submitted within 48 hours of notification of selection for the award of a contract)

A. Work proposed to be performed by the Bidder with his/her own forces:

1. _____
2. _____
3. _____
4. _____
5. _____

(attach additional pages as required)

B. A list of names of the subcontractors or other persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work including but not limited to the following (as applicable):

1. Mechanical: _____
2. Electrical: _____
3. Masonry: _____
4. Geothermal: _____
5. Telecommunication: _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

(attach additional pages as required)

END OF DOCUMENT 00 43 36

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DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON, VA 22204-1382

RECEIVED
NOV 30 1993
FACILITIES & CONSTRUCTION

NGB-AEN

24 NOV 1993

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Applicability of Davis-Bacon Act

1. The purpose of this memorandum is to clarify the relation of the Davis-Bacon Act to State contracts.

2. All State contracts are exempt from the provisions of the Davis-Bacon Act even though they are funded by 100% Federal funds contributed to the State from the National Guard Bureau. 32 CFR 33.36 (i)(5) requires the use of the Federal Davis-Bacon Act only in cases where it is required by the Federal grant program legislation. Our authorization statues do not require the use of the Davis-Bacon Act. Therefore, the States must follow the applicable State law. Questions should be referred to the State full time Judge Advocate.

3. For further information, please contact Patrick Batt at DSN 327-7911.

FOR THE CHIEF, NATIONAL GUARD BUREAU:

DONALD R. FRANKLAND
LTC EN
Director of Engineering

DISTRIBUTION

Each TAG (1)

CF:
Each FMO (1)
Each USPFO (1)

AGIA-SJA 6 JAN 94

MEMORANDUM FOR CW5 JERRY KLINKEFUS

SUBJECT: APPLICABILITY OF DAVIS BACON ACT TO STATE CONTRACT ACTIVITY

1. As a result of my review of the code of IOWA, I have determined that the IOWA state contracting actions which use ARNG appropriations, do not require the Davis Bacon Act clause(s).

2. This is consistent with NGB guidance specific to National Guard appropriation and authorization language, part 31, Code of Federal Regulations.

EDWARD J STROBL, LT COL, IA ANG
STAFF JUDGE ADVOCATE

END OF DOCUMENT 00 43 43

MICRO-PURCHASE
NATIONAL DEFENSE AUTHORIZATION ACT (NDAA) SECTION 889 REPRESENTATION

For additional information see: https://www.acquisition.gov/FAR-Case-2019-009/889_Part_B

1. ☐ Merchant has an active registration in SAM (www.sam.gov) **and** FAR 52.204-26 is dated Oct 2020 (or later)
   ☐ Merchant is not registered in SAM (www.sam.gov) **or** is registered, but FAR 52.204-26 is dated earlier than Oct 2020

2. Company Name / Merchant (Offeror)	3. Date

4. Company Street Address	5. City	6. State	7. Zip Code

8. Owner or Designated Representative Name	9. E-mail	10. Telephone Number

11. DUNS Number (*if applicable*)	12. Cage Code Number (*if applicable*)	13. SAM Registration Expiration Date (*if applicable*)

14. Complete the following FAR 52.204-26 Representation:

COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES-REPRESENTATION (OCT 2020)

(a) *Definitions.* As used in this provision, "covered telecommunications equipment or services" and "reasonable inquiry" have the meaning provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Procedures.* The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(c)(1) *Representation.* The Offeror represents that it ☐ does, ☐ does not provide covered telecommunications equipment or services as a part of its offered products or to the Government in the performance of any contract, subcontract, or other contractual instrument.

(2) After conducting a reasonable inquiry for purposes of this representation, the offeror represents that it ☐ does, ☐ does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services

Signature of Owner or Designated Representative identified in Block 8 above. X

This representation expires on the date in block 13 or one year from the date in block 3, whichever is soonest. Forward any representation modifications/changes to the sender within 30 days.

Additional Disclosure Instructions to Merchant/Offeror (*if applicable*)

(a) If the Offeror represents in (c)(1) above that, "it *does* provide covered telecommunications equipment […]", then the Offeror should go to FAR 52.204-24 -- Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment, paragraph (e)(1) *Disclosures* (https://www.acquisition.gov/far/part-52#FAR_52_204_24) to identify the additional documentation that should accompany this representation when sending it back to the sender.

(b) If the Offeror represents in (c)(2) above that, "it *does* use covered telecommunications equipment […]", then the Offeror should go to FAR 52.204-24 -- Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment, paragraph (e)(2) *Disclosures* (https://www.acquisition.gov/far/part-52#FAR_52_204_24) to identify the additional documentation that should accompany this representation when sending it back to the sender.

GPC-Merchant 889 Representation v.4

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DOCUMENT 00 52 00

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

IOWA DEPARTMENT OF PUBLIC DEFENSE
(MILITARY DIVISION)

ARMORY BOARD
IOWA ARMY NATIONAL GUARD

STANDARD CONTRACT FOR CONSTRUCTION

STATE PROJECT: PROJECT NO.: 19083795
CONTRACT NO.: C322A1047

AGREEMENT

made as of the _____ day of _____ in the year of Two Thousand Twenty-Four (2024).

BETWEEN the Owner: Iowa Department of Public Defense (Military Division)
Armory Board, Iowa Army National Guard, Adjutant General Chairman
Camp Dodge, 7105 NW 70th Avenue, Johnston, Iowa 50131-1824

and the Contractor:

The Project: BUILDING A-1 RENOVATE LATRINES
CAMP DODGE, JOHNSTON, IOWA

The Architect: Schemmer
1840 NW 118th Street, Suite 110
Clive, IA 50325

Amount: $ _____

Payment to be made by: Iowa Department of Public Defense
State Comptroller Office
Building 3465 (W-41), Camp Dodge
7105 NW 70th Avenue
Johnston, Iowa 50131-1824

The Owner and the Contractor agree as follows:

ARTICLE 1 - THE CONTRACT DOCUMENTS

1.1 The Contract Documents consists of this Agreement, the Conditions of the Contract (General, Supplementary, and other Conditions), the Drawings, the Specifications, all Addenda issued prior to execution of this Agreement, all other documents listed in this Agreement, and all Modifications issued after execution of this Agreement; these form the Contract, and all are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than modifications, appears in Article 9.

ARTICLE 2 - THE WORK OF THIS CONTRACT

2.1 The Contractor shall fully execute the Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 - DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

3.1 DATE OF COMMENCEMENT: The Contractor will be required to commence Work under this Contract by _____, after receipt by the Contractor of Notice to Proceed. The Contract Time shall be measured from the date of commencement.

3.2 SUBSTANTIAL COMPLETION: The Contractor shall achieve Substantial Completion of the entire Work not later than _____, subject to adjustments of this Contract Time as provided in the Contract Documents.

ARTICLE 4 - CONTRACT SUM

4.1 The Owner shall pay the Contractor in current funds for the performance of the Work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Contract Sum of

$ _____

4.2 The Contract Sum is determined as follows:

BASE BID: $ _____

ALTERNATE NO. 1: $ _____

ALTERNATE NO. 2: $ _____

ARTICLE 5 - PROGRESS PAYMENTS

5.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor for the period ending on the last day of the month as provided in the Contract Documents and as follows:

5.1.1 Not later than 30 days following the date the Application for Payment is received by the Owner's Representative, ninety-five percent (95%) of the portion of the Contract Sum properly allocable to labor, materials, and equipment incorporated in the Work and ninety-five percent (95%) of the portion of the Contract Sum properly allocable to materials and equipment suitably stored at the Site or at some other location agreed upon in writing, for the period covered by the Application for Payment, less the aggregate of previous payments made by the Owner, and upon Substantial Completion of the entire Work, a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect shall determine for all incomplete Work, retainage applicable to such work and unsettled claims as provided in the Contract Documents.

5.2 Application for Payment: One (1) copy shall be submitted to the Architect via email in pdf format on AIA Document G702 - 1992, Application and Certificate for Payment, supported by AIA Document G703 – 1992, Continuation Sheet.

5.3 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due in accordance with Section 573.12, Code of Iowa.

ARTICLE 6 - FINAL PAYMENT

6.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when:

6.1.1 The Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Subparagraph 12.2.2 of the General Conditions and to satisfy other requirements, if any, which extend beyond final payment;

6.1.2 all closeout documents required to be submitted with the final Application have been received by the Architect; and

6.1.3 a final Certificate for Payment has been issued by the Architect.

6.2 The Owner's final payment to the Contractor shall be made thirty days after the issuance of the Owner's Letter of Final Acceptance.

ARTICLE 7 - MISCELLANEOUS PROVISIONS

7.1 Terms in this Agreement which are defined in the Conditions of the Contract shall have the meanings designated in those Conditions.

7.2 Where reference is made in this Agreement to a provision of the General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

ARTICLE 8 - FUNDING

8.1 Award of this contract is dependent on receiving requested Federal and/or State funding. If such funding is not received within the sixty (60) day bid guarantee after the date of receiving bids, all rights and obligations under this agreement are considered null and void.

ARTICLE 9 - ENUMERATION OF THE CONTRACT DOCUMENTS

9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

1. This executed Agreement
2. Any issued Addendums
3. Performance and Payment Bond
4. Application and Certificate for Payment
5. General Conditions of the Contract for Construction
6. Supplementary and other Conditions
7. Certificate(s) of Insurance
8. Certificate of Substantial Completion
9. General Requirements (Division 1)
10. Technical Specifications (All other Divisions)
11. Drawings

STATE OF IOWA:

Department of Public Defense (Military Division)
Armory Board, Iowa Army National Guard

By _____

_____
(Name Typed)

_____
(Title)

Iowa National Guard
(Address)

Camp Dodge, 7105 NW 70th Avenue

Johnston, Iowa 50131-1824

CONTRACTOR:

By _____
(Contractor)

_____
(Name Typed)

_____
(Title)

_____
(Address)

_____

Phone No.: _____

FAX No.: _____

Federal ID No.: _____

IA Registration No.: _____

NOTE: If the Contractor is a corporation, the following witness signatures are not required, but the annexed Certificate of Corporate Authority must be completed. Type or print names under all witness signatures.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the _____day of _____, 2024.

(Date to be completed by Owner upon receipt of all signatures.)

_____
State of Iowa - Witness Signature

_____
Printed Name

_____
Contractor – Witness Signature

_____
Printed Name

CERTIFICATE OF CORPORATE AUTHORITY

I, _____ certify that I am the
(typed name of corporate officer other than person signing Contract)

_____ of the corporation named as Contractor
(typed corporate office of person signing above)

herein; that _____, who signed this Contract on behalf of
(typed name of person who signed Contract)

the Contractor, was then _____ of said corporation;
(typed position of person signing Contract)

that said Contract was duly signed for and in behalf of said corporation by authority of its governing body,

and is within the scope of its corporate powers.

AFFIX YOUR CORPORATE SEAL TO THE BOTTOM OF THIS FORM IF ONE EXISTS

END OF DOCUMENT 00 52 00

DOCUMENT 00 61 00

PERFORMANCE AND PAYMENT BOND

AIA Document A312 – Performance and Payment Bond, 2010 Edition shall be utilized for this project and is hereby a part of the Specifications and Contract Documents as if it were bound herein.

Copies and samples for preview of the document can be obtained online from: https://www.aiacontracts.org/purchase.

END OF DOCUMENT 00 61 00

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DOCUMENT 00 62 10

APPLICATION AND CERTIFICATE FOR PAYMENT

AIA Document G702 (1992) – Application and Certificate for Payment Form, supported by AIA Document G703 (1992) Continuation Sheet shall be utilized for this project and is hereby a part of the Specifications and Contract Documents as if it were bound herein.

Copies and samples for preview of the document can be obtained online from: https://www.aiacontracts.org/purchase.

Note: Electronically submit Applications for Payment to the Architect or Engineer per the Supplementary Conditions.

END OF DOCUMENT 00 62 10

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DOCUMENT 00 72 00

GENERAL CONDITIONS

AIA Document A201-2007 – General Conditions of the Contract for Construction, hereafter referred to as General Conditions, forms the General Conditions for this Construction Contract and is hereby a part of the Specifications and Contract Documents as if it were bound herein.

Copies and samples for preview of the document can be obtained online from: https://www.aiacontracts.org/purchase.

END OF DOCUMENT 00 72 00

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DOCUMENT 00 73 00

SUPPLEMENTARY CONDITIONS

The following supplements modify the General Conditions of the Contract for Construction, AIA Document A201-2007. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

Unless noted otherwise, all references are to Articles and Sections of AIA Document A201-2007, General Conditions of the Contract for Construction.

See also related topics in Division 1 – General Requirements for additional requirements.

REFERENCE ARTICLE 1 - GENERAL PROVISIONS

1. Reference Section 1.1.1:

   A written order for a minor change in the Work may also be issued by the Owner's Construction Manager as provided in Section 2.1.1.5 of these Supplementary Conditions.

2. Reference Section 1.1.2; Add Sections:

   1.1.2.1 All contracts awarded by the State are subject to access by the State, National Guard Bureau, The Comptroller General of the United States, or any of their duly authorized representatives. This includes books, documents, papers, etc., and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audits, examinations, excerpts, and transcriptions.

   1.1.2.2 Regulations for proper operation and administration of construction contracts: Code of Federal Regulations (CFR), provide solicitation provisions and contract clauses that pertain to this Project. A copy of these regulations are not bound herein, but are included by reference. Copies may be reviewed in the State Comptroller Office, Building 3465 (W-41), Camp Dodge, 7105 NW 70th Avenue, Johnston, Iowa 50131-1824.

3. Reference Section 1.2.1; Add Section:

   1.2.1.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

   .1 Modifications
   .2 The Agreement.
   .3 Addenda, with those of later date having precedence over those of earlier date.
   .4 The Supplementary Conditions.
   .5 The General Conditions of the Contract for Construction.
   .6 Division 1 of the Specifications.
   .7 Drawings and Divisions 2-49 of the Specifications.
   .8 Other documents specifically enumerated in the Agreement as part of the Contract Documents.

   In the case of conflicts or discrepancies between Drawings and Division 2-49 of the Specifications or within or among the Contract Documents and not clarified by Addendum, the Architect will determine which takes precedence in accordance with Sections 4.2.11, 4.2.12, and 4.2.13. In instances where conflict or discrepancy involves quality or quantities, the better quality or greater quantity of work will take precedence.

4. Reference Section 1.5; Delete Section 1.5.1 and substitute the following:

1.5.1 All Drawings, Specifications, and other Instruments of Service, and copies thereof, including those in electronic form, are and shall remain the Owner's property with the exception of one contract set for each party to the Contract.

5. Reference Section 1.5; Delete Section 1.5.2 and substitute the following:

1.5.2 The Drawings, Specifications and other Instruments of Service prepared by the Owner or Architect and Architect's consultants, and copies thereof furnished to, or made by, the Contractor, are for use solely with respect to this Project. They are not to be reproduced or used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of Work without the specific written consent of the Owner.

REFERENCE ARTICLE 2 - OWNER

6. Reference Section 2.1.1; Add Sections:

2.1.1.1 Unless otherwise indicated, the term Owner where referred to in the Contract Documents shall mean The Armory Board for the Iowa Army National Guard – Adjutant General Chairman.

2.1.1.2 The Owner's Representative shall be the State Contracting Officer for the Iowa Army National Guard – State Comptroller Office, executing the Contract on behalf of the State and any other officer or civilian employee properly designated Contracting Officer.

The Owner's Representative hereby authorizes the following persons to represent the Owner in the fulfillment of their respective duties as hereinafter described:

1. The Architect
2. The Owner's Construction Manager

2.1.1.3 Duties of the Owner's Representative

1. The Owner's Representative is authorized to act on behalf of the Owner and shall fulfill the duties, rights and obligations of the Owner under the Contract Documents.
2. The Owner's Representative will prepare and initiate Contract Change Orders in accordance with Section 7.2.
3. The Owner's Representative will have authority to reject Work that does not conform to the Contract Documents in accordance with Section 4.2.6 after review with the Architect.

2.1.1.4 Duties of the Architect

1. The Architect is as defined in Section 4.1.1 and shall provide administration of the Contract as described in the Contract Documents.

2.1.1.5 Duties of the Construction Manager

1. The Owner's Construction Manager shall act on behalf of the Owner in all daily actions and communication in accordance with Section 4.2.4.
2. The Owner's Construction Manager shall be responsible for communication and coordination of concerns of the Project to and from all persons within the Owner's organization.
3. The Owner's Construction Manager shall observe the progress of the Work and report any observed deviations from the Contract Documents to the Architect for a determination. The Owner's Construction Manager is not authorized to permit deviations from the Contract Documents.

4. The Owner's Construction Manager shall assist in coordinating the Contractor's operations with those of the Owner. The Owner's Construction Manager, however, shall not perform any duties for the Contractor.

5. The Owner's Construction Manager shall have the authority to, and may issue an order for a minor change in the Work in accordance with Section 7.4 after review with the Architect.

7. Reference Section 2.2; Delete Section 2.2.5 and substitute the following:

2.2.5 No copies of the Contract Documents will be furnished by the Owner to the Contractor with the exception of any complete sets of Bidding Documents returned to the issuing entity designated in the Advertisement for Bids. Additional reproductions may be made by the Contractor pursuant to Section 1.5.2.

8. Reference Section 2.2; Add Section:

2.2.6 The Owner will procure and bear costs of Special Inspections if required by applicable building codes for the project. See Section 13.5.1.1 of these Supplementary Conditions for additional requirements.

REFERENCE ARTICLE 3 - CONTRACTOR

9. Reference Section 3.1.1; Add Section:

3.1.1.1 Under Chapter 91C of the Iowa Code (1989), any construction contractor performing work in Iowa (including out-of-state contractors) is required to register with the Iowa Division of Labor. (See Article 11 of the Instructions to Bidders).

10. Reference Section 3.2.1; Add Section:

3.2.1.1 The Contract is executed as set forth in the Instructions to Bidders.

11. Reference Section 3.2; Add Sections:

3.2.5 Figured dimensions on the Drawings shall be used in preference to scaling the Drawings. If Contractor scales Drawings, dimensions so obtained shall be the sole responsibility of the Contractor.

3.2.6 Where the Work of the Contractor is affected by finish dimensions of manufacturer's equipment, the finish dimension shall be determined by the Contractor, who shall assume the responsibility for proper coordination.

3.2.7 If in the opinion of the Contractor it is not reasonably possible to provide first-class Work by following the procedures and requirements detailed or specified in the Contract Documents, the Contractor shall make a written request for interpretation to the Architect outlining the conditions and concerns. The Contractor shall not proceed with the portion of the Work in question until a response has been received from the Architect. The Architect shall respond with reasonable promptness.

12. Reference Section 3.3; Add Sections:

3.3.4 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties performed by the Owner or Architect in the Administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.3.5 The Contractor shall perform the Work so as to cause a minimum of inconvenience to and interruption of the Owner's operations. Any and all interruptions of the operations of the Owner necessary for the performance of the Work shall be noted in the progress schedule and the Contractor shall additionally give the Owner sufficient advance notice of such interruptions as to allow the Owner time to adjust its operations accordingly. Contractor's failure to give the Owner timely notice of such intentions shall place the responsibility for any resulting delays, additional costs, or other liabilities solely with the Contractor.

3.3.6 Prior to commencing the Work under the Contract, the Contractor shall contact all affected entities supplying utilities and arrange for the moving of such utility installations as is necessary for the performance of the Work. It shall be the responsibility of the Contractor to coordinate the Work with that of the affected entities in such a manner as to cause the least possible interference.

13. Reference Section 3.4.1; Add Section:

3.4.1.1 By virtue of statutory authority, give preference to Iowa domestic labor and materials in the execution of the Work, in accordance with provisions of Chapter 73, Code of Iowa, 1962, and amendments including Senate File 2160, dated April 11, 1984. Machinery, equipment, materials and articles installed or used without such approval are at risk of subsequent rejection.

14. Reference Section 3.4.2; Add Section:

3.4.2.1 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications).

15. Reference Section 3.5; Add Sections:

3.5.1 This warranty shall be for the period specified in the Contract Performance and Payment Bond unless a longer period is required elsewhere in the Contract Documents for certain portions of Work, in which case the longer period shall govern.

3.5.2 The general warranty provided herein is in addition to and not in limitation of the Contractor's obligations under Section 12.2 and any other warranty or remedy provided by law or by the Contract Documents.

3.5.3 The Contractor will furnish maintenance and 24-hour call-back service for the equipment provided and/or installed by the Contractor for a period of 3 months after the date of Substantial Completion. This maintenance and service will include repair and regular examinations of the equipment and installation by competent and trained employees of the Contractor, and all necessary adjustments, greasing, oiling, cleaning, supplies and parts required to keep the equipment in proper operations, except such parts made necessary due to misuse, accidents, or negligence not caused by the Contractor, Subcontractors, or Sub-subcontractors.

16. Reference Section 3.6; Delete Section and substitute the following:

3.6 TAXES

3.6.1 This project is TAX EXEMPT.

.1 The Iowa Department of Public Defense (DPD) is a registered Designated Exempt Entity (DEE) with the Iowa Department of Revenue (IAC chapter 701 - 19.12.) As a DEE, all contractors that are awarded a contract with the Department are issued a tax-exempt certificate for each project that allows the purchase of building materials or withdraw of inventory without incurring a state sales tax. This special exemption certificate would also allow a manufacturer of building materials to consume materials in the performance of a construction contract with a designated exempt entity, without owing tax on the fabricated cost of those materials.

.2 All Contractors responding to a DPD request for proposal should take this in to consideration when figuring out the cost of materials in the project proposal. Refunds for

state sales tax on building materials will not need to be considered in the proposal and are discouraged. For more information please refer to:

https://tax.iowa.gov/construction-contracts-designated-exempt-entities

.3 If the contract includes machinery or equipment, the contractor must purchase it for resale and give the supplier a regular exemption certificate (issued from DPD). The contractor should not charge sales tax on machinery and equipment sold to DPD.

17. Reference Section 3.7.2; Add Section:

    3.7.2.1 Compliance with the above shall not preclude the establishment of and compliance with non-conflicting higher standards as may be specified or indicated elsewhere in the Contract Documents.

18. Reference Section 3.7.4; Add Sections:

    3.7.4.1 The conditions described in the first sentence include any conditions which the Contractor will consider as the basis for a claim for extra compensation and include but are not limited to materials containing asbestos, polychlorinated biphenyl (PCB), or other hazardous materials.

    3.7.4.2 By failing to give notice within the time allotted above, the Contractor waives all rights for extra compensation of any kind arising out of the concealed or unknown conditions.

19. Reference Section 3.7.5; Modify Section by adding the underlined words, so that the section now reads as follows:

    3.7.5 If, in the course of the Work, the Contractor knowingly encounters and recognizes human remains, burial markers, archeological sites or previously undelineated wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence or good faith belief of such existence of such remains or features may be made as provided in Article 15.

20. Reference Section 3.7; Add Sections:

    3.7.6 See Section 10.7 of these Supplementary Conditions for Stormwater Pollution Prevention Plan and Permit requirements.

    3.7.7 The Contractor must recognize mandatory standards and policies relating to energy efficiency contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act (PL 94-163).

21. Reference Section 3.9.1; Modify the first sentence by adding the underlined words, so that the first sentence now reads as follows:

    3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work (including work performed by subcontractors).

22. Reference Section 3.9; Add Section:

    3.9.4 The superintendent shall organize and coordinate scheduling of the Work and shall review and coordinate Work between the trades/Subcontractors.

23. Reference Section 3.10.2; Delete the last sentence.

24. Reference Section 3.13; Add Sections:

3.13.1 The Contractor shall provide any additional facilities or areas beyond those areas permitted at the site as required for construction operations or storage of materials at no additional cost to the Owner.

3.13.2 The Contractor shall take all necessary precautions to prevent damage to pipes, conduits, and other underground structures. The Contractor shall protect from disturbance or damage all monuments and property marks until an authorized agent of the Owner has witnessed or otherwise referenced their location and the Contractor shall not remove such marks or monuments until directed.

25. Reference Section 3.15; Delete Sections 3.15.1 and 3.15.2 and substitute the following:

3.15.1 The Contractor shall at all times keep the site of the Work and adjacent premises as free from materials, debris, rubbish and trash as practical and shall remove same from any portion of the site and adjacent premises if, in the opinion of the Owner, such materials, debris, rubbish or trash constitute a nuisance or are in any way objectionable to the public The Contractor shall be responsible for the timely removal of dirt accumulations or any other debris on access roads and public streets and highways resulting from the Contractor's operations.

3.15.2 At the completion of the Work, the Contractor shall remove all materials, implements, staging, piling falsework, debris and rubbish connected with or caused by operations for such Work immediately upon completion of that Work and shall leave the premises in perfect condition insofar as affected by the Work under the Contract. Fires for disposal of rubbish on the site are prohibited.

3.15.3 If the Contractor should fail to clean up the premises as provided in the Contract Documents, the Owner, after giving the Contractor forty-eight hours notice, may do so and Owner shall be entitled to reimbursement from the Contractor.

26. Reference Section 3.16; Add Section:

3.16.2 The Contractor shall furnish the Owner and Architect all necessary assistance to facilitate inspections throughout the process of manufacture or construction, or for the examination of any materials entering into the Work, or for any other purpose required in the discharge of the Owner or Architect's duties.

27. Reference Section 3.18; Add Sections:

3.18.3 The obligations of the Contractor under Section 3.18 shall not extend to the liability of the Owner and its consultants, its agents or employees arising out of: (1) the preparation or approval of maps, Drawings, opinions, reports, surveys, Contract Change Orders, designs or specifications, or (2) the giving of or failure to give directions or instructions by the Owner, its agents or employees providing such giving or failure to give directions or instructions is the primary cause of the injury or damage.

3.18.4 The Contract Documents define claims, damage, losses, and expenses as, but do not limit them to: (1) injury or damage consequent upon the failure of or use or misuse by the Contractor, its Subcontractors, agents, servants, or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment furnished or loaned by the Owner; (2) all attorneys' fees and costs incurred in defense of the claim or in bringing an action to enforce the provision of this indemnity or any other indemnity contained in the Contract Documents; and (3) all costs, expenses, lost time, opportunity costs, etc., incurred by the party being indemnified or its employees, agents, or consultants.

3.18.5 The indemnification obligations of the Contractor under this Contract does not extend to the liability of the Owner, any Owner's consultants, or their agents, consultants, or employees arising out of their own negligence.

3.18.6 If trade unions perform the Work or any portion of the Work, the Contractor shall make all necessary arrangements to reconcile without delay, damage or cost to the Owner and its consultants, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities are not included in the work of any particular trade. If this affects the progress of the Work in finishing or installing any items or materials or equipment required under the Contract Documents because of the conflict involving any such agreement or regulation, the Owner or its consultants may require that the Contractor provide other material or equipment of equal kind and quality at no additional cost to the Owner.

REFERENCE ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

28. Reference Section 4.2.2; Add Section:

4.2.2.1 The presence or absence of an Owner's Representative or the Architect on the site for the purpose of inspection shall not relieve the Contractor from any obligations to perform the Work in accordance with the requirements of the Contract Documents.

29. Reference Section 4.2.6:

The Owner will also have the authority to reject Work as provided in Section 2.1.1.3 of these Supplementary Conditions.

REFERENCE ARTICLE 5 - SUBCONTRACTORS

30. Reference Section 5.3; Add Sections:

5.3.1 Such agreements between the Contractor and each Subcontractor (and where appropriate between Subcontractors and Sub-subcontractors) shall also contain provisions that:

.1 require submission to the Contractor of applications for payment under each subcontract to which the Contractor is a party, in reasonable time to enable the Contractor to apply for payment in accordance with Article 9;

.2 require that all Claims for additional costs, extensions of time, damages for delays or other claims with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like Claims by the Contractor against the Owner;

.3 waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by property insurance described in Article 11, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee;

.4 inform Subcontractors of their rights under Chapter 573, Code of Iowa; and

.5 obligate each Subcontractor to consent specifically to the provisions of Section 5.2.

5.3.2 In accordance with Section 573.12 of the Code of Iowa, the Contractor will make prompt payments to Subcontractors for satisfactory performance of the Work.

REFERENCE ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

31. Reference Section 6.1.3; Add Section:

6.1.3.1 The Contractor shall be responsible for furnishing accurate information for and participating in the development of a realistic Project schedule.

32. Reference Section 6.2.4; Add Section:

6.2.4.1 Should the Contractor cause damage to the Work or property of any separate contractor or be the cause of delay or failure to perform, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings, and if any judgment or award against the Owner arises therefrom the contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys' fees and court or arbitration costs which the Owner has incurred.

33. Reference Section 6.2; Add Sections:

6.2.6 Claims and other disputes and matters in question between the Contractor and separate contractors are subject to the provisions of Section 15.3 and 15.4 provided the separate contractor has reciprocal obligations.

6.2.7 The Contractor shall execute all Work in such manner and in such order, or procedure, as will permit the commencement and carrying on of the Work of the Owner and of separate contractors with the least interference possible using a reasonable procedure whenever it is necessary or desirable to execute such work either simultaneously with the Work under Contract, or otherwise. To this end the Contractor shall cooperate and assist the Owner and separate contractors in every reasonable way, and shall interfere as little as possible with their Work. The Contractor shall move, free of charge, the Contractor's plant equipment and materials or any part of same whenever the Owner considers it reasonable and necessary for the work of the Owner or separate contractors.

REFERENCE ARTICLE 7 - CHANGES IN THE WORK

34. Reference Section 7.1.2; Add Section:

7.1.2.1 The Owner's Construction Manager shall also have authority to act alone in issuing an order for a minor change in the Work as provided in Section 2.1.1.5 of these Supplementary Conditions.

35. Reference Section 7.1; Add Sections:

7.1.4 The pricing of changes in the Work which result in an adjustment to the Contract Sum (excepting Alternate Bids, see Section 7.1.5) shall be limited to the Contractor's direct expenses as defined in Sections 7.3.7.1 through 7.3.7.5, plus the applicable percentage of overhead and profit subject to the following limits:

.1 Fifteen percent (15%) maximum mark-up for Work directly performed by employees of the Contractor, Subcontractor, or Sub-subcontractor.

.2 Five percent (5%) maximum Contractor's mark-up for Work performed or passed through by a Subcontractor and passed through to the Owner by the Contractor.

.3 Five percent (5%) maximum Subcontractor's mark-up for Work performed by a Sub-subcontractor and passed through to the Owner by the Subcontractor and Contractor.

.4 The maximum allowable mark-up is twenty-five percent (25%) passed through to the Owner by the Contractor under any circumstances.

7.1.5 The pricing of changes in the Work that add work already bid as an Alternate which have expired, shall adhere to the following guidelines:

.1 Direct material and labor costs associated with the alternate shall be enumerated in the Request for Change and highlight the original cost, the current cost, the difference, and the reason for the difference.

.2 The Contractor may add up to 15% mark-up for the difference between the original direct material and labor costs and the current material and labor costs only.

.3 The contractor may add to the total a 2% mark-up for increased bonds and insurance costs.

7.1.6 Prices shall include all subcontracts and shall be itemized as follows:

.1 Labor costs shall indicate trade, hourly rate, man hours, and total costs.

.2 Materials, supplies and equipment costs shall indicate unit cost, quantity, and total cost for each item.

.3 Machinery and equipment costs shall indicate machinery or equipment type, number of each, hourly rate, and total cost for each item.

7.1.7 The Contractor shall be allowed no additional compensation for any costs, fees or expenses incurred in performing services already required by the Contract for Construction, and shall not be entitled to additional reimbursement for its home office, other non-job site or indirect overhead expenses, or tools necessary for construction.

7.1.8 Any request for time extension as a result of the Change in Work must be justified and presented in adequate detail showing that the proposed change will delay the final Contract completion date.

7.1.9 Contractor shall not apply sales, consumer, use and similar tax charges incurred for material purchases in charges toward the overhead and profit percentage.

7.1.10 The following definitions shall be used in establishing process for Changes in Work:

.1 Direct expense is the Contractor's actual cost of any item that is easily defined as a required item for the completion of his Contract obligation.

.2 Overhead is a business expense created by the Project but not necessarily a direct part of that portion of the Work involved.

.3 Profit is the compensation accruing to the Contractor for the assumption of risk in a business enterprise.

36. Reference Section 7.2.1; Delete Section and substitute the following:

7.2.1 A Change Order is a written instrument prepared by the Owner and signed by the Owner and Contractor stating their agreement upon all of the following:

37. Reference Section 7.4; Add Section:

7.4.1 The Owner's Construction Manager shall also have authority to issue an order for a minor change in the Work as provided in Section 2.1.1.5 of these Supplementary Conditions.

REFERENCE ARTICLE 8 - TIME

38. Reference Section 8.2; Add Section:

8.2.4 In the event the Contractor fails to maintain the schedule, including accepted revisions, the Contractor shall promptly, at no additional cost to the Owner, increase work forces, increase hours, and/or initiate revisions to means and methods of construction as required to make up lost time and complete the Work in accordance with the construction schedule.

REFERENCE ARTICLE 9 - PAYMENTS AND COMPLETION

39. Reference Section 9.3.1; Add the following sentence to Section 9.3.1:

    The Form of Application for Payment shall be a current authorized edition of AIA Document G702 – 1992, Application and Certificate for Payment, supported by a current authorized edition of AIA Document G703 – 1992, Continuation Sheet. One copy of each Application for Payment shall be submitted electronically in .pdf format via email to the Architect or, if applicable, uploaded to the project website for each progress payment.

40. Reference Section 9.3.1; Add Sections:

    9.3.1.3 Applications for Payment shall be submitted once a month.

    9.3.1.4 The Owner will withhold until final payment, retainage in an amount consistent with the provisions of Section 573.12, 573.13, and 573.14 of the Code of Iowa.

41. Reference Section 9.5.1; Add Section:

    9.5.1.8 third party claims filed pursuant to Chapter 573 of the Iowa Code.

42. Reference Section 9.5.3; Delete section in its entirety.

43. Reference Section 9.6.4; Delete the first two sentences.

44. Reference Section 9.8.5; Delete the second sentence and substitute the following:

    Upon such acceptance and consent of surety, if any, the Owner shall make payment sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work and unsettled claims.

45. Reference Section 9.10.1; Add Section:

    9.10.1.1 Issuance of a letter of Final Acceptance by the Owner shall establish the commencement of the thirty-day period during which the Owner retains final payment of the balance due under the Contract under Iowa law and per provisions of this Agreement. If at the end of such thirty-day period, claims are on file with the Owner, the Owner will withhold a sum equal to double the total amount of claims on file or five percent (5%) of the Contract price, whichever is less, until such claims are released or otherwise adjudicated. The Owner will issue a letter of Final Acceptance to the Contractor upon receipt of the Final Certificate for Payment from the Architect.

46. Reference Section 9.10.2; Add Sections:

    9.10.2.1 The Owner will not make final payment until the Contractor has performed final cleanup in accordance with Section 3.15

    9.10.2.2 See Division 1 – General Requirements for items to be submitted with the final Application for Payment. The Architect will not issue a final Certificate of Payment until all items indicated are submitted:

REFERENCE ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

47. Reference Section 10.1; Add Sections:

    10.1.1 Accident Prevention: The safety provisions of all applicable laws, building and construction codes shall be observed. Machinery, equipment and all hazards shall be guarded or eliminated in accordance with the safety provisions of the latest edition of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.

10.1.2 The Work shall be governed by applicable provisions of the general law, including the latest amendments of the following:

1. William-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596.
2. Part 1910 – Occupational Safety & Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.
3. Part 1518 –Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

10.1.3 The Contractor is responsible for conducting a safety program and/or precautions on the project site that assures work on the site is conducted in accordance with all guidelines and requirements of OSHA and other applicable laws, building and construction codes, and sound construction practice. The Contractor shall prepare, implement and enforce a project safety plan for the purpose of maintaining a site where work is conducted in a safe manner. A copy of the safety plan shall be maintained on the site at all times.

48. Reference Section 10.2; Add Sections:

10.2.9 The Contractor must comply with provisions of Section 88.6(1) of the Code of Iowa pertaining to Occupational Safety and Health Administration (OSHA) entrance and inspections which states that the State Labor Commissioner or State Labor Commissioner's representative upon presenting appropriate credentials to the Owner, operator, or agent in charge, is authorized:

.1 To enter without delay and at reasonable times a factory, plant, establishment, construction site, or other area, work place, or environment where work is performed by an employee of an employer; and

.2 To inspect and investigate during regular working hours and other reasonable times, and within reasonable limits, and within a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein, and to question privately any such owner, operator, agent, or employer.

49. Reference Section 10.3.1; Add Section:

10.3.1.1 The Contractor is not required pursuant to Article 7 to perform without consent any work relating to asbestos or polychlorinated biphenyl (PCB).

50. Reference Section 10.3; Add Sections:

10.3.7 Lamps, bulbs and ballasts indicated to be removed by the Contractor, and not indicated to be reused on the project, can be salvaged by the Owner or the Contractor. If not salvaged, the Contractor shall pay any required fees and ensure proper disposal as universal waste (ballasts labeled as "PCB Free" can be disposed as solid waste).

10.3.8 All self-luminous or photo-luminescent (radioactive tritium) exit signs shown to be removed by the Contractor shall be removed without damage and turned over to the Owner for disposal.

10.3.9 The Contractor shall not use asbestos-containing products or materials. Requests for exceptions shall be forwarded by the Contractor to the Owner for approval by the Environmental Branch of the Directorate of Installation Management.

10.3.10 The Contractor shall not knowingly remove, damage or disturb asbestos-containing materials unless required by the project's plans and specifications. Any asbestos abatement identified in the Contract Documents as the responsibility of the Contractor must be performed by properly trained and certified personnel in accordance with all environmental and worker safety regulations.

51. Reference Section 10.3.1; Add Section:

10.3.1.1 The Contractor is not required pursuant to Article 7 to perform without consent any work relating to asbestos or polychlorinated biphenyl (PCB).

52. Reference Article 10; Add Sections:

10.5 IOWA HAZARDOUS CHEMICAL RISKS RIGHT TO KNOW LAW:

10.5.1 Owner's Responsibility. Upon request, the Owner will provide to the Contractor a list of known hazardous chemicals within the Project Site to which their employees may be exposed and suggestions for appropriate protective measures.

10.5.2 Contractor's Responsibility. Contractor must inform his/her employees of the Iowa Hazardous Chemical Risks Right to Know Law.

10.5.3 The Contractor must provide to the Owner a list of known hazardous chemicals that they anticipate using on site as well as other pertinent information relating to employee protection. Contractor's Material Safety Data Sheets (MSDS) must be available to the Owner upon request.

10.7 POLLUTION PREVENTION PROCEDURES

10.7.1 The following pollution prevention procedures shall apply to all Contractors working on Iowa Army National Guard projects:

.1 Spill Prevention and Response: The Contractor shall take adequate precautions to prevent spills of hazardous chemicals, oils, and fuels. The Contractor shall have procedures in place to immediately clean up all spills that could occur on the job site or during transportation to and from the job site. Expenses incurred in the spill cleanup shall belong to the Contractor. Specifically:

.a When liquid hazardous chemicals, oils, or fuels are stored on the job site, the contractor shall provide secondary containment, for containers with 55 gallon capacity or greater, equal to or greater than 110% of the volume of the single largest container.

.b The Contractor shall notify the Iowa Army National Guard Environmental Branch in the event of a spill of chemicals, oils or fuels. The Contractor must have sufficient resources on the work site to clean up a spill. All workers at the site shall know whom the Contractor point of contact is and what they are to do in the event of a spill.

.c The point of contact for the Environmental Branch is:

Shannan Garretson, Environmental Program Manager
Building 3535 (B-61), Camp Dodge
7105 NW 70th Avenue
Johnston, Iowa 50131-1824
Phone: (515) 252-4557
Non-duty Hours Cell Phone (515) 249-5847

.d The Contractor must notify the Iowa Department of Natural Resources and the local sheriff's office of a hazardous substance spill that meets the definition of a "hazardous condition" as defined in the Iowa Administrative Code. Iowa law requires reporting as soon as possible but not later than six hours. Spills meeting the criteria of a "reportable spill" will also require notification of the National Response Center.

10.7.4 Storm Water Pollution Prevention Plans and Permits:

.1 A Storm Water Pollution Prevention Plan and a discharge permit will be required for construction activities resulting in one acre or more soil disturbance.

.2 The Iowa Army National Guard's Director of Installation Management Environmental Branch shall obtain the permit.

.3 The General Contractor, and each subcontractor that has a responsibility described in the plan, will be a co-permittee with the Owner. The General Contractor shall be responsible for compliance with and fulfilling all requirements of the NPDES General Permit Number 2, including the Storm Water Pollution Prevention Plan.

.4 The initial Storm Water Pollution Prevention Plan and Notice of Intent will be provided by the Owner. These and the General Contractor's project inspection diary must be kept on-site and presented to federal, state and local environmental regulatory personnel, and the Owner, when requested.

.5 The General Contractor will provide an individual experienced with storm water pollution prevention plans and techniques to conduct weekly and rainfall inspections of the construction site and review the project's Storm Water Pollution Prevention Plan at the time of each inspection. The General Contractor is responsible for maintaining a copy of each inspection report. The General Contractor will review the weekly and rainfall storm water inspection reports and address any deficiencies within seven days. Deficiencies may also be identified by the Owner at any time. Corrective actions may include installation of additional erosion controls and/or maintenance of existing controls.

.6 If the Contractor should fail to conduct inspections, create reports, maintain the project inspection diary, and address deficiencies, the Owner, after giving the Contractor forty-eight hours notice, may do so and the Owner shall be entitled to reimbursement from the Contractor.

The General Contractor shall be responsible for continuing compliance with all SWPPP requirements until final stabilization is achieved regardless of whether Substantial Completion has been granted or the Owner has occupied any portion of the site or facility. Such practices shall include, but not be limited to, inspections and reports and maintenance of erosion control measures as described above.

.7 The Owner will file a Notice of Discontinuation upon final stabilization of the disturbed area. The General Contractor will provide the original project inspection diary and the marked-up copy of the Storm Water Pollution Prevention Plan to the Owner at the completion of the project.

10.7.5 Removal of Regulated Wastes:

.1 At the completion of the construction project, the Contractor will be required to remove all waste and unused hazardous chemicals including, but not limited to: solvents, adhesives, paints, and fuels. Said materials shall be properly identified, containerized and, if no longer usable, disposed at the Contractor's expense.

REFERENCE ARTICLE 11- INSURANCE AND BONDS

53. Reference Section 11.1; Add Sections:

11.1.5 Insurance: No prime Contractor shall commence work under this contract until he/she has obtained all insurance required under this Section and until such insurance has been approved by the Owner, nor his/her sub-contractor until all similar insurance required of the subcontractor has been obtained and approved. No policy of insurance which is cancelable on less than 30 days written notice to the insured is satisfactory to the Owner's Representative.

11.1.6 Compensation and Employer's Liability Insurance: The Contractor shall take out and maintain during the life of this Contract the Statutory Workmen's Compensation and Employer's Liability Insurance for all of his/her employees to be engaged in work on the project under this Contract, and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.

11.1.7 Bodily Injury Liability and Property Damage Liability Insurance: Each prime Contractor shall take out and maintain during the life of the Contract such Bodily Injury Liability and Property

Damage Liability Insurance as shall protect him/her and any subcontractor performing work covered by the Contract from claims for damage for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this Contract, whether such operations be by him/herself or by any subcontractor or by anyone directly or indirectly employed by either of them and the amount of such insurance shall be no less than:

.1 Public Liability Insurance, in an amount no less than Five Hundred Thousand Dollars ($500,000.00), for injuries including wrongful death to any one person, and subject to the same limit for each person in any amount not less than One Million Dollars ($1,000,000.00) on account of one accident.

.2 Property Damage Insurance, in a minimum amount of One Million Dollars ($1,000,000.00) for damages on account of all accidents other than automobile property damage accidents.

.3 Motor Vehicle Bodily Injury Liability in a minimum amount of Five Hundred Thousand Dollars ($500,000.00), per occupant and One Million Dollars ($1,000,000.00) per accident on account of any one automobile accident."

11.1.8 Insurance Certificates: Each prime Contractor shall furnish certificates of insurance listed above to the Owner and they shall also be subject to the Owner's approval for adequacy of protection."

11.1.9 Owner's Protective Liability Insurance: Each prime Contractor shall take out and furnish to the Owner and maintain during the life of this Contract, complete Owner's Protective Liability Insurance in amounts as specified in Section 11.1.7 above, for Bodily Injury Liability Insurance and for Property Damage Liability Insurance."

11.1.10 All insurance coverage must be provided by insurance companies having policy holder ratings no lower than "A" and financial ratings not lower than "XII" in the Best's Insurance Guide, latest edition in effect as of the date of the Contract.

11.1.11 The required limits of liability may be met by using a split-limit or a combined single limit basis. However, the total limit of liability cannot be less than that stated in the requirements.

54. Reference Section 11.3; The Contractor is directed to purchase and maintain Builder's Risk insurance. Modify Section 11.3 and subsections as follows:

    a. Modify the first sentence of Section 11.3.1 as follows: Delete "Unless otherwise provided, the Owner" and substitute "The Contractor". Add the following sentence:

       If the Owner is damaged by the failure of the Contractor to purchase and maintain such insurance without so notifying the Owner in writing, then the Contractor shall bear all reasonable costs attributable thereto.

    b. Delete Section 11.3.1.2.

    c. Modify Section 11.3.1.3 by substituting "Contractor" for "Owner".

    d. Modify Section 11.3.2 by substituting "Contractor" for "Owner" at the first reference to "Owner.

    e. Delete Section 11.3.4.

    f. Modify Section 11.3.6 by making the following substitutions: (1) in the first sentence, substitute "Contractor" for "Owner" and "Owner" for "Contractor", and (2) substitute "Owner" for "Contractor" at the end of the last sentence.

    g. Modify Section 11.3.7 by substituting "Contractor" for "Owner" at the end of the first sentence.

h. Modify Section 11.3.8 by substituting “Contractor” for “Owner”; each time the latter word appears except that at the first reference to “Owner” in the first sentence, the word “this” should be substituted for “the Owner’s”.

i. Modify Section 11.3.9 by substituting “Contractor” for “Owner” each time the latter word appears except at the third occurrence in the third sentence and in the last sentence.

j. Modify Section 11.3.10 by substituting “Contractor” for “Owner” each time the latter word appears except at the third occurrence in the first sentence and in the first occurrence in the last sentence.

55. Reference Section 11.4; Delete Section 11.4.1 and substitute the following:

11.4.1 The Contractor shall furnish bonds on the date of execution of the Contract covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Bidding Requirements or specifically required in the Contract Documents. The bond shall be on the form prescribed in the Bidding Requirements and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to one hundred percent (100%) of the Contract Sum.

.1 The Contractor shall deliver the required bonds to the Owner simultaneously with the delivery of the executed Contract.

.2 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

56. Reference Section 11.4; Add Section:

11.4.3 If any surety upon any bond furnished in connection with this Contract becomes unacceptable to the State, or if any such surety fails to furnish reports as to their financial condition from time to time as additional security as may be required from time to time to protect the interests of the State or of persons supplying labor or materials in the prosecution of the Work contemplated by the Contract, the State may terminate the Contract.

REFERENCE ARTICLE 12- UNCOVERING AND CORRECTION OF WORK

57. Reference Section 12.1.2; Add Section:

12.1.2.1 If the condition noted in Section 12.1.2 above was caused by a separate contractor, the Contractor shall first attempt to reach settlement with the separate contractor as provided in Article 6.

58. Reference Section 12.2.2; Add the following sentence to Section 12.2.2.1:

The obligations of the Contractor under this Section shall survive termination of the Contract.

59. Reference Section 12.2.2; Add Sections:

12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Substantial Completion, the Architect will conduct and the Contractor shall attend a meeting with the Owner to review the facility operations and performance.

12.2.2.5 If it becomes necessary for the Contractor to replace an item after Substantial Completion under the terms of the Contract Documents, the warranty period of time for the replacement shall begin with the date of the completion of the replacement.

12.2.2.6 If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice, the Owner may remove it and store the salvageable materials or equipment at the Contractor’s expense. If the Contractor does not pay costs of such removal and storage within ten (10) days after written notice, the Owner may, upon ten (10) additional days written notice, sell such materials and equipment and account for the proceeds

thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation of the Owner's services and expenses made necessary by this action. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum will be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor must pay the difference to the Owner.

REFERENCE ARTICLE 13 - MISCELLANEOUS PROVISIONS

60. Reference Section 13.1; Delete the words following "…where the Project is located".

61. Reference Section 13.5.1; Add Section:

13.5.1.1 Special Inspections, if required for this Project by the Contract Documents, will be procured and paid for by the Owner. The duties and responsibilities of the Contractor in regard to Special Inspections shall be as defined in the General Requirements of the Contract Documents. Special Inspections, if required, are separate and distinct from other Tests and Inspections required by the Contract Documents which shall be procured and paid for by the Contractor under the provisions of Section 13.5.

62. Reference Section 13.6; Delete Section 13.6 and substitute the following:

13.6 INTEREST: Payments due and unpaid under the Contract Documents shall bear interest in accordance with Section 573.12 and 573.14 of the Code of Iowa.

63. Reference Section 13.7; Delete Section in its entirety and substitute the following:

13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.7.1 As between the Owner and Contractor:

.1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;

.2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and

.3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

64. Reference Article 13; Add Sections:

13.8 ENERGY REBATE FORM(S)

13.8.1 The Contractor shall obtain Energy Rebate Forms from all applicable utility providers for the Work. The Contractor shall partially complete and sign the rebate forms; providing the information identified below. The Contractor shall submit the rebate forms with the Application for Final Payment as directed in Article 9.

<u>Lighting</u>:

1. List brand name & model number of fixture(s).

2. List number of fixtures installed.
3. Provide a copy of invoice(s) from supplier to Contractor.
4. Provide Contractor signature.
5. Note: Owner will provide remaining information such as account number, age and size of facility, hours of operation, etc.

HVAC:

1. List manufacturer, size, efficiency, model number, serial number, and installed cost of unit(s). Include manufacturer, model, and installed cost of programmable thermostats.
2. Provide a copy of invoice(s) from the Supplier to Contractor.
3. Provide Contractor signature.
4. Note: Owner will provide remaining information such as account number, age and size of facility, hours of operation, etc.

Motors:

1. List variable speed drive information including manufacturer, model number, serial number, rating, efficiency, equipment cost, and installation cost.
2. List NEMA Premium motor information including manufacturer, model number, serial number, HP rating, efficiency, motor speed, and motor and installation cost.
3. Provide a copy of invoice(s) from the Supplier to Contractor.
4. Provide Contractor signature.
5. Note: Owner will provide remaining information such as account number, age and size of facility, hours of operation, etc.

13.9 MANUFACTURER'S DIRECTIONS

13.9.1 Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer unless herein specified to the contrary.

13.9.2 Any additional costs incurred as a result of this requirement shall be borne by the Contractor.

13.10 CODE OF FAIR PRACTICES

13.10.1 During the performance of this Contract, the Contractor agrees as follows:

.1 The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, religion, national origin, sex, age, or physical or mental disability, or status as a Vietnam-era disabled veteran. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, religion, national origin, sex, age, physical or mental disability, or status as a Vietnam-era disabled veteran except where it relates to a bona fide occupational qualification. Such action includes but is not limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or terminations, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices provided by the Owner setting forth provisions of the nondiscrimination clause.

.2 The Contractor will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, religion, national origin, sex, age, physical or mental disability, or status as a Vietnam-era disabled veteran except where it relates to a bona fide occupational qualification.

.3 The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of the Contractor's commitments under this

nondiscrimination clause and post copies of the notice in conspicuous places available to employees and applicants for employment.

.4 The Contractor will comply with all relevant provisions of the Iowa Civil Rights Act of 1965, as amended by Iowa Executive order #15 of 1973, as amended by Iowa Executive Order #34 of 1988; Federal Executive Order 11246 of 1965, as amended by Federal Executive Order 11375 of 1967; the Equal Employment Opportunity Act of 1972; and all provisions relevant to fair application of the rules and regulations of the Owner. The Contractor will furnish all information and reports requested by the Owner or required by or pursuant to the rules and regulations thereof and will also permit access to its payroll and employment records by the Owner or representatives for purposes of investigation to ascertain compliance with such rules, regulations, or requests, or with this nondiscrimination clause.

.5 In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the aforesaid rules, regulations, or requests, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further contracts with the Owner. In addition, the Owner may take such further action, and such other sanctions may be imposed and remedies invoked, as provided by the Iowa Civil Rights Act of 1965 as amended, Chapter 601A, Code of Iowa, as heretofore and hereafter amended, or by the rules and regulations of the Owner or as otherwise provided by law.

.6 The Contractor will include the provisions of this section of Article 13 hereof in every subcontract and purchase order unless specifically exempt by approval of the Owner, in accordance with the rules and regulations, so that such provisions will be binding on each Subcontractor and vendor. The Contractor will take such action with respect to any Subcontractor or purchase order as the Owner or the authorized representative thereof may direct as a means of enforcing such provisions including sanctions for noncompliance; provided however, that in the event the Contractor becomes involved in, or is threatened with, litigation by a Subcontractor or vendor as a result of such direction by the Owner, the Contractor may request the State of Iowa to enter into such litigation to protect the interests of the State of Iowa.

REFERENCE ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

65. Reference Section 14.3; Add Section:

14.3.3 Adjustments made for increases in the cost may have a mutually agreed fixed or percentage fee.

66. Reference Section 14.4; Delete Section 14.4.3 and substitute the following:

14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive from the Owner, payment for Work executed and for proven loss with respect to material, equipment, tools, and construction equipment and machinery, including reasonable overhead and profit. The Contractor shall transfer title to Owner and deliver in the time, place and manner as directed by the Owner, all fabricated and unfabricated parts, Work-in-process, completed Work, supplies and other materials produced as part of, or acquired in connection with the discontinued Work, and other property which would have been required to be furnished to Owner if the Contract had been completed.

67. Reference Article 14; Add Section:

14.5 MISCELLANEOUS TERMINATION

14.5.1 Funding: If the Bidding Requirements indicate Federal funding for this project is received from the Federal Government prior to award of the Contract and such Federal funding is not received within the sixty (60) day bid guarantee after the date of receiving bids, all rights and obligations to enter into a Contract are considered null and void.

14.5.2 Provisions of law as contained in Chapter 573A of the Code of Iowa, current edition (which pertains to termination of contracts for construction of public improvements when Work thereon is stopped because of a national emergency), applies to and is a part of this Contract and binding upon all parties hereto, including Subcontractors and sureties.

REFERENCE ARTICLE 15 – CLAIMS AND DISPUTES

68. Reference Section 15.1.5.1; Add Section:

15.1.5.1.a The Contractor shall not be entitled to an increase in the Contract Sum as a result of any delays in the progress of the Work. The Contractor's sole remedy for delay is an extension of time, extended by Change Order for such reasonable time as proposed by the Contractor and approved by the Owner.

END OF DOCUMENT 00 73 00

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SECTION 01-10-00 - SUMMARY

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 PROJECT

A. Project Name: BUILDING A-1 RENOVATE LATRINES.
B. Owner's Name: IOWA ARMY NATIONAL GUARD.
C. Architect's Name: The Schemmer Associates.
D. The Project consists of the alteration of restrooms within the A-1 Joint Forces Headquarters at Camp Dodge in Johnston, Iowa.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00-52-00 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 02-41-00.
B. Scope of alterations work is indicated on drawings.
C. Renovate the following rooms and spaces, complete including operational mechanical and electrical work and finishes:
    1. All restrooms shown on the Drawings.
D. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.
E. Fire Suppression Sprinklers: Alter existing system and add new construction, keeping existing in operation.
F. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.
G. Owner will remove the following items before start of work:
    1. Lockers.

1.04 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Date of Substantial Completion.

1.05 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.
B. Owner intends to occupy the Project upon Substantial Completion.
C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
D. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
    1. Locate and conduct construction activities in ways that will limit disturbance to site.
B. Arrange use of site and premises to allow:
    1. Owner occupancy.
    2. Use of site and premises by the public.
C. Provide access to and from site as required by law and by Owner:

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

D. Time Restrictions: Limit to regular business hours. Further discussion about the use of facilities will be held at the pre-construction conference.

E. Utility Outages and Shutdown:
1. Limit disruption of utility services to hours the building is unoccupied.
2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
3. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01-25-00 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products and materials constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms included in the Project Manual are adequate for this purpose, and must be used.

D. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):

1. Submit substitution requests by completing the form attached to this section. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form attached to this section. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01-78-00 - CLOSEOUT SUBMITTALS, for closeout submittals.

ATTACHMENTS:

SUBSTITUTION REQUEST FORM

END OF SECTION

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SECTION 01-30-00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. General administrative requirements.
B. Electronic document submittal service.
C. Preconstruction meeting.
D. Progress meetings.
E. Construction progress schedule.
F. Submittals for review, information, and project closeout.
G. Number of copies of submittals.
H. Requests for Information (RFI) procedures.
I. Submittal procedures.

1.02 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01-70-00 - EXECUTION AND CLOSEOUT REQUIREMENTS for coordination of execution of administrative tasks with timing of construction activities.
B. Make the following types of submittals to Architect:
    1. Requests for Information (RFI).
    2. Requests for substitution.
    3. Shop drawings, product data, and samples.
    4. Test and inspection reports.
    5. Design data.
    6. Manufacturer's instructions and field reports.
    7. Applications for payment and change order requests.
    8. Progress schedules.
    9. Coordination drawings.
    10. Correction Punch List and Final Correction Punch List for Substantial Completion.
    11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE: SEE SECTION 01 33 05

3.02 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after Notice of Award.
B. Attendance Required:
    1. Owner.
    2. Architect.
    3. Contractor.
    4. HVAC Subcontractor
    5. Plumbing Subcontractor
    6. Electrical Subcontractor
    7. Other Subcontractors as determined by General Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.

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

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum monthly intervals.

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

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.

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

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

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

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

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.
E. Submit updated schedule with each Application for Payment.

3.05 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.
B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
   2. Prepare using an electronic version of the form appended to this section.
   3. Prepare using software provided by the Electronic Document Submittal Service.
   4. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date, and requested reply date.
   5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular

working day.

1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.06 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:

1. Product data.
2. Shop drawings.
3. Samples for selection.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

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

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

3.07 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.08 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01-78-00 - CLOSEOUT SUBMITTALS:

1. Project record documents.
2. Operation and maintenance data.
3. Warranties.

4. Bonds.
5. Other types as indicated.

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

3.09 NUMBER OF COPIES OF SUBMITTALS

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

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

3.10 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
   6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
      a. Upload submittals in electronic form to Electronic Document Submittal Service website.
   7. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 10 days excluding delivery time to and from the Contractor.
      b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
      c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 days.
   8. Provide space for Contractor and Architect review stamps.
   9. When revised for resubmission, identify all changes made since previous submission.
   10. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
   11. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
   12. Submittals not requested will not be recognized or processed.

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Do not submit (Material) Safety Data Sheets for materials or products.

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

D. Samples Procedures:
   1. Transmit related items together as single package.
   2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.11 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
   2. Not Authorizing fabrication, delivery, and installation:
      a. "Revise and Resubmit".
         1) Resubmit revised item, with review notations acknowledged and incorporated.
         2) Non-responsive resubmittals may be rejected.
      b. "Rejected".
         1) Submit item complying with requirements of Contract Documents.

E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01-32-16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Preliminary schedule.
B. Construction progress schedule, bar chart type.

1.02 SUBMITTALS

A. Within 10 days after date of Agreement, submit preliminary schedule.
B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
D. Within 10 days after joint review, submit complete schedule.
E. Submit updated schedule with each Application for Payment.
F. Submit in PDF format.

1.03 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.04 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 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. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
D. Indicate delivery dates for owner-furnished products.
E. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

A. Include a separate bar for each major portion of Work or operation.
B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.
B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.
B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
C. Annotate diagrams to graphically depict current status of Work.
D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
E. Indicate changes required to maintain Date of Substantial Completion.
F. Submit reports required to support recommended changes.

3.06 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.
B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 33 05

ELECTRONIC SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Electronic Shop Drawings, Electronic Product Data, and other electronic submittals.

B. Related Sections and Documents:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
2. Division 00 – Bidding and Contract Requirements issued by the Contracting Officer, apply to this Section.
3. Division 01 Section "Submittal Procedures" for general submittal requirements.

1.2 SUBMITTALS

A. Website provider operation and access instructions.

PART 2 - PRODUCTS

2.1 PROJECT WEBSITE SERVICE PROVIDER:

A. Website Service Provider: Subject to compliance with requirements, provide products and/or service under their current licensing agreements by one of the following website service providers:

1. “Submittal Exchange” (www.submittalexchange.com) (800-714-0024).
2. Equal website service provider pre-approved prior to Bid Date. (See Document 00 43 25 Supplement F – Substitution Request Form (Bidding Phase).

B. Website Service shall have the following capabilities:

1. Independently hosted, web-based system designed specifically for transmitting submittals and other construction communications between all project team members. FTP site and e-mail exchanges are not acceptable.
2. Utilize SSL encryption and hosted at SAS70 Type II compliant data centers.
3. Minimum four years documented experience of use on comparable commercial construction projects.
4. Unlimited individual user accounts and system access for all project subcontractors, general contractor, owner, design consultants, and subconsultants.
5. Capability to log and organize by tab an unlimited number of electronic submittals with no file size limitations.
6. Separate locations for owner, design consultant, and subconsultant review comments with contractors restricted from viewing comments until final review or release by owner or primary design consultant.

7. Automatic customized company-specific PDF review and transmittal forms setup as required for owner, design consultants, subconsultants, and general contractor.
8. Full version histories and dates of exchanges automatically tracked and available for viewing, searching, and reporting in a linear log format compatible with AIA G712.
9. Automatic, configurable email notifications for each project team member for new and reviewed submittals and other items.
10. Automatic, configurable email reminders of past due items.
11. Prior to project start, system vendor shall create submittal log with all required items from project manual. Owner or primary design consultant shall have full control over required items list and access to edit, add, or remove items during project.
12. Training shall be provided to general contractor, owner, design consultants, and subconsultants after Notice to Proceed but prior to start of construction.
13. Training sessions for subcontractors shall be provided minimum of twice weekly throughout project.
14. Allowance for scanning and printing services provided by local third-party reprographic vendor to assist with obtaining documents electronically and online print ordering.
15. At completion of project closeout, make available for download an electronic archive of all documents and tracking logs. Electronic archive shall emulate the online project website in organization and operation.

2.2 MINIMUM INTERNET SERVICE AND EQUIPMENT REQUIREMENTS

A. Email address and internet service at Contractor's main office(s).

B. Adobe Acrobat (www.adobe.com), Bluebeam PDF Revu (www.bluebeam.com), NitroPDF (www.nitropdf.com) or other similar PDF review software for applying electronic stamps, mark-ups, and comments.

2.3 COSTS AND DURATION

A. General Contractor shall obtain and pay for the website service subscription. (The cost for the service shall be included in the Contractor's Base Bid. Contact the website service provider prior to submitting Bid to obtain pricing).

1. The minimum duration of the website service subscription shall extend **6 months** beyond the Contractor's anticipated Date of Substantial Completion.

PART 3 EXECUTION

3.1 PROCEDURES

A. General Contractor's project management team and subcontractors shall attend training sessions with the Owner, Design Consultants, and website provider on the use of the project website prior to uploading any submittals.

B. Contractor shall not alter the layout or function of the project website.

C. Electronic Submittals shall be transmitted to the Architect in electronic (PDF) format via a website service designed specifically for transmitting electronic submittals between construction team members.

D. The intent of electronic submittals is to:

1. Reduce paperwork and shipping costs.
2. Improve and expedite information flow.
3. Decrease turnaround time.
4. Provide the Owner with an electronic archive of submittals at project completion.

E. Contractor shall be responsible for coordinating with the website service provider for training of their employees, sub-contractors, and suppliers in the use of the website service and PDF submittals.

F. The following items, at a minimum, shall be electronic submittals and shall be uploaded under the appropriate “tab” on the project website (where applicable, these submittals will be uploaded by the Owner or Design Consultant):

1. Project Team Directory.
2. Shop Drawings.
3. Product Data.
4. Transmittals for Samples delivered.
5. Informational Submittals.
6. Closeout Submittals.
7. Substantial Completion Documents
8. Supplemental Instructions (SI’s).
9. Change Directives (CD’s).
10. Requests for Information (RFI’s).
11. Requests for Change (RFC’s) and Requests for Proposal (RFP’s).
12. Meeting Minutes.
13. Schedules.
14. Photos.
15. Reports.
16. Tests and Inspections.
17. Punchlists

G. Submittal Preparation: Contractor may use any or all of the following options:

1. Subcontractors and Suppliers provide electronic (PDF) submittals to General Contractor via uploading to the website service.
2. Subcontractors and Suppliers provide electronic (PDF) submittals to General Contractor via email and General Contractor uploads submittals to the website service.
3. Subcontractors and Suppliers provide paper copy submittals to General Contractor. General Contractor scans submittals to convert to PDF format, and uploads submittals to website service.
4. Subcontractors and Suppliers provide paper copy submittals to Scanning Service. Scanning Service scans submittals to convert to PDF format. Subcontractors and Suppliers uploads submittals to the website service or forwards to General Contractor for uploading.

H. Submittal Format:

1. All submittals shall be uploaded in “PDF” format. Reduce pdf file size before uploading whenever feasible.
2. For all submittals larger than 11” x 17”, Contractor shall submit two (2) full-size paper copy to Architect for reference only (paper copy will not be returned) in addition to the electronic submittal.

I. Shop Drawing and Product Data Submittal Procedures:

1. General Contractor shall review submittals, add review comments, and apply electronic stamp certifying that the submittal complies with the requirements of the Contract Documents including verification of manufacturer / product, dimensions and coordination of information with other parts of the work.
2. General Contractor shall create an electronic transmittal for each submittal, attach to submittal in PDF format, and upload submittal to website.
3. Architect (and/or Sub-Consultant if applicable) shall review submittal, add review comments, apply electronic stamp indicating status of submittal, and upload reviewed submittal to website. General Contractor will receive email notice of completed review.
4. Distribution of reviewed submittals to subcontractors and suppliers is the responsibility of the General Contractor.
5. Re-submittals, if required, shall be uploaded to the website service under the same procedures as described above.

3.2 NON-ELECTRONIC SUBMITTALS:

A. The following items shall be hard-copy submittals:

1. Color Samples, Actual Color Charts, Physical Material Samples
    a. Upload a transmittal form to the project website for review and tracking purposes.
2. Applications for Payment.
3. Change Orders.
    a. Upload a pdf copy to the project website upon approval of change order.

END OF SECTION 01 33 05

SECTION 01-40-00 - QUALITY REQUIREMENTS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Submittals.
B. References and standards.
C. Testing and inspection agencies and services.
D. Contractor's design-related professional design services.
E. Control of installation.
F. Manufacturers' field services.
G. Defect Assessment.

1.02 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.
B. Base design on performance and/or design criteria indicated in individual specification sections.
    1. Submit a Request for Information to Architect if the criteria indicated are not sufficient to perform required design services.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
    1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.04 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
C. Obtain copies of standards where required by product specification sections.
D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
B. Comply with manufacturers' instructions, including each step in sequence.
C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
E. Have work performed by persons qualified to produce required and specified quality.
F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TESTING AND INSPECTION

A. Testing Agency Duties:
    1. Testing Agency separately contracted directly with the Owner. Agency shall cooperate with Architect and Contractor in performance of services. Contractor to coordinate with Testing Agency.
    2. Perform specified sampling and testing of products in accordance with specified standards.
    3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
    4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
    5. Perform additional tests and inspections required by Architect.
    6. Submit reports of all tests/inspections specified.
B. Limits on Testing/Inspection Agency Authority:
    1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
    2. Agency may not approve or accept any portion of the Work.
    3. Agency may not assume any duties of Contractor.
    4. Agency has no authority to stop the Work.
C. Contractor Responsibilities:
    1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
    2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
    3. Provide incidental labor and facilities:
        a. To provide access to Work to be tested/inspected.
        b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
        c. To facilitate tests/inspections.
        d. To provide storage and curing of test samples.
    4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.

5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.03 MANUFACTURERS' FIELD SERVICES

A. 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 equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

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

END OF SECTION

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SECTION 01-50-00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Temporary utilities.
B. Temporary sanitary facilities.
C. Vehicular access and parking.
D. Waste removal facilities and services.
E. Field offices.

1.02 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Electrical power, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.
B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
B. Use of existing facilities is not permitted.
C. New permanent facilities may not be used during construction operations.
D. Maintain daily in clean and sanitary condition.
E. At end of construction, return facilities to same or better condition as originally found.

1.04 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.

1.05 SECURITY

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

1.06 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
B. Coordinate access and haul routes with governing authorities and Owner.
C. Provide and maintain access to fire hydrants, free of obstructions.
D. Provide means of removing mud from vehicle wheels before entering streets.
E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.07 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
B. Provide containers with lids. Remove trash from site periodically.

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

D. Open free-fall chutes are not permitted.

1.08 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 12 persons.

C. Locate offices, if provided, as directed by the Owner.

1.09 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition.

D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EQUIPMENT CLEANING

A. All construction equipment cleaning must be conducted outside of the facility or off-site. Equipment cleaning inside the facility is not permitted.

END OF SECTION

SECTION 01-60-00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. General product requirements.
B. Re-use of existing products.
C. Transportation, handling, storage and protection.
D. Product option requirements.
E. Substitution limitations.
F. Procedures for Owner-supplied products.
G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
    1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.
C. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
    1. See Section 01-10-00 for list of items required to be salvaged for reuse and relocation.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.
B. Use of products having any of the following characteristics is not permitted:
    1. Made using or containing CFC's or HCFC's.
    2. Containing lead, cadmium, or asbestos.
C. Where other criteria are met, Contractor shall give preference to products that:
    1. If used on interior, have lower emissions, as defined in Section 01-61-16.
    2. If wet-applied, have lower VOC content, as defined in Section 01-61-16.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

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

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

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01-25-00 - SUBSTITUTION PROCEDURES.

3.02 OWNER-SUPPLIED PRODUCTS

A. See Section 01-10-00 - SUMMARY for identification of Owner-supplied products.

B. Owner's Responsibilities:

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

C. Contractor's Responsibilities:

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

3.03 TRANSPORTATION AND HANDLING

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

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

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

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

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

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

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

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

3.04 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.
B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01-74-19.
C. Store and protect products in accordance with manufacturers' instructions.
D. Store with seals and labels intact and legible.
E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.
F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
G. For exterior storage of fabricated products, place on sloped supports above ground.
H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
I. Comply with manufacturer's warranty conditions, if any.
J. Do not store products directly on the ground.
K. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
L. Prevent contact with material that may cause corrosion, discoloration, or staining.
M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

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SECTION 01-70-00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.
B. Cutting and patching.
C. Cleaning and protection.
D. Starting of systems and equipment.
E. Demonstration and instruction of Owner personnel.
F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
G. General requirements for maintenance service.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.03 PROJECT CONDITIONS

A. Use of explosives is not permitted.
B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
    1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
    2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
    1. Indoors: Limit conduct of especially noisy interior work to 8 am to 5 pm.

1.04 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
B. Notify affected utility companies and comply with their requirements.
C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
F. Coordinate completion and clean-up of work of separate sections.

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

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01-60-00 - PRODUCT REQUIREMENTS.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
C. Examine and verify specific conditions described in individual specification sections.
D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.
B. Seal cracks or openings of substrate prior to applying next material or substance.
C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 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 alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01-50-00 in locations indicated on drawings.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

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

H. Refinish existing surfaces as indicated:

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

I. Clean existing systems and equipment.

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

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

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

3.05 CUTTING AND PATCHING

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

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07-84-00, to full thickness of the penetrated element.

J. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.
B. Provide special protection where specified in individual specification sections.
C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.
G. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.
B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
D. Verify that wiring and support components for equipment are complete and tested.
E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
F. When specified in individual specification 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.
G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. See Section 01-79-00 - DEMONSTRATION AND TRAINING.

3.10 ADJUSTING

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

3.11 FINAL CLEANING

A. Execute comprehensive cleaning prior to Substantial Completion.
    1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
B. General: Preform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations

C. **Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program.**
   1. Use cleaning materials that are nonhazardous.

D. **Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:**
   1. Clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   2. Clean exposed interior hard surface finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition.
   3. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
   4. Sweep concrete floor broom clean in unoccupied spaces.
   5. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
   6. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
   7. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
   8. Clean filters of operating equipment.
   9. Clean light fixtures, lamps globes, and reflectors to function with full efficiency.
   10. Leave Project clean and ready for occupancy.

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

F. Clean Owner-occupied areas of work.

3.12 CLOSEOUT PROCEDURES

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

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

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

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

E. Owner will occupy all of the building as specified in Section 01-10-00.

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

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

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

I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.13 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

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SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

1.2 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Divert: Redirection of demolition or construction waste from disposal in landfills to alternate destinations for recycle, salvage, or reuse.

E. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

F. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

G. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

A. General: Achieve minimum end-of-Project rate for salvage/recycling of **60 percent** by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including, but not limited to, the following:

1. Demolition Waste:

    a. Asphalt paving.
    b. Concrete.
    c. Concrete reinforcing steel.
    d. Brick.
    e. Concrete masonry units.
    f. Wood studs.
    g. Wood joists.
    h. Plywood and oriented strand board.
    i. Wood paneling.
    j. Wood trim.
    k. Structural and miscellaneous steel.
    l. Rough hardware.
    m. Roofing.
    n. Insulation.
    o. Doors and frames.
    p. Door hardware.
    q. Windows.
    r. Glazing.
    s. Metal studs.
    t. Gypsum board.
    u. Acoustical tile and panels.
    v. Carpet.
    w. Carpet pad.
    x. Demountable partitions.
    y. Equipment.
    z. Cabinets.
    aa. Plumbing fixtures.
    bb. Piping.
    cc. Supports and hangers.
    dd. Valves.
    ee. Sprinklers.
    ff. Mechanical equipment.
    gg. Refrigerants.
    hh. Electrical conduit.
    ii. Copper wiring.
    jj. Lighting fixtures.
    kk. Lamps.
    ll. Ballasts.
    mm. Electrical devices.
    nn. Switchgear and panelboards.
    oo. Transformers.
    pp. Site-clearing waste.

2. Construction Waste:

    a. Concrete
    b. Masonry and CMU.
    c. Lumber.
    d. Wood sheet materials.

e. Wood trim.
f. Metals.
g. Roofing.
h. Insulation.
i. Carpet and pad.
j. Gypsum board.
k. Piping.
l. Electrical conduit.
m. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle **100 percent** of the following uncontaminated packaging materials:

1) Paper.
2) Cardboard.
3) Boxes.
4) Plastic sheet and film.
5) Polystyrene packaging.
6) Wood crates.
7) Plastic pails.

B. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

C. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State, and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.4 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 10 days of date established for the Notice to Proceed or prior to commencement of any work, whichever comes first.

1.5 INFORMATIONAL SUBMITTALS

A. Waste Reduction Reports: Reports shall be created using Owner's "Waste Reduction Report Template". Print reports to pdf prior to submission. **Include scans of all related invoices/weight tickets with each report.**

1. Progress Reports: Submit an updated report monthly. Submit concurrently with Applications for Payment. Failure to submit report may delay payment. Upload reports to the Project website. Include the following information:
   a. Total quantity of construction waste in tons.
   b. Total quantity of diverted waste in tons (itemized by material type).

1) If containers taken to a recycling facility contain co-mingled waste to be sorted by the recycler, use the current recovery rate for their facility for each drop-off drop-off date when calculating actual diverted waste quantities for reporting. For example, if the facility's recovery rate is 75.8%, and 20 tons of co-mingled waste is dropped off, even though it may be 100% recyclable, only 75.87% of it can be reported (15.16 tons). Verify the facility's current recovery rate for the month in which each drop-off was made.

c. Total percentage of construction waste diverted from landfill.

d. Landfill Disposal:

1) Identification of material.
2) Amount of waste material disposed of in landfills in tons. List weights for each individual haul and calculated total weight on each updated report.
3) Identity of the landfill, hauler, date of haul, and ticket number.

e. Recycled and Salvaged Material:

1) Identification of material, including material retrieved by installer for use on other projects or for return to manufacturer for recycling.
2) Amount of waste material recycled or salvaged in tons. List weights for each individual haul and calculated total weight on each updated report.
3) Identity of the receiving party, hauler, date of haul, and ticket number.
4) Certification by receiving party that materials will not be disposed of in landfills or by incineration.

f. Material Reused on Project:

1) Identification of material and how it was reused on the Project.
2) Amount of waste material reused in tons. List weights for each material and calculated total weight on each updated report.
3) Include weight tickets or calculations as evidence of quantities.

g. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

2. Final Report: At completion of Project, upload a Final Report to the Project website.

1.6 WASTE MANAGEMENT PLAN

A. Develop a waste management plan to include the following information:

1. Analysis of the trash and waste projected to be generated during the entire project cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of.
3. Landfill Alternatives: List all waste materials that will be diverted from landfills using reuse, salvage, or recycling. Include list of local receivers and processors and type of material each will accept. Include names, addresses, and telephone numbers.
4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling and Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for

acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.

6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

B. The following sources may be useful in developing the Waste Management Plan:

1. Alter Trading Corporation
https://www.altertrading.com/locations/8
1810 E. Hull Ave
Des Moines, IA 50313
(515) 262-0764

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. Coordinator: Designate an on-site waste management coordinator responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to the job site foreman, each subcontractor, the Owner, and the Owner's Project Architect.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures as appropriate for the work:

1. Distribute and review the Waste Management Plan with each entity when they first begin work on-site. Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse and return methods to be used by all parties at the appropriate stages of the project.
2. Provide follow-up training for each entity as needed to maintain compliance with the plan.

D. Meetings:

1. Review the Waste Management Plan at the Pre-Construction Meeting. Discuss responsibilities of each involved party and goals for the project. Revise and resubmit the plan as agreed to at the meeting.
2. Include waste management and recycling discussion in pre-installation meetings.
3. Include waste management and recycling as an agenda item in all progress meetings with the Owner and job safety meetings with the subcontractors..

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.

1. As a minimum, provide:

    a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
    b. Separate dumpsters for each category of recyclable.
    c. Recycling bins at worker lunch areas.

2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes in accordance with applicable regulations.

G. Transportation: Arrange for timely pickups from the site or deliveries to approved facilities of trash/waste material to keep construction site clear and prevent contamination of materials. Keep copies of delivery and pickup receipts for reporting.

3.2 SALVAGING DEMOLITION AND CONSTRUCTION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for sale and donation not permitted on Project site.

C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store and protect items from damage in a secure area until pick-up by Owner.
4. Notify Owner when items are ready for pick-up.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

    a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Land Clearing Debris: Collect wood debris from land clearing separate from large amounts of dirt and other non-wood materials and transport to recycling facility.

B. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.

C. Concrete and Masonry: Free of metals including reinforcing, wood, and other contaminants. Process by one of the following means:

    1. If allowed by specifications, during demolition, crush concrete and concrete masonry to aggregate size. Store crushed material on-site in a clean area to avoid contamination from other materials or building processes. Re-use on site crushed material for fill, for stabilizing soils, or as base and sub-base materials.
    2. If crushing on-site is impractical, store material during demolition processes on site in a clean, uncontaminated area and transport concrete and masonry materials to a certified concrete recycler.

D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials. Reuse on-site as appropriate or transport to recycling facility.

E. Metals: Cut as required to fit into containers.

F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

G. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

H. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

I. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

J. Carpet (and pad): Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

1. Store clean, dry carpet (and pad) in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

K. Carpet Tile: Remove debris, trash, and adhesive.

1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

L. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

M. Conduit: Reduce conduit to straight lengths and store by type and size.

N. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

3.5 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

END OF SECTION 01 74 19

SECTION 01-78-00 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SECTION INCLUDES

A. Project record documents.
B. Operation and maintenance data.
C. Warranties and bonds.

1.02 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
B. Operation and Maintenance Data:
   1. Submit one electronic (PDF Format) copy of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one bound paper copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect & Engineers comments. Revise content of all document sets as required prior to final submission.
   4. Submit two bound paper sets and one electronic (PDF Format) copy on CD of revised final documents in final form within 10 days after final inspection.
C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.
   4. Reviewed shop drawings, product data, and samples.
   5. Manufacturer's instruction for assembly, installation, and adjusting.
B. Ensure entries are complete and accurate, enabling future reference by Owner.
C. Store record documents separate from documents used for construction.
D. Record information concurrent with construction progress.

E. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
C. Additional information as specified in individual product specification sections.
D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.
B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
D. Include color coded wiring diagrams as installed.
E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
G. Provide servicing and lubrication schedule, and list of lubricants required.
H. Include manufacturer's printed operation and maintenance instructions.
I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
K. Provide control diagrams by controls manufacturer as installed.
L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
N. Include test and balancing reports.
O. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
J. Arrangement of Contents: Organize each volume in parts as follows:
    1. Project Directory.
    2. Table of Contents, of all volumes, and of this volume.
    3. Operation and Maintenance Data: Arranged by system, then by product category.
        a. Source data.
        b. Product data, shop drawings, and other submittals.
        c. Operation and maintenance data.
        d. Field quality control data.
        e. Photocopies of warranties and bonds.
    4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.06 WARRANTIES AND BONDS

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

B. Verify that documents are in proper form, contain full information, and are notarized.
C. Co-execute submittals when required.
D. Retain warranties and bonds until time specified for submittal.
E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 01-79-00 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

SHOULD DISCREPANCIES EXIST BETWEEN THE GENERAL CONDITIONS AND THIS SECTION, THE GENERAL CONDITIONS SHALL GOVERN.

1.01 SUMMARY

A. Demonstration of products and systems where indicated in specific specification sections.

B. Training of Owner personnel in operation and maintenance is required for:

1. All software-operated systems.
2. HVAC systems and equipment.
3. Plumbing equipment.
4. Electrical systems and equipment.
5. Items specified in individual product Sections.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.

B. Training Plan: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.

1. Submit to Architect for transmittal to Owner.
2. Submit not less than four weeks prior to start of training.
3. Revise and resubmit until acceptable.
4. Provide an overall schedule showing all training sessions.
5. Include at least the following for each training session:
    a. Identification, date, time, and duration.
    b. Description of products and/or systems to be covered.
    c. Name of firm and person conducting training; include qualifications.
    d. Intended audience, such as job description.
    e. Objectives of training and suggested methods of ensuring adequate training.
    f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
    g. Media to be used, such a slides, hand-outs, etc.
    h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.

C. Training Manuals: Provide access to the O&M manuals to the trainees; provide one hardcopy of the O&M manuals.

1. Include applicable portion of O&M manuals.
2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.

D. Training Reports:

1. Identification of each training session, date, time, and duration.
2. Sign-in sheet showing names and job titles of attendees.
3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

1.03 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.

1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
B. Demonstration may be combined with Owner personnel training if applicable.
C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
    1. Perform demonstrations not less than two weeks prior to Substantial Completion.
    2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
    1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

A. Conduct training on-site unless otherwise indicated.
B. Owner will provide classroom and seating at no cost to Contractor.
C. Provide training in minimum two hour segments.
D. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
E. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
    1. The location of the O&M manuals and procedures for use and preservation; backup copies.
    2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
    3. Typical uses of the O&M manuals.
F. Product- and System-Specific Training:
    1. Review the applicable O&M manuals.
    2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
    3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
    4. Provide hands-on training on all operational modes possible and preventive maintenance.
    5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
    6. Discuss common troubleshooting problems and solutions.
    7. Discuss any peculiarities of equipment installation or operation.

8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
9. Review recommended tools and spare parts inventory suggestions of manufacturers.
10. Review spare parts and tools required to be furnished by Contractor.
11. Review spare parts suppliers and sources and procurement procedures.

G. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

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SECTION 02-41-00 - DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 DEFINITIONS

A. Demolition: Dismantle, raze, destroy or wreck any building or structure or any part thereof.

B. Remove: Detach or dismantle items from existing construction and dispose of them off site, unless items are indicated to be salvaged or reinstalled.

C. Remove and Salvage: Detach or dismantle items from existing construction in a manner to prevent damage. Clean, package, label and deliver salvaged items to Owner in ready-for-reuse condition. For this project, salvaged items should be used and reinstalled for the new design to the fullest capability.

D. Remove and Reinstall: Detach or dismantle items from existing construction in a manner to prevent damage. Clean and prepare for reuse and reinstall where indicated.

E. Existing to Remain: Designation for existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove items indicated, for salvage, relocation, recycling, and landfill.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with requirements in Section 01-70-00.

B. Comply with Owner regulations for demolition operations and safety of the public.

1. Obtain required permits.
2. Provide, erect, and maintain temporary barriers and security devices.
3. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
4. Conduct operations to minimize effects on and interference with occupants.
5. 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.

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

D. 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.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.

1. Verify 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 areas that remain occupied.

1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01-50-00 .

C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.
D. Remove existing work as indicated and required to accomplish new work.
    1. Remove rotted wood and corroded metals; replace with new construction indicated.
    2. Remove items indicated on drawings.
E. Services including, but not limited to, HVAC, Plumbing, and Electrical: Remove existing systems and equipment as indicated.
    1. Maintain existing active systems to remain in operation, and 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. 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 as required.
    2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
    3. Repair adjacent construction and finishes damaged during removal work.
    4. Patch to match new work.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.
B. Remove 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.

END OF SECTION

SECTION 07-92-00 - JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Nonsag Sealants:
   1. Bostik Inc: www.bostik-us.com
   2. Dow Chemical Company: www.consumer.dow.com
   3. Hilti, Inc: www.us.hilti.com
   4. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us
   5. Pecora Corporation; _____: www.pecora.com/#sle.
   6. Sika Corporation: www.usa-sika.com
   7. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com
   8. W.R. Meadows, Inc: www.wrmeadows.com
   9. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

2.02 JOINT SEALANT APPLICATIONS

A. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
   1. Floor Tile Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion. Only to be used in necessary situations; coordinate with Architect.
   2. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; clear.

B. Interior Wet Areas: restrooms; fixtures in wet areas include plumbing fixtures.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products with acceptable levels of volatile organic compound (VOC) content; see Section 01-61-16.

B. Colors: Architect to select from the full range of manufacturer's standard colors.

2.04 SELF-LEVELING JOINT SEALANTS

A. Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; single or multi-component; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion. Only to be used in necessary situations; coordinate with Architect.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Color: To be selected by Architect from manufacturer's standard range.

2.05 ACCESSORIES

A. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

B. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

C. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

D. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

SECTION 09-05-61 - COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
   1. Thin-set porcelain tile.
B. Removal of existing floor coverings.
C. Preparation of existing concrete floor slabs for installation of floor coverings.
D. Patching compound.
E. Remedial floor coatings.
F. Preparation of existing CIP conrete floor and hydronic radiant concrete floor for installation of new floor coverings.

1.02 SUBMITTALS

A. Visual Observation Report: For existing floor coverings to be removed.
B. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
   1. Moisture and alkalinity (pH) limits and test methods.
   2. Manufacturer's required bond/compatibility test procedure.
C. Adhesive Bond and Compatibility Test Report.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with manufacturer’s instructions and recommendations.
B. Deliver materials in manufacturer’s packaging; include installation instructions.
C. Keep materials from freezing.

1.04 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.
B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.01 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
   1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and capable of being feathered to nothing at edges.
   2. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:
   1. Existing concrete slabs (on-grade and elevated) with existing floor coverings:

a. Visual observation of existing floor covering, for adhesion, water damage, alkaline deposits, and other defects.
b. Removal of existing floor covering.

2. Preliminary cleaning.
3. Specified remediation, if required.
4. Patching, smoothing, and leveling, as required.
5. Other preparation specified.
6. Adhesive bond and compatibility test. Such testing shall be conducted to assure the concrete in each restroom has been validated for tile installation.
7. Protection.

3.02 REMOVAL OF EXISTING FLOOR COVERINGS

A. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.03 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.
B. Do not use solvents or other chemicals for cleaning.

3.04 PREPARATION

A. See individual floor covering section(s) for additional requirements.
B. Comply with requirements and recommendations of floor covering manufacturer.
C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

3.05 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

END OF SECTION

SECTION 09-30-00 - TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for floor applications.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.

1.03 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, perimeter conditions, junctions with dissimilar materials, control and expansion joints, ceramic accessories, and setting details.
D. 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: 5 percent of each size, color, and surface finish combination.

1.04 QUALITY ASSURANCE

A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.
B. Installer Qualifications:
   1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.06 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:
   1. Dal-Tile Corporation: www.daltile.com/#sle.
   2. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
B. Porcelain Tile, Type PT-1: ANSI A137.1 standard grade.
   1. Size: 12 by 24 inch, nominal. 6 x 12 Cove base, Cove base inside and outside corners.
   2. Thickness: 5/16 inch.
   3. Surface Finish: Matte glazed.
   4. Color(s): Reverb Ash VL74
   5. Pattern: Monolithic.
   6. Trim Units: Matching cove base and cove base corner shapes in sizes coordinated with field tile.
   7. Products:
      a. Dal-Tile Corporation; Volumn 1.0: https://www.daltile.com/products/Concrete-Look/Volume-1-0

8. 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.

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. Prepare surface in accordance with manufacturer's requirements.

3.03 INSTALLATION - GENERAL

A. Install tileand grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.20, 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 and bases neatly. Align floor 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. Sound tile after setting. Replace hollow sounding units.
G. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
H. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

A. Over interior concrete substrates, install in accordance with TCNA (HB) Method RH 110, RH 110A, dry-set or latex-Portland Cement, with standard grout, unless otherwise indicated.

3.05 INSTALLATION - FLOOR BASE

A. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

3.06 CLEANING

A. Clean tile and grout surfaces.

3.07 PROTECTION

A. Do not permit traffic over finished floor surface after installation for a duration required by manufacturers.

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 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.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.
B. Shop Drawings: Indicate grid layout and related dimensioning. Coordinate with ceiling lighting fixtures
C. Product Data: Provide data on suspension system components and acoustical units.
D. Samples: Submit two samples 4 by 4 inch in size illustrating material and finish of acoustical units.
E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
F. Manufacturer's Qualification Statement.
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.

1.04 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.

1.05 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

A. Acoustic Tiles/Panels:
    1. USG Corporation: www.usg.com/ceilings/#sle.
    2. Substitutions: Not permitted.
B. Suspension Systems:
    1. Same as for acoustical units.

2.02 ACOUSTICAL UNITS

A. Acoustical Tiles: Painted mineral fiber, with the following characteristics:
    1. Classification: ASTM E1264 Type III.
        a. Form: 4, cast or molded.
        b. Pattern: "E" - lightly textured.

2. Size: 24 by 24 inches.
3. Thickness: 3/4 inch.
4. Light Reflectance: .84 percent, minimum, determined in accordance with ASTM E1264.
5. NRC Range: .70 or better, determined in accordance with ASTM E1264.
6. Ceiling Attenuation Class (CAC): 36, minimum, determined in accordance with ASTM E1264.
7. Mold/Mildew Resistance
8. Sag/Humidity Resistance
9. Tile Edge: Square Tegular.
   a. Joint: Kerfed and rabbeted.
10. Color: White.
11. Products:
    a. USG Corporation; Frost Basic Acoustical Panels: www.usg.com/ceilings/#sle.
    b. Substitutions: Not permitted.

2.03 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

B. Exposed Suspension System: Hot-dipped galvanized steel grid with aluminum cap; factory-applied closed-cell foam gaskets.
   1. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.
   2. Profile: Tee; 15/16 inch face width.
   3. Finish: Baked enamel.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Hold-Down Clips: Manufacturer's standard clips to suit application.

D. Perimeter Moldings: Same metal and finish as grid.
   1. Size: As required for installation conditions.7/8"
   2. Angle Molding: L-shaped, for mounting at same elevation as face of grid.
   3. Inside/Outside Corner Ceiling Grid Covers
   4. Acoustical Sealant For Perimeter Moldings: Non-hardening, non-skinning, for use in conjunction with suspended ceiling 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 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

3.03 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, ASTM C636/C636M, ASTM E580/E580M, ASTM C636/C636M, and ASTM E580/E580M 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 on room axis according to reflected plan.
D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
    1. Install with continuous gasket.
    2. Use longest practical lengths.
    3. Overlap and rivet corners.
    4. Outside Corner Ceiling Grid Covers
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.

3.04 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. Touch up paint all cut edges and edges that do not match the finish of the acoustical unit faces.

3.05 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

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SECTION 09-90-00 - PAINTING AND COATING - COMMERCIAL FACILITY GUIDE SPECIFICATION - SHERWIN-WILLIAMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.
B. Interior painting and coating systems.
C. Scope:
    1. Finish surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
        a. Interior:
            1) Metal: Radiator Cover and any painted metal item remain in place.
            2) Metal: Shower bench brackets that show moisture deterioration.
            3) Wood: Shower Stall Trim and any wood item remain in place.

1.02 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. Product characteristics.
    2. Surface preparation instructions and recommendations.
    3. Primer requirements and finish specification.
    4. Storage and handling requirements and recommendations.
    5. Application methods.
    6. Clean-up information.
C. Samples: Submit four paper draw down samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
E. Maintenance Data: Submit coating maintenance manual including finish schedule showing where each product/color/finish was used, product technical data sheets, safety data sheets (SDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.03 FIELD CONDITIONS

A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.
B. Follow manufacturer's recommended procedures for producing the best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company (The) products indicated; www.sherwin-williams.com/#sle.

2.02 PAINTINGS AND COATINGS

A. General:
    1. Provide factory-mixed coatings unless otherwise indicated.
    2. Do not reduce, thin, or dilute coatings or add materials to coatings unless specifically indicated in manufacturer's instructions.

B. Volatile Organic Compound (VOC) Content: Comply with Section 01-61-16.
C. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

2.03 PAINT SYSTEMS - INTERIOR

A. Metal: Structural steel columns, joists, trusses, beams, miscellaneous and ornamental iron, structural iron, and ferrous metal.
   1. Latex Systems:
      a. Eg-Shel/Satin Finish High Performance:
         1) 1st Coat: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series: www.sherwin-williams.com/#sle.
            (a) 5 mils wet, 2 mils dry per coat.
         2) 2nd and 3rd Coats: Sherwin-Williams Pro Industrial Acrylic Gloss, B66-600 Series: www.sherwin-williams.com/#sle.
            (a) 2 to 4 mils dry per coat.
B. Wood: Trim.
   1. Latex Systems:
      a. Eg-Shel/Satin Finish:
         1) 1st Coat: Sherwin-Williams Premium Wall and Wood Primer, B28W8111: www.sherwin-williams.com/#sle.
         2) 2nd and 3rd Coat: Sherwin-Williams Scuff Tuff Interior Waterbased Enamel, Eg-Shel, S24-50 Series: www.sherwin-williams.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
C. Test shop-applied primer for compatibility with subsequent cover materials.

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 mildew from impervious surfaces by scrubbing with solution of water and bleach. Rinse with clean water and allow surface to dry.
D. Ferrous Metal:
   1. Remove shower bench brackets for refinishing in a shop environment. Reinstall into same locations with same fastening.
   2. Solvent clean according to SSPC-SP 1.
   3. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Prime bare steel surfaces.
   4. Remove rust, loose mill scale, and other foreign substances using methods recommended by paint manufacturer and blast cleaning according to SSPC-SP 6. Protect from corrosion until coated.
E. Wood: Remove dust, grit, and foreign matter. Scrape, sand, and spot prime knots and pitch streaks. Fill nail holes and imperfections with wood filler and sand smooth.

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.
C. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

3.04 PRIMING

A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.
B. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to top coat manufacturers.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
B. Clean surfaces immediately of overspray, splatter, and excess material.
C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.06 PROTECTION

A. Protect finished coatings from damage until completion of project.
B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

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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 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. Product Data: Provide data on panel construction, hardware, and accessories.
C. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall and floor supports, door swings.
D. Samples: Submit two samples of partition panels, illustrating panel finish, color, and sheen.
   1. Architect and Owner to select multiple standard color options for samples for making final finish selection.
E. Manufacturer's Installation Instructions: Indicate special procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Solid Plastic Toilet Compartments:
   1. General Partitions; www.generalpartitions.com
   2. 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. All restrooms within the Scope of Work will receive these toilet partitions.
   1. Model: Series 40 Floor Supported with Headrail
   2. Color: 236 Sterling. To be finalized during sample selection during construction.
B. Doors:
   1. Thickness: 1 inch.
   2. Width: 24 inch.
   3. Width for Handicapped Use: 36 inch, out-swinging.
   4. Height: 55 inch.
C. Panels:
   1. Thickness: 1 inch.
   2. Height: 55 inch.
   3. Depth: As indicated on drawings.
D. Pilasters:
   1. Thickness: 1 inch.
   2. Width: As required to fit space; minimum 3 inch.
E. Screens: Without doors; to match compartments; mounted to wall with continuous panel brackets.
   1. Thickness: 1 inch

2. Height: 55 inch
3. Width: As indicated in drawings

2.03 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. Structural Adhesive for connecting Adjustable Floor Plate (within pilasters) to floor tile.
   1. Adhering floor mounted partitions in restrooms that are shown to have existing in-floor radiant systems that must not be compromised with this Scope of Work.
   2. To be utilized in the following restrooms; Contractor to verify if other restroom floors may have undocumented radiant systems:
      a. LATRINE MALE 104
      b. LATRINE FEMALE 111
      c. LATRINE MALE 133
      d. LATRINE FEMALE 140
   3. Adhesive: Two-part 1:1 mix ratio, structural bonding between thermoplastic, metal, and composite assemblies. Must have ability to bond to a variety of materials. Must be dispensed into ready-to-use non-sagging gel.
      a. Basis-Of-Design: Plexus MA300
      b. Room temperature cure.
      c. Working time: 3 to 6 minutes.
      d. Fixture time: 12 to 15 minutes.
      e. Viscosity (cP), adhesive and activator: 40,000 to 70,000
      f. Strength (psi), final: 3,000 to 4,000
      g. Strength (psi), in 15 minutes: 1,000
C. Head Rails: Extruded aluminum, anti-grip profile.
D. Wall and Pilaster Brackets: Stainless steel; manufacturer's standard type for conditions indicated on drawings.
E. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.
F. Hinges: Stainless steel, manufacturer's standard finish.
   1. Pivot hinges, gravity type, adjustable for door close positioning at 5 degrees when not latched; two per door.
G. Door Hardware: Stainless steel, manufacturer's standard finish.
   1. Door Latch: Slide type with exterior emergency access feature.
   2. Door Strike and Keeper with Rubber Bumper: Mount on pilaster in alignment with door latch.
   3. Provide door pull for inswinging doors.
H. Coat Hook with Rubber Bumper: One per compartment, mounted on door.
   1. Model: 6200D Combination Coat Hook and Bumper.
I. Door Bumper: One per compartment with outswinging doors next to walls, mounted on the wall.
   1. Model: 6250 Door Bumper.

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.
E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

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

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SECTION 10-28-00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet accessories.
B. Commercial shower and bath accessories.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of reinforcement of toilet partitions to receive anchor attachments.

1.03 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.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Commercial Toilet, Shower, and Bath Accessories:
   1. AJW Architectural Products: www.ajw.com
   2. American Specialties, Inc: www.americanspecialties.com
   3. Bradley Corporation: www.bradleycorp.com
   4. Georgia-Pacific Professional: www.blue-connect.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. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
C. 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. **TA-10 and TA-11**: Toilet Paper Dispenser: Roll-in-reserve type, designed to allow automatic activation of reserve roll when needed, or manual activation by pressing release bar, surface-mounted, Plastic covered .
   1. Products:
      a. Existing 3-Roll Toilet tissue dispenser.
      b. Substitutions: Not permitted.
      c. To be sourced through the Owner.
B. **TA-42**: Paper Towel Dispenser: Electric, roll paper type.
   1. Cover: Plastic. Black.
   2. Paper Discharge: Touchless automatic.
   3. Capacity: 10" diameter roll.
   4. Mounting: Surface mounted.
   5. Power: Battery operated.
   6. Refill Indicator: Illuminated refill indicator.

7. Products:
    a. Georgia-Pacific Professional; _____ enMotion 10" Model 59462A: https://www.gppro.com/gp/
8. To be sourced through the Owner.
    a. Substitutions: Not permitted.

C. **TA-62**: Soap Dispenser: Manual foam soap dispenser, wall-mounted, surface,
1. Products:
    a. Spartan Chamicals: https://www.spartanchemical.com. Spartan Lite'n Foamy Hand Soap Dispenser, white, Product NO. 9756
        1) Spartan Lite'n Foamy Hand Soap Dispenser, white, Product NO. 9756. https://www.spartanchemical.com
        2) Substitutions: Not permitted.
2. To be sourced through the Owner.

D. **TA-35**: Mirrors: Frameless mirror, annealed float glass; ASTM C1036.
1. Mounting: Glue onto CMU wall.
2. Edges:
3. Each mirror to be a single unit.
4. Thickness: Match existing mirrors that remain in place, and provide thickness that is

E. **TA-1, TA-2, and TA-3**: Grab Bars: Stainless steel, textured surface.
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. Finish: Knurled Satin.
    d. Color: Silver
    e. Length and Configuration: As indicated on drawings.
    f. ADA Compliant
    g. Products:
        1) Grainger Industrial Supply: https://www.grainger.com/
        2) Substitutions: Section 01-60-00 - PRODUCT REQUIREMENTS.

F. **TA-50**: Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, removable receptacle.
1. Products:
    a. American Specialties, Inc: www.americanspecialties.com/#sle.
    b. Substitutions: Section 01-60-00 - PRODUCT REQUIREMENTS.

G. **TA- 45**: Wall Mounted Shelf: Stainless Steel
1. Bradley (https://www.bradleycorp.com)
    a. Surface mounted shelf 758 - 8" depth. 18 gauge stainless steel with integral end bracket
    b. 24" length
    c. Satin finish

2.05 COMMERCIAL SHOWER AND BATH ACCESSORIES

A. **TA-49**: Shower Curtain Rod: Stainless steel tube, 1-1/4 inch outside diameter, 0.05 inch wall thickness, satin-finished, with 3 inch outside diameter, minimum 0.04 inch thick satin-finished stainless steel flanges, for installation with exposed fasteners.
1. Products:
    a. American Specialties, Inc; _____: www.americanspecialties.com/#sle.

b. Substitutions: Section 01-60-00 - PRODUCT REQUIREMENTS.

B. Shower Curtain:
1. Material: Opaque vinyl, 0.008 inch thick, matte finish, with antibacterial treatment, flameproof and stain-resistant.
2. Size on new Shower Curtain Rod: 60 by 72 inches, hemmed edges.
3. Size on existing to remain Shower Unit Rods: 48 by 70 inches, hemmed edges.
4. Grommets: Stainless steel; pierced through top hem on 6 inch centers.
5. Color: As selected from manufacturer's standard colors.
6. Shower Curtain Hooks: Chrome-plated or stainless steel spring wire designed for snap closure.

C. **TA-47**: Robe Hook: Heavy-duty stainless steel, double-prong, rectangular-shaped bracket and backplate for concealed attachment, satin finish.
1. Products:
a. American Specialties, Inc; Robe Hook (Double) – Surface Mounted, No. 7345-S..
b. Substitutions: Section 01-60-00 - PRODUCT REQUIREMENTS.

D. Shower bench: HDPE Plank on existing bench brackets.
1. Tangent Sustainable Lumber: https://tangentmaterials.com
2. Size: 2x4BN
3. Color: Light Gray

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.
B. Verify exact location of accessories for installation.
C. 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.
1. Other Accessories: As indicated on drawings.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

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SECTION 12-36-00 - COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall-hung countertops and valance skirts.
B. Support brackets.

1.02 RELATED REQUIREMENTS

A. Section 22-40-00 - PLUMBING FIXTURES: Sinks.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.
   1. Preinstallation Meetings: Arrange preinstallation meeting 1 week prior to commencing work with all parties associated with trade as designated in Contract Documents or as requested by Architect. Presided over by Contractor, include Architect who may attend, Subcontractor performing work of this trade, Owner's representative, testing company's representative and consultants of applicable discipline. Review Contract Documents for work included under this trade and determine complete understanding of requirements and responsibilities relative to work included, storage and handling of materials, materials to be used, installation of materials, sequence and quality control, Project staffing, restrictions on areas of work and other matters affecting construction, to permit compliance with intent of work of this Section.
B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Product description including solid surface sheets, sinks, bowls and illustrating full range of standard colors, fabrication information and compliance with specified performance requirements. Submit Product data with resistance to list of chemicals.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Specimen warranty.
C. Shop Drawings:
   1. Submit Shop Drawings and sample for work of this Section in accordance with Section 01 30 00.
   2. Indicate plans, sections, dimensions, component sizes, edge details, fabrication details, attachment provisions, sizes of furring, blocking, including concealed blocking and coordination requirements with adjacent work.
   3. Show locations and sizes of cutouts and holes for faucets, sink drain and other items.
D. Coordination Drawings:
   1. Submit coordination drawings indicating plumbing connection
   2. Submit coordination drawings indicating structural support of solid surface and bowls.
E. Sample
   1. Submit minimum 6" x 6" samples. Cut sample and seam together for representation of inconspicuous seam. Indicate full range of color and pattern variation. Approved samples will be retained as standards for work.
F. Test and Evaluation Reports: Submit flammability test reports
G. Operational and Maintenance Data:
   1. Submit manufacturer's care and maintenance data, including repair and cleaning instructions. Include in Project closeout documents.

2. Provide a commercial care and maintenance kit and video. Review maintenance procedures and warranty details with Owner upon completion.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Provide work of this Section executed by competent installers with minimum 5 years experience in the application of Products, systems and assemblies specified and with approval and training of the Product manufacturers.

B. Mock-Ups:
   1. Prior to final approval of Shop Drawings, erect 1 full size mock-up of each component at Project site demonstrating quality of materials and execution for Architect review.
   2. Should mock-up not be approved, rework or remake until approval is secured. Remove rejected units from Project site.
   3. Approved mock-up will be used as standard for acceptance of subsequent work.
   4. Approved mock-ups may remain as part of finished work.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver no components to Project site until areas are ready for installation.

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

C. Store components indoors prior to installation.

D. Handle materials to prevent damage to finished surfaces

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

1.06 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. Solid Surfacing Countertops: Solid surfacing sheet over continuous 3/4" plywood substrate, supported by ADA Vanity Brackets.
   1. Flat Sheet Thickness: 3/4 inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Manufacturers:
         1) Basis-of-Design: Dupont: www.corian.com/#sle.
         2) Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
      b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
      c. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
      d. Color and Pattern: Cameo White
   3. Other Components Thickness: 3/4 inch, minimum.
   4. Exposed Edge Treatment: Built up to minimum 5 1/2" thick; Eased edge.
   5. Coved backsplashes and endsplashes: Same sheet material, square top; minimum 4 inches high.

6. Valance Skirts: 1/4' solid surface on 3/4" plywood skirting with edge banding, secured to ADA Vanity Brackets, as indicated on drawings.

B. ADA Vanity Bracket
   1. Product: CounterBalance ADA(23") Vanity Bracket: https://www.counterbalanceshop.com
   2. 12 Gauge steel Bracket with Spring clips & screws for easy on/off skirt attachment
   3. Color: Black

2.02 MATERIALS

A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.

B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

C. Joint Sealant: Mildew-resistant silicone sealant, _____.to coordinate with adjacent color

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.
   4. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.

B. Solid Surfacing: Fabricate tops and wall panels up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.
   1. Ceramic vanity bowls: Shop-mount securely to countertop with adhesives and mechanical m, using undermount configuration, as per manufacturer's instructions, and as detailed on drawings.

C. Counter Perimeter Frame and spacer:
   1. 2x4 fire-retardant-treated lumber at front and back below plywood underlayment, as needed.
   2. 3/4" thick exterior grade plywood full underlayment with waterproof adhesive.
   3. 1/8" minimum gap between support structure and any solid surface edge build-ups.
   4. Level to within 1/8" in 10' - 0".

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.

D. Verify actual site dimensions and location of adjacent materials prior to commencing work.

E. Notify Architect in writing of any conditions which would be detrimental to installation.

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 substrate supoorted on CUM wall with brackets. Esure substrate is level before installation; No shim between substrate and solid surface.
B. Install countertops with no more than 1/8" sag, bow or other variation from a straight line.
C. Seal joint between back/end splashes and vertical surfaces.
D. Provide backsplashes and endsplashes as indicated on Drawings. Adhere to countertops using a standard color-coordinated silicone sealant. Adhere applied sidesplashes to countertops using a standard color-matched silicone sealant. Provide coved backsplashes and endsplashes at walls and adjacent vertical surface. Fabricate radius cove at intersection of counters with backsplashes to dimensions shown on reviewed Shop Drawings. Adhere to countertops using manufacturer's standard color-coordinated joint adhesive.
E. Make plumbing connections to sinks in accordance with Division 22.

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, including adhesive residue from temporary packaging.

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 21-00-01 - GENERAL FIRE PROTECTION REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. The fire protection drawings and specifications are performance based. The fire protection contractor shall submit for review and approval plans that include, but not limited to, sprinkler head layout, current water flow test, and hydraulic calculations.

B. All work shall be completed in compliance with local codes, rules, and regulations. In the event that the plans conflict with any rules, regulation, or codes, the rules, regulations, and codes shall govern. Where the plans exceed code requirements, the plans shall govern.

C. The Contractor and his Subcontractors shall include all materials, labor, and necessary equipment in his bid.

1.02 DRAWINGS

A. The drawings are generally diagrammatic and show general location and arrangement of equipment, piping, and accessories. The contractor shall provide and install all necessary equipment, fittings, offsets and other components required to adapt to field conditions, interferences, and code requirements to deliver a complete and functional system.

B. Architectural and Structural drawings take precedence in all matters pertaining to the building structure. Fire Protection drawings take precedence in all matter pertaining to Fire Protection work and electrical drawings to electrical work. Where conflicts between trades exist, report conflicts or differences to the Architect and Engineer.

1.03 COORDINATION

A. The Contractor shall examine the plans and coordinate with other trades for scheduling of work.

B. Coordinate all penetrations with architectural and structural trades.

C. All fire sprinkler equipment and piping located above ceiling shall be installed to preserve ceiling heights listed on architect ceiling plans.

1.04 PERMITS AND FEES

A. The Contractor shall be responsible for coordinating and obtaining all applicable agency approvals for utility connections and permits.

1.05 ACTION SUBMITTALS

A. Provide product submittals for all required specification sections. Submittals shall be submitted in PDF format.

B. Contractor shall review and mark with approval stamp before submitting to Architect.

1.06 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code, Section IX.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROTECTION AND HANDLING OF EQUIPMENT

A. The Contractor shall be responsible for ensuring all equipment and materials delivered to the site are protected from theft and damage until time of project turnover to the Owner.

B. All fire protection piping and fixtures shall be protected from damage and use after installation.

3.02 FIELD QUALITY CONTROL

A. Field Service: Engage a trained service representative to test and inspect all installed equipment, assemblies and installations.
B. Perform functional tests on all installed equipment.
C. Any equipment that does not pass tests and inspections shall be considered defective.
D. Prepare test and inspection reports. Reports shall be included in Operation and Maintenance Manual turned over to Owner.

3.03 OPERATION AND MAINTANCE

A. Prior to final inspections, the Contractor shall provide training to the Owner on operation, adjustment, and maintenance on all installed equipment.
B. The Contractor shall prepare and turnover to the Owner a binder with all operation and maintained manuals for all equipment installed.

3.04 ACCESSIBILITY

A. All equipment installed shall fit within the designated space with adequate access for service and maintained and required by the manufacturer.

3.05 CLEANING

A. Each trade is responsible for maintain a clean and hazard free work area.
B. After each piece of equipment has been installed and tested, each system shall be cleaned and flushed.

3.06 PAINTING

A. All exposed fire protection systems in finished areas shall be painted to match surrounding finishes, unless restricted by code. See architectural plans for finishes.

END OF SECTION

SECTION 21-05-00 - COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Above ground piping.
B. Escutcheons.
C. Mechanical couplings.
D. Pipe hangers and supports.
E. Pipe sleeves.
F. Pipe sleeve-seal systems.
G. Piping specialties.
H. Pressure gauges.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.
B. Product Data: Provide manufacturer's catalog information. Indicate valve data and ratings.
C. Shop Drawings: Indicate pipe materials used, jointing methods, supports, and floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.
D. Operation and Maintenance Data: Include installation instructions and spare parts lists.
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 Valve Stem Packings: Two for each type and size of valve.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section.

1.04 DELIVERY, STORAGE, AND HANDLING

1.05 WARRANTY

A. See Section 01-78-00 - CLOSEOUT SUBMITTALS for additional warranty requirements.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Sprinkler-based System:
    1. Comply with NFPA 13 .
    2. See Section 21-13-00.
B. Welding Materials and Procedures: Comply with ASME BPVC-IX.
C. Provide system pipes, fittings, sleeves, escutcheons, seals, and other related accessories.

2.02 ABOVE GROUND PIPING

A. Steel Pipe: ASTM A135/A135M Schedule 10 or ASTM A795 Schedule 40, black.
    1. Steel Fittings: ASME B16.5 steel flanges and fittings.
    2. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings and ASME B16.4, threaded fittings.
    3. Malleable Iron Fittings: ASME B16.3, threaded fittings and ASTM A47/A47M.
    4. Mechanical Grooved Couplings: Malleable iron housing clamps to engage and lock, "C" shaped elastomeric sealing gasket, steel bolts, nuts, and washers; galvanized for

galvanized pipe.

2.03 PIPE SLEEVES

A. Vertical Piping:
   1. Sleeve Length: 1 inch above finished floor.
   2. Provide sealant for watertight joint.
B. Pipe Passing Through Below Grade Exterior Walls:
   1. Zinc-coated or cast-iron pipe.
   2. Provide watertight space with link rubber or modular seal between sleeve and pipe on both pipe ends.
C. Pipe Passing Through Mechanical, Laundry, and Animal Room Floors above Basement:
   1. Galvanized steel pipe or black iron pipe with asphalt coating.
   2. Connect sleeve with floor plate except in mechanical rooms.
D. Clearances:
   1. Provide allowance for insulated piping.
   2. Wall, Floor, Floor, Partitions, and Beam Flanges: 1 inch greater than external; pipe diameter.
   3. Rated Openings: Caulked tight with firestopping material complying with ASTM E814 in accordance with Section 07-84-00 to prevent the spread of fire, smoke, and gases.

2.04 PIPE SLEEVE-SEAL SYSTEMS

A. Manufacturers:
   1. Advance Products & Systems, Inc.
   2. GPT, a company of Enpro Industries, Inc.
   3. Metraflex Company.
   4. Pipeline Seal and Insulatore, Inc.
   5. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
B. Modular Mechanical Seals:
   1. Elastomer-based interlocking links to continuously fill annular space between pipe and wall-sleeve.
   2. Watertight seal between pipe and wall-sleeve.
   3. Size and select seal component materials in accordance with service requirements.
   4. Service Requirements:
      a. Corrosion resistant.
      b. Underground, buried, and wet conditions.
   5. Glass-reinforced plastic pressure end plates.
C. Wall Sleeve: PVC material with waterstop collar, and nailer end caps.
D. Sleeve-Forming Disk: Nonconductive plastic-based material, 3 inch thick.

2.05 ESCUTCHEONS

A. Material:
   1. Chrome-plated.
   2. Metals and Finish: Comply with ASME A112.18.1.
B. Construction:
   1. One-piece with set screw or spring clip fastener for new pipes.
   2. Split-Plate with concealed hinge and spring clip fasteners on existing pipes.
   3. Internal spring tension devices or setscrews to maintain a fixed position against a surface.

2.06 PIPE HANGERS AND SUPPORTS

A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron, adjustable swivel, split ring.
B. Hangers for Pipe Sizes 2 inches and Over: Carbon steel, adjustable, clevis.
C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
D. Vertical Support: Steel riser clamp.

2.07 MECHANICAL COUPLINGS

A. Rigid Mechanical Couplings for Grooved Joints:
   1. Dimensions and Testing: Comply with AWWA C606.
   2. Minimum Working Pressure: 300 psig.
   3. Housing Material: Fabricate of ductile iron complying with ASTM A536.
   4. Housing Coating: Factory applied orange enamel.
   5. Gasket Material: EPDM suitable for operating temperature range from minus 30 degrees F to 230 degrees F.
   6. Bolts and Nuts: Hot-dipped-galvanized or zinc-electroplated steel.

2.08 PIPING SPECIALTIES

A. Wet Pipe Sprinkler Alarm Valve: Check type valve with divided seat ring, rubber-faced clapper to automatically actuate water motor alarm, pressure retard chamber and variable pressure trim with the following additional capabilities and features:
   1. Activate electric alarm.
   2. Test and drain valve.
   3. Replaceable internal components without removing valve from installed position.
B. Auxiliary Drains: Condensate collection drain for each section of trapped pipe in preaction or dry fire protection system.
C. Air Venting Valves:
D. Backflow Preventer: Reduced-pressure principle valve assembly backflow preventer with drain and OS & Y gate valve on each end.
E. Commercial Riser Manifold: Preassembled and tested riser manifold in accordance with NFPA 13.
F. Test Connections:
   1. Inspector's Test Connection for Preaction and Dry Pipe Systems:
      a. Provide test connections approximately 6 feet above floor for each or portion of each sprinkler system equipped with an alarm device, located at most remote part of each system.
      b. Route test connection to an open-site drain location, excluding janitor sinks, accepting full flow without negative consequences.
      c. Supply discharge orifice with same size as corresponding sprinkler orifice.
      d. Limit vertical height of exterior wall penetration to 2 feet above finished grade.
   2. Backflow Preventer Test Connection:
      a. Provide downstream of the backflow prevention assembly, listed hose valves with 2.5-inch National Standard male hose threads with cap and chain.
      b. Provide one valve for each 250 gpm of system demand or fraction thereof.
      c. Provide permanent sign reading "Test Valve." See Section 21-05-53.
G. Water Flow Switch: Vane-type switch for mounting horizontally or vertically, with two contacts; rated 10 A at 125 VAC and 2.5 A at 24 VDC.
H. Fire Department Connections:

1. Type: Flush, wall mount made of corrosion-resistant metal complying with UL 405.
    a. Inlets: Two-way, 2-1/2 inch swivel fittings, internal threaded. Thread size and inlets according to NFPA 1963 or authority having jurisdiction. Brass caps with gaskets, chains, and lugs.
    b. Configuration: Vertical.
    c. Outlet: Back with pipe threads, 4 NPS.
        1) Location: Back.

2.09 PRESSURE GAUGES

A. Pressure Gauges: ASME B40.100, UL 393 drawn steel case, phosphor bronze bourdon tube, rotary brass movement, brass socket, with front recalibration adjustment, black scale on white background.
    1. Case: Steel with brass bourdon tube.
    2. Diameter: 4-1/2 inch.
    3. Mid-Scale Accuracy: One percent.
    4. Scale: Display in psi.

PART 3 EXECUTION

3.01 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
B. Remove scale and foreign material, from inside and outside, before assembly.
C. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

A. Install sprinkler system and service main piping, hangers, and supports in accordance with NFPA 13.
B. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
C. Install piping to conserve building space, to not interfere with use of space and other work.
D. Group piping whenever practical at common elevations.
E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
F. Pipe Hangers and Supports:
    1. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
    2. Place hangers within 12 inches of each horizontal elbow.
    3. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
    4. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.
    5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
G. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.
H. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc-rich primer to welding.
I. Structural Considerations:
    1. Do not penetrate building structural members unless indicated.

J. Provide sleeves when penetrating footings, floors, walls, and partitions. Seal pipe including sleeve penetrations to achieve fire resistance equivalent to fire separation required.
   1. Aboveground Piping:
      a. Pack solid using mineral fiber complying with ASTM C592.
      b. Fill space with an elastomer caulk to a depth of 0.50 inch where penetrations occur between conditioned and unconditioned spaces.
   2. All Rated Openings: Caulk tight with firestopping material complying with ASTM E814 in accordance with Section 07-84-00 to prevent the spread of fire, smoke, and gases.

K. Manufactured Sleeve-Seal Systems:
   1. Install manufactured sleeve-seal systems in sleeves located in grade slabs and exterior concrete walls at piping entrances into building.
   2. Provide sealing elements of the size, quantity, and type required for the piping and sleeve inner diameter or penetration diameter.
   3. Locate piping in center of sleeve or penetration.
   4. Install field assembled sleeve-seal system components in annular space between sleeve and piping.
   5. Tighten bolting for a watertight seal.
   6. Install in accordance with manufacturer's recommendations.

L. Escutcheons:
   1. Install and firmly attach escutcheons at piping penetrations into finished spaces.
   2. Provide escutcheons on both sides of partitions separating finished areas through which piping passes.
   3. Use chrome plated escutcheons in occupied spaces and to conceal openings in construction.

M. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, unions, and couplings for servicing are consistently provided.

3.03 CLEANING

A. Upon completion of work, clean all parts of the installation.

B. Clean equipment, pipes, valves, and fittings of grease, metal cuttings, and sludge that may have accumulated from the installation and testing of the system.

END OF SECTION

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SECTION 21-13-00 - FIRE-SUPPRESSION SPRINKLER SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wet-pipe sprinkler system.
B. System design, installation, and certification.
C. Fire department connections.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.
B. 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 Sprinklers: Type and size matching those installed in quantity required by referenced NFPA design and installation standard.
   3. Sprinkler Wrenches: For each sprinkler type.

1.04 QUALITY ASSURANCE

A. Comply with FM (AG) requirements.

1.05 MOCK-UP

A. Provide components for installation in mock-up.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in shipping containers and maintain in place until installation. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sprinklers, Valves, and Equipment:

2.02 SPRINKLER SYSTEM

A. Sprinkler System: Provide coverage for entire building.
B. Occupancy: Light hazard; comply with NFPA 13.
C. Water Supply: Determine volume and pressure from water flow test data.
D. Storage Cabinet for Spare Sprinklers and Tools: Steel, located adjacent to alarm valve.

2.03 SPRINKLERS

2.04 PIPING SPECIALTIES

2.05 PREACTION VALVE CONTROL PANEL

A. Provide a modular type control panel for electrically operated detection and extinguishing systems for each preaction valve.

2.06 PRESSURE MAINTENANCE PUMP

A. Type: Close coupled motor and positive displacement pump unit.
B. Construction: Bronze with stainless steel shafts, carbon bearings.
C. Motor: Open drip-proof, permanently lubricated.
D. Accessories: Include flexible hose connections.
E. Operation: Manual.

2.07 AIR COMPRESSOR

A. Compressor: Single-unit, electric motor driven, motor, motor starter, safety valves, check valves, air maintenance device incorporating electric pressure switch and unloader valve.

2.08 NITROGEN GENERATOR

A. Nitrogen Generator:

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with referenced NFPA design and installation standard.
B. Install equipment in accordance with manufacturer's instructions.
C. Place pipe runs to minimize obstruction to other work.
D. Place piping in concealed spaces above finished ceilings.
E. Apply masking tape or paper cover to ensure concealed sprinklers, cover plates, and sprinkler escutcheons do not receive field paint finish. Remove after painting. Replace painted sprinklers.
F. Flush entire piping system of foreign matter.
G. Hydrostatically test entire system.
H. Require test be witnessed by Fire Marshal.

3.02 INTERFACE WITH OTHER PRODUCTS

A. Ensure required devices are installed and connected as required to fire alarm system.

END OF SECTION

SECTION 22-00-01 - GENERAL PLUMBING REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Division includes all labor, materials, equipment, tools, supervision, start-up services, Owner training, etc., including all incidental and related items, necessary to complete installation and successfully test and start up and operate the Plumbing systems indicated on the drawings, and as described in each Section of Division 220000 Specifications.

B. All work shall be completed in compliance with local codes, rules, and regulations. In the event that the plans conflict with any rules, regulation, or codes, the rules, regulations, and codes shall govern. Where the plans exceed code requirements, the plans shall govern.

C. The Contractor and his Subcontractors shall include all materials, labor, and necessary equipment in his bid.

1.02 DRAWINGS

A. The drawings are generally diagrammatic and show general location and arrangement of equipment, piping, and accessories. The contractor shall provide and install all necessary equipment, fittings, offsets and other components required to adapt to field conditions, interferences, and code requirements to deliver a complete and functional system.

B. Deviations from the drawings, with the exception of changes to field conditions, and do not effect system functionality, shall not be made without the written approval of the Engineer.

C. Architectural and Structural drawings take precedence in all matters pertaining to the building structure. Plumbing drawings take precedence in all matter pertaining to Plumbing work and electrical drawings to electrical work. Where conflicts between trades exist, report conflicts or differences to the Architect and Engineer.

1.03 COORDINATION

A. The Contractor shall examine the plans and coordinate with other trades for scheduling of work.

B. Coordinate all penetrations with architectural and structural trades.

C. Refer to architectural plans for exact locations and heights of fixtures.

D. Refer to architectural plans for coordination of all ceiling mounted access panels for Plumbing equipment that requires access.

E. All Plumbing equipment and piping located above ceiling shall be installed to preserve ceiling heights listed on architect ceiling plans.

1.04 GUARANTEE

A. Contractor shall guarantee the all labor, materials, and equipment are free from defects. Contractor shall agree to replace or repair any part of thier project scope that becomes defective within one year from substantial completion and following acceptance from the Owner.

1.05 PERMITS AND FEES

A. The Contractor shall be responsible for coordinating and obtaining all applicable agency approvals for utility connections and permits.

1.06 ACTION SUBMITTALS

A. Provide product submittals for all required specification sections. Submittals shall be submitted in PDF format.

B. Contractor shall review and mark with approval stamp before submitting to Architect.

1.07 EQUIPMENT AND MATERIAL MANUFACTURERS

A. All equipment shall be provided with normally supplied accessories needed for complete installation.

B. All equipment shall be new and shall be standard products from the current manufacturer product line offering.

C. If an alternate manufacturer to the basis of design is submitted and approved, the Contractor shall assume all costs required to adapt the system to the submitted piece of equipment, including, but not limited to: piping, electrical work, and building alterations. Alternate equipment shall conform to all space requirements and operating conditions.

1.08 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code, Section IX.

1.09 FIELD CONDITIONS

A. Interruption of Existing Sanitary Waste and Domestic Water Serice: Do not interrupt service to facilities occupied by Owner or others unless permetted unde the following conditions and then only after arranging to provided temporary service according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of sanitary waste or domestic water service.
2. Do not proceed with interruption of service without Owner's written permission.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROTECTION AND HANDLING OF EQUIPMENT

A. The Contractor shall be responsible for ensuring all equipment and materials delivered to the site are protected from theft and damage until time of project turnover to the Owner.

B. All Plumbing fixtures and pipings shall be protected from damage and use after installation.

3.02 FIELD QUALITY CONTROL

A. Insp

1. Do not enclose, cover, or put piping into operation until is has been inspected and approved by authority having jurisdiction.
2. During installation, notify authority having jurisdiction at least one day before inspection must be made. Perform tests specifiedbelow in presence of authorities having jurisdiction:
    a. Rough-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures.
    b. Final Inspection: Arrange for authorities having jurisdiction to observe required piping tests.
3. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
4. Reports: prepare inspection reportsand have the signed by authorities having jurisdiction.
5. Piping and specialities shall be considered defective if they do not pass tests and inspections.

B. Prepare test and inspection reports. Reports shall be included with final Operations and Maintenance manual provided to Owner.

3.03 OPERATION AND MAINTANCE

A. Prior to final inspections, the Contractor shall provide training to the Owner on operation, adjustment, and maintenance on all installed equipment.
B. The Contractor shall prepare and turnover to the Owner a binder with all operation and maintained manuals for all equipment installed.

3.04 ACCESSIBILITY

A. All equipment installed shall fit within the designated space with adequate access for service and maintained and required by the manufacturer.

3.05 CLEANING AND PROTECTION

A. Each trade is responsible for maintain a clean and hazard free work area.
B. Protect sanitary waste, vent piping, and drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
C. Place plugs in ends of uncompleted piping at end of day and when work stops.
D. After each piece of equipment has been installed and tested, each system shall be cleaned and flushed.

3.06 PAINTING

A. All exposed plumbing systems in finished areas shall be painted to match surrounding finishes, unless restricted by code. See architectural plans for finishes.

END OF SECTION

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SECTION 22-10-05 - PLUMBING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sanitary waste piping, buried within 5 feet of building.
B. Sanitary waste piping, above grade.
C. Domestic water piping, above grade.

1.02 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.

1.03 QUALITY ASSURANCE

A. Perform work in accordance with applicable codes.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
B. Provide temporary protective coating on cast iron and steel valves.
C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.05 FIELD CONDITIONS

A. Do not install underground piping when bedding is wet or frozen.

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 WASTE PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Cast Iron Pipe: ASTM A74 service weight.
   1. Fittings: Cast iron.
   2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.
B. Cast Iron Pipe: CISPI 301, hubless.
   1. Fittings: Cast iron.
   2. Joints: CISPI 310, neoprene gasket and stainless steel clamp and shield assemblies.
C. PVC Pipe, Solid-wall: ASTM D2665 or ASTM D3034.
   1. Fittings: PVC.
   2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.03 SANITARY WASTE 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.
B. Cast Iron Pipe: CISPI 301, hubless, service weight.
   1. Fittings: Cast iron.

2. Joints: CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.

C. PVC Pipe, Solid-wall: ASTM D2665.
   1. Fittings: PVC.
   2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.04 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.
   2. Joints: ASTM B32, alloy Sn95 solder.
   3. Mechanical Press Sealed Fittings: Double-pressed type, NSF 61 and NSF 372 approved or certified, utilizing EPDM, nontoxic, synthetic rubber sealing elements.
      a. Manufacturers:
         1) Anvil International: www.anvilintl.com/#sle.
         2) Apollo Valves: www.apollovalves.com/#sle.
         3) Grinnell Products: www.grinnell.com/#sle.
         4) Viega LLC: www.viega.us/#sle.

2.05 PIPE FLANGES, UNIONS, AND COUPLINGS

A. Unions for Pipe Sizes 3 inch 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 Sizes Over 1 inch:
   1. Copper Tube and Pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.

C. No-Hub Couplings:
   1. Testing: In accordance with ASTM C1277 and CISPI 310.
   2. Gasket Material: Neoprene complying with ASTM C564.
   3. Band Material: Stainless steel.
   4. Eyelet Material: Stainless steel.

D. Shielded, Heavy Duty No-Hub Couplings:
   1. Testing: In accordance with ASTM C1540 and FM 1680.
   2. Gasket Material: Neoprene complying with ASTM C564.
   3. Band Material: Stainless steel.
   4. Eyelet Material: Stainless steel.

E. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.06 PIPE HANGERS AND SUPPORTS

A. See Section 22-05-29 for additional requirements.

B. 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.
   4. Vertical Pipe Support: Steel riser clamp.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that excavations are to required grade, dry, and not over-excavated.

3.02 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.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.
B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
C. Install piping to maintain headroom, conserve space, and not interfere with use of space.
D. Group piping whenever practical at common elevations.
E. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
F. Provide access where valves and fittings are not exposed.
G. Install vent piping penetrating roofed areas to maintain integrity of roof assembly.
H. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc-rich primer to welding.
I. Provide support for utility meters in accordance with requirements of utility companies.
J. Install bell and spigot pipe with bell end upstream.
K. Install valves with stems upright or horizontal, not inverted. See 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. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.
O. Pipe Hangers and Supports:
    1. Install in accordance with ASME B31.9.

3.04 APPLICATION

A. Install unions downstream of valves and at equipment or apparatus connections.

3.05 TOLERANCES

A. Drainage Piping: Establish invert elevations within 1/2 inch vertically of location indicated and slope to drain at minimum of 1/4 inch per foot (2%) slope.
B. Water Piping: Slope at minimum of 1/32 inch per foot and arrange to drain at low points.

3.06 FIELD TESTS AND INSPECTIONS

A. Verify and inspect systems according to requirements by the Authority Having Jurisdiction. In the absence of specific test and inspection procedures proceed as indicated below.
B. Domestic Water Systems:
    1. Perform hydrostatic testing for leakage prior to system disinfection.
    2. Test Preparation: Close each fixture valve or disconnect and cap each connected fixture.
    3. General:
        a. Fill the system with water and raise static head to 10 psi above service pressure. Minimum static head of 50 to 150 psi. As an exception, certain codes allow a maximum static pressure of 80 psi.
C. Test Results: Document and certify successful results, otherwise repair, document, and retest.

3.07 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Disinfect water distribution system in accordance with Section 33-01-10.58.
B. Prior to starting work, verify system is complete, flushed, and clean.
C. Ensure acidity (pH) of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).
D. Inject disinfectant, free chlorine in liquid, powder, tablet, or gas form throughout system to obtain 50 to 80 mg/L residual.
E. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.
F. Maintain disinfectant in system for 24 hours.
G. If final disinfectant residual tests less than 25 mg/L, repeat treatment.
H. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.
I. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

END OF SECTION

SECTION 22-40-00 - PLUMBING FIXTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush valve water closets.
B. Wall hung urinals.
C. Lavatories.
D. Mop sinks.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.
B. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.03 QUALITY ASSURANCE

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

1.04 DELIVERY, STORAGE, AND HANDLING

1.05 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 REGULATORY REQUIREMENTS

A. Comply with applicable codes for installation of plumbing systems.
B. Perform work in accordance with local health department regulations.
C. Provide certificate of compliance from Authority Having Jurisdiction indicating approval of installation.

2.03 FLUSH VALVE WATER CLOSETS

A. Water Closets:
   1. Vitreous china, ASME A112.19.2, floor mounted, siphon jet flush action, china bolt caps.
   2. Flush Valve: Exposed (top spud).
   3. Flush Operation: Sensor operated.
   4. Handle Height: 44 inches or less.
B. Flush Valves:
   1. Valve Supply Size: 1 inch.
   2. Valve Outlet Size: 1-1/2 inches.
   3. Manufacturers:
      a. Advanced Modern Technologies Corporation; _____: www.amtcorporation.com/#sle.
      b. American Standard, Inc; _____: www.americanstandard-us.com/#sle.
      c. Delany Products; _____: www.delanyproducts.com/#sle.
      d. Sloan Valve Company; _____: www.sloanvalve.com/#sle.
      e. Zurn Industries, LLC; ZEMS Series: www.zurn.com/#sle.
      f. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

4. Sensor-Operated:
    a. Type: ASME A112.19.5; chloramine-resistant clog-resistant dual-seat diaphragm valve complete with vacuum breaker, stops and accessories.
    b. Mechanism: Solenoid-operated piston or electronic motor-actuated operator with low-voltage powered infrared sensor, and mechanical override or override push button.
    c. Supplied Volume Capacity: 1.2 gal per flush.

C. Toilet Seats:
1. Manufacturers:
    a. American Standard, Inc; _____: www.americanstandard-us.com/#sle.
    b. Bemis Manufacturing Company; _____: www.bemismfg.com/#sle.
    c. Church Seat Company; _____: www.churchseats.com/#sle.
    d. DXV by American Standard, Inc; _____: www.dxv.com/#sle.
    e. Olsonite; _____: www.olsonite.com/#sle.
    f. PROFLO; Commercial - Baby Bowls, Open Front: www.ferguson.com/#sle.
    g. Zurn Industries, LLC; _____: www.zurn.com/#sle.
    h. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
2. Plastic: Solid, white finish, enlongated shape, open front, slow-closing hinged seat cover, extended back complete with self-sustaining hinges, and brass bolts with covers.

2.04 WALL HUNG URINALS

A. Manufacturers:
1. Advanced Modern Technologies Corporation; _____: www.amtcorporation.com/#sle.
2. American Standard, Inc; _____: www.americanstandard-us.com/#sle.
3. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com/#sle.
4. Kohler Company; _____: www.kohler.com/#sle.
5. PROFLO; 1800 Series - Half Stall, Rear Outlet: www.ferguson.com/#sle.
6. Viega LLC; _____: www.viega.us/#sle.
7. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

B. Vitreous china, ASME A112.19.2, wall hung with side shields and concealed carrier.
1. Consumption Volume: 1.0 gal per flush, maximum.
2. Flush Style: Washout.
3. Flush Valve: Exposed (top spud).
4. Flush Operation: Sensor operated.
5. Trapway Outlet: Integral.
6. Removable stainless steel strainer.
7. Supply Size: 3/4 inch.
8. Outlet Size and Location: 2 inches, bottom side.

C. Flush Valves:
1. Manufacturers:
    a. Advanced Modern Technologies Corporation; AEF-800 Series: www.amtcorporation.com/#sle.
    b. American Standard, Inc; _____: www.americanstandard-us.com/#sle.
    c. Delany Products; _____: www.delanyproducts.com/#sle.
    d. Sloan Valve Company; _____: www.sloanvalve.com/#sle.
    e. Zurn Industries, LLC; ZEMS Series: www.zurn.com/#sle.
    f. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
2. Sensor-Operated:

a. Type: ASME A112.19.5; chloramine-resistant, clog-resistant dual-seat diaphragm valve with vacuum breaker, stops and accessories.
b. Mechanism: Solenoid-operated piston or electronic motor-actuated operator with low-voltage powered infrared sensor, and mechanical override or override push button.
c. Supplied Volume Capacity: 0.5 gal per flush.

2.05 LAVATORIES

A. Manufacturers:
1. Basis-of-Design: American Standard, Inc; Ovalyn Model 0496221: www.americanstandard-us.com/#sle.
2. DXV by American Standard, Inc; _____: www.dxv.com/#sle.
3. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com/#sle.
4. Kohler Company; _____: www.kohler.com/#sle.
5. Zurn Industries, LLC; _____: www.zurn.com/#sle.
6. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

B. Under-Mount Basin:
1. Vitreous China: ASME A112.19.2; white, oval shape, front overflow, seal of putty, caulking, or concealed vinyl gasket, and white finish. Size: 17 inches wide by 14 inches front to back.

C. Supply Faucet:
1. Manufacturers:
a. Advanced Modern Technologies Corporation; AEF-300 Series, Deck Mounted: www.amtcorporation.com/#sle.
b. American Standard, Inc; _____: www.americanstandard-us.com/#sle.
c. DXV by American Standard, Inc; _____: www.dxv.com/#sle.
d. Grohe America, Inc; _____: www.grohe.com/us/#sle.
e. Kohler Company; _____: www.kohler.com/#sle.
f. PROFLO; PFXU308: www.ferguson.com/#sle.
g. Zurn Industries, LLC; Aqua Sense Series: www.zurn.com/#sle.
h. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
2. Double Lever Handle, Commercial, Faucet: ASME A112.18.1; deck-mount, ceramic cartridge disc valve, and maximum flow of 1.5 gpm. Polished chrome finish.

D. Thermostatic Mixing Valve:
1. ASSE 1070 listed with combination stop, strainer, and check valves, and flexible stainless steel connectors.

2.06 UNDER-LAVATORY PIPE SUPPLY COVERS

A. General:
1. Insulate exposed drainage piping including hot, cold and tempered water supplies under lavatories or sinks per ADA Standards.
2. Construction: 1/8 inch PVC with antimicrobial, antifungal and UV resistant properties.
a. Comply with ASME A112.18.9 for covers on accessible lavatory piping.
b. Comply with ICC A117.1.

2.07 MOP SINKS

A. Manufacturers:
1. Acorn Engineering Company; _____: www.acorneng.com/#sle.
2. American Bath Group; _____: www.americanbathgroup.com/#sle.
3. Just Manufacturing Company; _____: www.justmfg.com/#sle.

4. Metcraft Industries, Inc; _____: metcraftindustries.com/#sle.
5. Zurn Industries, LLC; _____: www.zurn.com/#sle.
6. E.L. Mustee & Sons: www.mustee.com/#sle.
7. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

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 components level and plumb.

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. Repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 23-00-01 - GENERAL HVAC REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Division includes all labor, materials, equipment, tools, supervision, start-up services, Owner training, etc., including all incidental and related items, necessary to complete installation and successfully test and start up and operate the HVAC systems indicated on the drawings, and as described in each Section of Division 230000 Specifications.

B. All work shall be completed in compliance with local codes, rules, and regulations. In the event that the plans conflict with any rules, regulation, or codes, the rules, regulations, and codes shall govern. Where the plans exceed code requirements, the plans shall govern.

C. The Contractor and his Subcontractors shall include all materials, labor, and necessary equipment in his bid.

1.02 DRAWINGS

A. The drawings are generally diagrammatic and show general location and arrangement of equipment, piping, and accessories. The contractor shall provide and install all necessary equipment, fittings, offsets and other components required to adapt to field conditions, interferences, and code requirements to deliver a complete and functional system.

B. Deviations from the drawings, with the exception of changes to field conditions, and do not effect system functionality, shall not be made without the written approval of the Engineer.

C. Architectural and Structural drawings take precedence in all matters pertaining to the building structure. HVAC drawings take precedence in all matter pertaining to HVAC work and electrical drawings to electrical work. Where conflicts between trades exist, report conflicts or differences to the Architect and Engineer.

1.03 COORDINATION

A. The Contractor shall examine the plans and coordinate with other trades for scheduling of work.

B. Coordinate all penetrations with architectural and structural trades.

C. Refer to architectural plans for exact locations and heights of fixtures.

D. Refer to architectural plans for coordination of all ceiling mounted access panels for HVAC equipment that requires access.

E. All HVAC equipment and piping located above ceiling shall be installed to preserve ceiling heights listed on architect ceiling plans.

1.04 PERMITS AND FEES

A. The Contractor shall be responsible for coordinating and obtaining all applicable agency approvals for utility connections and permits.

1.05 ACTION SUBMITTALS

A. Provide product submittals for all required specification sections. Submittals shall be submitted in PDF format.

B. Contractor shall review and mark with approval stamp before submitting to Architect.

1.06 EQUIPMENT AND MATERIAL MANUFACTURERS

A. All equipment shall be provided with normally supplied accessories needed for complete installation.

B. All equipment shall be new and shall be standard products from the current manufacturer product line offering.

C. If an alternate manufacturer to the basis of design is submitted and approved, the Contractor shall assume all costs required to adapt the system to the submitted piece of equipment, including, but not limited to: piping, sheet metal, electrical work, and building alterations. Alternate equipment shall conform to all space requirements and operating conditions.

1.07 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code, Section IX.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROTECTION AND HANDLING OF EQUIPMENT

A. The Contractor shall be responsible for ensuring all equipment and materials delivered to the site are protected from theft and damage until time of project turnover to the Owner.
B. All HVAC fixtures, ductwork, and pipings shall be protected from damage and use after installation.

3.02 FIELD QUALITY CONTROL

A. Field Service: Engage a trained service representative to test and inspect all installed equipment, assemblies and installations.
B. Perform functional tests on all installed equipment.
C. Any equipment that does not pass tests and inspections shall be considered defective.
D. Prepare test and inspection reports. Reports shall be included in Operation and Maintenance Manual turned over to Owner.

3.03 OPERATION AND MAINTANCE

A. Prior to final inspections, the Contractor shall provide training to the Owner on operation, adjustment, and maintenance on all installed equipment.
B. The Contractor shall prepare and turnover to the Owner a binder with all operation and maintained manuals for all equipment installed.

3.04 ACCESSIBILITY

A. All equipment installed shall fit within the designated space with adequate access for service and maintained and required by the manufacturer.

3.05 CLEANING

A. Each trade is responsible for maintain a clean and hazard free work area.
B. After each piece of equipment has been installed and tested, each system shall be cleaned and flushed.

3.06 PAINTING

A. All exposed HVAC systems in finished areas shall be painted to match surrounding finishes, unless restricted by code. See architectural plans for finishes.

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.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.

B. 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. 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. Procedures for formal deficiency reports, including scope, frequency and distribution.

C. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.

1. Revise TAB plan to reflect actual procedures and submit as part of final report.
2. 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.
3. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
4. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
5. Units of Measure: Report data in both I-P (inch-pound) and SI (metric) units.

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. SMACNA (TAB).

B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.

C. 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:
    a. AABC, Associated Air Balance Council: www.aabc.com/#sle; upon completion submit AABC National Performance Guaranty.
    b. NEBB, National Environmental Balancing Bureau: www.nebb.org/#sle.
    c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: www.tabbcertified.org/#sle.

D. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

3.02 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:

3.03 PREPARATION

A. Hold a pre-balancing meeting at least one week prior to starting TAB work.
B. Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Architect to facilitate spot checks during testing.

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.
C. Hydronic Systems: Adjust to within plus or minus 10 percent of design.

3.05 RECORDING AND ADJUSTING

A. Ensure recorded data represents actual measured or observed conditions.
B. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
C. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
D. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

3.06 AIR SYSTEM PROCEDURE

A. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
B. Measure air quantities at air inlets and outlets.
C. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.
D. Provide system schematic with required and actual air quantities recorded at each outlet or inlet.

3.07 MINIMUM DATA TO BE REPORTED

A. 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. Sheave Make/Size/Bore.
    10. Number of Belts/Make/Size.
    11. Fan RPM.

END OF SECTION

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SECTION 23-34-23 - HVAC POWER VENTILATORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Roof exhausters.
B. Inline centrifugal fans and blowers.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate fan roof curbs and service utilities installation according to fan size.

1.03 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 plotted, power, rpm, sound power levels at rated capacity, and electrical characteristics and connection requirements.

1.04 FIELD CONDITIONS

A. Request Owner permission to use permanent ventilator(s) for ventilation during construction.

PART 2 PRODUCTS

2.01 POWER VENTILATORS - GENERAL

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following, but not limited to :
   1. Greenheck Fan Corporation.
   2. PennBarry, Division of Air System Components.
   3. Twin City Fan Company.
   4. Loren Cook.
   5. CaptiveAire.
   6. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
B. Static and Dynamically Balanced: Comply with AMCA 204.
C. Performance Ratings: Comply with AMCA 210, bearing certified rating seal.
D. Sound Ratings: Comply with AMCA 301, tested to AMCA 300, bearing certified sound ratings seal.
E. Fabrication: Comply with AMCA 99.
F. Electrical Components: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

2.02 INLINE CENTRIFUGAL FANS AND BLOWERS

A. Manufacturers:
   1. Canarm Ltd; 200-DD-EC : www.canarm.com/#sle.
   2. Greenheck Fan Corporation; _____: www.greenheck.com/#sle.
   3. Loren Cook Company; _____: www.lorencook.com/#sle.
   4. Panasonic Corporation of North America; WhisperLine: www.panasonic.com/#sle.
   5. PennBarry, Division of Air System Components; _____: www.pennbarry.com/#sle.
   6. Twin City Fan & Blower; BSI: www.tcf.com/#sle.
   7. [Acme Engineering & Manufacturing Corporation.].
   8. [Hartzell Fan Incorporated.].
   9. [JencoFan.].
   10. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

B. Centrifugal Fan Unit: direct driven, with galvanized steel housing lined with acoustic insulation, resiliently-mounted motor, gravity backdraft damper in discharge.

C. Backward Inclined Blower:
   1. Direct-driven, resiliently mounted motor, heavy-duty ball bearings, galvanized steel housing for indoor service, and removable service panels.
   2. Service Temperature: Minus 65 to 250 degrees F.
   3. Operation: As indicated on drawings.
   4. Accessories: Provide external vibration isolator spring, filter section, and MERV- __ filters.

D. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm gets reached with sheaves set at mid-position; fan shaft with self-aligning prelubricated ball bearings.

E. Performance Ratings: As indicated on drawings.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

END OF SECTION

SECTION 23-37-00 - AIR OUTLETS AND INLETS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Registers/grilles:
   1. Ceiling-mounted, exhaust register/grilles.
   2. Ceiling-mounted, supply register/grilles.

1.02 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.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Carnes, a division of Carnes Company Inc; _____: www.carnes.com/#sle.
B. Hart & Cooley, Inc; _____: www.hartandcooley.com/#sle.
C. Krueger-HVAC.
D. Price Industries.
E. Ruskin Company; _____: www.ruskin.com/#sle.
F. Titus, a brand of Air Distribution Technologies.
G. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

2.02 CEILING SUPPLY REGISTERS/GRILLES

A. Type: Streamlined and individually adjustable curved blades to discharge air along face of grille, two-way deflection.
B. Frame: 1-1/4 inch margin with countersunk screw mounting and gasket.
C. Construction: Made of steel or alumnium with factory enamel finish.
D. Color: As indicated on drawings.
E. Damper: Opposed blade damper with operator accessible through face of grille.

2.03 CEILING EXHAUST REGISTERSGRILLES

A. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with blades set at 45 degrees, vertical face.
B. Frame: 1-1/4 inch margin with countersunk screw mounting.
C. Fabrication: Steel or aluminum extrusions, with factory baked enamel finish.
D. Color: As indicated on the drawings.

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 comply with architectural features, symmetry, and lighting arrangement.
C. Provide balancing dampers on duct take-off to grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.
D. Paint ductwork visible behind air outlets and inlets matte black, see Section 09-91-23.

END OF SECTION

SECTION 26-05-05 - SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Electrical demolition.

1.02 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.

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 that abandoned wiring and equipment serve only abandoned facilities.
B. 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.
D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

A. Remove, relocate, and extend existing installations to accommodate new construction.
B. Remove abandoned wiring to source of supply.
C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
D. 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.
E. Repair adjacent construction and finishes damaged during demolition and extension work.
F. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

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.

END OF SECTION

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SECTION 26-05-19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Single conductor building wire.
B. Wiring connectors.
C. Electrical tape.
D. Wire pulling lubricant.

1.02 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 Contract Documents. Obtain direction before proceeding with work.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.
C. 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 Manufactured Wiring Systems Cable Assemblies: One of each configuration, 6 feet length.

1.04 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Architect and obtain direction before proceeding with work.

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.

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. Conductor Material:
    1. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
    2. Tinned Copper Conductors: Comply with ASTM B33.
H. 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.
    3. Color Code:
        a. Equipment Ground, All Systems: Green.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Description: Single conductor insulated wire.
B. Conductor Stranding:
    1. Feeders and Branch Circuits:
        a. Size 10 AWG and Smaller: Solid.
        b. Size 8 AWG and Larger: Stranded.
C. Insulation Voltage Rating: 600 V.
D. Insulation:
    1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.

2.04 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.

2.05 ACCESSORIES

A. Electrical Tape:
    1. 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.
B. Wire Pulling Lubricant:
    1. Listed and labeled as complying with UL 267.
    2. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
    3. Suitable for use at installation temperature.

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. Install products in accordance with manufacturer's instructions.
B. Perform work in accordance with NECA 1 (general workmanship).
C. 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.
D. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
E. 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.
F. Install conductors with a minimum of 12 inches of slack at each outlet.
G. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
H. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
I. 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 contaminates. Do not use wire brush on plated connector surfaces.
J. 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.
K. Insulate ends of spare conductors using vinyl insulating electrical tape.
L. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07-84-00.
M. 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. Inspect and test in accordance with NETA ATS, except Section 4.
C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION

SECTION 26-05-29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with actual equipment and components to be installed.
   2. Coordinate work to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at installed locations.
   4. Coordinate arrangement of supports with ductwork, piping, equipment and other potential conflicts.
   5. Notify Architect of conflicts with or deviations from 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 cured; see Section 03-30-00.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for channel/strut framing systems, nonpenetrating rooftop supports, and post-installed concrete/masonry anchors.

C. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.

1.04 QUALITY ASSURANCE

1.05 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Comply with the following. Where requirements differ, comply with most stringent.
      a. NFPA 70.
      b. Requirements of authorities having jurisdiction.
   2. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
   3. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
   4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.

5. Do not use products for applications other than as permitted by NFPA 70 and product listing.
6. Steel Components: Use corrosion-resistant materials suitable for environment where installed.
    a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
    b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
2. Conduit Clamps: Bolted type unless otherwise indicated.

C. Outlet Box Supports: Hangers and brackets suitable for boxes to be supported.

D. Metal Channel/Strut Framing Systems:
1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
2. Comply with MFMA-4.

E. Hanger Rods: Threaded, zinc-plated steel unless otherwise indicated.

F. Anchors and Fasteners:
1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.

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. Install hangers and supports in accordance with NECA 1.

C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

D. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.

E. Unless specifically indicated or approved by Architect, do not provide support from roof deck.

F. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

G. 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. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

H. Secure fasteners in accordance with manufacturer's recommended torque settings.

I. 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

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SECTION 26-05-33.13 - CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).
B. Galvanized steel electrical metallic tubing (EMT).

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with actual type and quantity of conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate arrangement of conduits with structural members, ductwork, piping, equipment, and other potential conflicts.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment.
   4. Coordinate work to provide roof penetrations that preserve integrity of roofing system and do not void roof warranty.
   5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
B. Sequencing:
   1. Do not begin installation of conductors and cables until installation of conduit between termination points is complete.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS for submittals procedures.
B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.
C. Shop Drawings:
   1. Indicate proposed arrangement for conduits to be installed within structural concrete slabs, where permitted.

1.04 QUALITY ASSURANCE

1.05 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.
B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most restrictive requirements. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.

2.02 CONDUIT - GENERAL REQUIREMENTS

A. Comply with NFPA 70.
B. Provide conduit, fittings, supports, and accessories required for complete raceway system.
C. Provide products listed, classified, and labeled as suitable for purpose intended.

D. 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. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
   2. Material: Use steel or malleable iron.
   3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.04 GALVANIZED STEEL ELECTRICAL METALLIC TUBING (EMT)

A. Description: NFPA 70, Type EMT galvanized 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.
   3. Connectors and Couplings: Use compression/gland or set-screw type.
      a. Do not use indenter type connectors and couplings.

2.05 ACCESSORIES

A. Conduit Joint Compound: Corrosion-resistant, electrically conductive compound listed as complying with UL 2419; suitable for use with conduit to be installed.

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.

3.02 INSTALLATION

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

B. Install conduit in accordance with NECA 1.

C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.

D. Conduit Support:
   1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 26-05-29.
   2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

E. 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. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
5. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
6. Secure joints and connections to provide mechanical strength and electrical continuity.

F. 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. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
6. 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.
7. Install firestopping to preserve fire resistance rating of partitions and other elements; see Section 07-84-00.

G. 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 conduits are subject to earth movement by settlement or frost.

H. Conduit Sealing:
1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
a. Where conduits enter building from outside.
b. Where service conduits enter building from underground distribution system.
c. Where conduits enter building from underground.
d. Where conduits may transport moisture to contact live parts.
2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
a. Where conduits pass from outdoors into conditioned interior spaces.
b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.

I. Provide grounding and bonding; see Section 26-05-26.

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.
C. Accessories.

1.02 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 Contract Documents. Obtain direction before proceeding with work.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures.
C. 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. Comply with requirements of NFPA 70.

1.05 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 suitable concrete type boxes where flush-mounted in concrete.
4. Use suitable masonry type boxes where flush-mounted in masonry walls.
5. Use raised covers suitable for the type of wall construction and device configuration where required.
6. Use shallow boxes where required by the type of wall construction.
7. Do not use "through-wall" boxes designed for access from both sides of wall.
8. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
9. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
10. 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.
11. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
12. Wall Plates: Comply with Section 26-27-26.

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:
3. Junction and Pull Boxes Larger Than 100 cubic inches:
a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

2.02 ACCESSORIES

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. 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.

E. Install boxes plumb and level.

F. 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.

G. Install boxes as required to preserve insulation integrity.

H. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

I. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07-84-00.

J. Close unused box openings.

K. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

L. Provide grounding and bonding in accordance with Section 26-05-26.

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

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SECTION 26-27-26 - WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall switches.
B. Receptacles.
C. Wall plates.

1.02 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 installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
   4. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.03 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. 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. Comply with requirements of NFPA 70.
B. Products: Listed, classified, and labeled as suitable for the purpose intended.

1.05 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 WIRING DEVICE APPLICATIONS

A. Provide wiring devices suitable for intended use and with ratings adequate for load served.
B. Provide GFCI protection for receptacles installed within 6 feet of sinks.

2.02 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.

2.03 WALL SWITCHES

A. Manufacturers:
   1. Hubbell Incorporated: www.hubbell.com/#sle.
   2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   3. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   4. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.
B. 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.

C. Standard Wall Switches: Industrial 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.

2.04 RECEPTACLES

A. Manufacturers:
   1. Hubbell Incorporated: www.hubbell.com/#sle.
   2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   3. Lutron Electronics Company, Inc: www.lutron.com/#sle.
   4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   5. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

B. 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.

C. Convenience Receptacles:
   1. Standard Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R; single or duplex as indicated on the drawings.

D. 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.
   2. Standard GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.

2.05 WALL PLATES

A. Manufacturers:
   1. Hubbell Incorporated: www.hubbell-wiring.com/#sle.
   2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   3. Lutron Electronics Company, Inc: www.lutron.com/#sle.
   4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   5. Substitutions: See Section 01-60-00 - PRODUCT REQUIREMENTS.

B. 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.

C. 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.
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. Install wiring devices plumb and level with mounting yoke held rigidly in place.
I. Install wall switches with OFF position down.
J. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.
K. 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.
L. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

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, wall dimmer, and fan speed controller with circuit energized to verify proper operation.
D. Test each receptacle to verify operation and proper polarity.
E. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.
F. 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

SECTION 26-51-00 - INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior luminaires.
B. Emergency lighting units.

1.02 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. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.03 SUBMITTALS

A. See Section 01-30-00 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.
B. 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.

1.04 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.05 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.
B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.06 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.07 WARRANTY

A. See Section 01-78-00 - CLOSEOUT SUBMITTALS, for additional warranty requirements.

PART 2 PRODUCTS

2.01 LUMINAIRES

A. Provide products that comply with requirements of NFPA 70.
B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
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.

2.02 EMERGENCY LIGHTING UNITS

A. Description: Emergency lighting units complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.
B. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.
C. Battery:
    1. Size battery to supply all connected lamps, including emergency remote heads where indicated.
D. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation.
E. Provide low-voltage disconnect to prevent battery damage from deep discharge.

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. Install products in accordance with manufacturer's instructions.
C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).
D. Provide required support and attachment in accordance with Section 26-05-29.
E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
F. Install accessories furnished with each luminaire.
G. Bond products and metal accessories to branch circuit equipment grounding conductor.
H. Emergency Lighting Units:
I. Install 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. Test self-powered exit signs, emergency lighting units, and fluorescent emergency power supply units to verify proper operation upon loss of normal power supply.
E. 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.
B. Aim and position adjustable emergency lighting unit lamps to achieve optimum illumination of egress path as required or as directed by Architect or authority having jurisdiction.

3.06 CLEANING

A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.07 CLOSEOUT ACTIVITIES

3.08 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

END OF SECTION