



1015 North 98th Street  
Suite 300  
Omaha, NE 68114-2334

architecture  
landscape architecture  
interior design  
construction management



**Titan Hill Exterior Envelope**  
**Lewis Central Community School District**

4125 Harry Langdon Blvd.  
Council Bluffs, Iowa 51503

**Project Manual**  
**Combined Contract**

BCDM Project Number: 5551-03  
7 November 2025

**DIVISION 00 – PROCUREMENT AND  
CONTRACTING REQUIREMENTS**

**SECTION 00 01 07  
SEALS PAGE**

**OWNER:**

- A. Lewis Central Community School District  
4121 Harry Langdon Blvd.  
Council Bluffs, Iowa 51503  
Phone: (402) 453-2468

**ARCHITECT:**

- A. BCDM Architects  
1015 North 98th Street, Suite 300  
Omaha, Nebraska 68114-2334  
Phone: 402-391-2211
- B. I, Greg Stieren, am the Coordinating Professional and Architect for the Titan Hill Exterior Envelope dated November 7, 2025.

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>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 REGISTERED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.</p> <p>SIGN &amp; DATE: <u>Greg Stieren 11/7/2025</u></p> <p>PRINTED NAME: GREGORY S. STIEREN</p> <p>LICENSE NUMBER: 07744</p> <p>MY LICENSE RENEWAL DATE IS JUNE 30: 2027</p> <p>PAGES/ SHEETS/ DIVISIONS COVERED BY THIS SEAL:</p> |
|                                                                                     | <p>ONLY THESE COPIES OF THIS DOCUMENT SIGNED IN CONTRASTING INK COLOR ARE TO BE CONSIDERED CERTIFIED OFFICIAL COPIES PER IOWA ADMINISTRATION CODE 554D.</p>                                                                                                                                                                                                                                                                                                                         |

**STRUCTURAL ENGINEER:**

|                                                                                   |                                                                                                                                                                                                     |         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|  | 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. |         |
|                                                                                   |                                                                                                                    | 11/7/25 |
|                                                                                   | (signature)                                                                                                                                                                                         | (date)  |
|                                                                                   | Printed or typed name <b>BRIAN KLARE</b>                                                                                                                                                            |         |
|                                                                                   | License number <u>P17265</u>                                                                                                                                                                        |         |
|                                                                                   | My license renewal date is December 31, <u>2025</u>                                                                                                                                                 |         |
| Pages or sheets covered by this seal: <u>SPECIFICATIONS</u>                       |                                                                                                                                                                                                     |         |
| <u>SECTIONS: 033000 &amp; 055000</u>                                              |                                                                                                                                                                                                     |         |
| <u> </u>                                                                          |                                                                                                                                                                                                     |         |

**ELECTRICAL ENGINEER:**

|                                                                                     |                                                                                                                                                                                                     |           |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|  | 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. |           |
|                                                                                     |                                                                                                                  | 11/7/2025 |
|                                                                                     | JEFFREY R. HEMJE                                                                                                                                                                                    | (date)    |
|                                                                                     | My license renewal date is December 31, 2025                                                                                                                                                        |           |
|                                                                                     | Pages or sheets covered by this seal:                                                                                                                                                               |           |
|                                                                                     | <u>Specification 281100</u>                                                                                                                                                                         |           |
| <u> </u>                                                                            |                                                                                                                                                                                                     |           |

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Titan Hill Exterior Envelope

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**1.01 THE OWNER:**

- A. Lewis Central Community School District, 4121 Harry Langdon Blvd., Council Bluffs, Iowa 51503.

**1.02 THE ARCHITECT:**

- A. BCDM Architects , 1015 North 98th Street, Suite 300, Omaha, Nebraska 68114.
- B. BCDM Project No. 5551-03

**1.03 TO: POTENTIAL BIDDERS**

- A. The Lewis Central Community School District will receive sealed bids for a Combined Contract, including General, Mechanical and Electrical Work for the Titan Hill Exterior Envelope located at 4125 Harry Langdon Blvd., Council Bluffs, Iowa 51503.
- B. This Project consists of the replacement of all existing exterior hollow metal doors and frames, all exterior envelope control joints and window sealants, replacing lintels, and other exterior upgrades as shown on the Drawings.
- C. Bids must be on a Lump Sum basis.
- D. Bids for the Titan Hill Exterior Envelope will be received until 2:00 p.m. local time, December 11, 2025, at the Lewis Central Education Resource Center located at 4121 Harry Langdon Blvd., Council Bluffs, Iowa
- E. Bids received after this time will not be accepted. Bids will be publicly opened and read aloud.
- F. Bidding Documents may be examined at the following exchanges after November 7, 2025:
  - 1. DODGE DATA & ANALYTICS, 4300 Beltway Place, Suite 150, Arlington, TX 76018
  - 2. OMAHA BUILDERS EXCHANGE, 4159 South 94th Street, Omaha, NE 68127
  - 3. CONSTRUCT CONNECT, 30 Technology Parkway South, Suite 500, Norcross, GA 30092-2912
  - 4. LINCOLN BUILDERS BUREAU, 5910 South 58 St., Suite C, Lincoln, NE 68516
  - 5. MASTER BUILDERS OF IOWA, 4100 Westown Pkwy, West Des Moines, IA 50266
  - 6. SIOUX CITY BLUE PRINT, 709 Douglas Street, Sioux City, Iowa 51101
  - 7. SIOUX CITY CONSTRUCTION LEAGUE, 3900 Stadium Drive, Sioux City, Iowa 51102
  - 8. STANDARD SHARE, <http://www.standardsharev3.com>
- G. Bidders may obtain Bidding Documents electronically from A & D Technical Supply, 4320 South 89th Street, Omaha, Nebraska 68127 (402-592-4950) OR from Master Builders of Iowa, 4100 Westown Pkwy, West Des Moines, IA 50266 (515 288-8904) from 8:00 a.m. until 5:00 p.m. local time, Monday through Friday, in accord with the Instructions to Bidders.
- H. Bid security in the amount of 5 percent of the bid must accompany each bid in accord with the Instructions to Bidders.
- I. There will be a Pre-Bid Conference held at Titan Hill Intermediate School at 3:00 p.m. local time on November 19, 2025. Attendance of this Pre-Bid Conference is **suggested** for all General Contractors. Other subcontractors are highly encouraged to attend this Pre-Bid Conference.
- J. The Owner reserves the right to reject any or all bids and to waive informalities or irregularities in the bidding.

**DR. BRENT HOESING**

**SUPERINTENDENT OF SCHOOLS**

**LEWIS CENTRAL COMMUNITY SCHOOL DISTRICT**

**END OF SECTION**

**SECTION 00 20 13  
INSTRUCTIONS TO BIDDERS**

**PROJECT NAME: TITAN HILL EXTERIOR ENVELOPE**

**PROJECT CITY/STATE: COUNCIL BLUFFS, IOWA**

**BCDM PROJECT NO.: 5551-03.**

**1.01 INFORMATION FOR BIDDERS:**

- A. To be considered, bids must be made in accord with these Instructions to Bidders.
- B. Bidding Documents. Copies of the Bidding Documents may be obtained electronically from the printer, A & D Technical Supply, 4320 South 89th Street, Omaha, Nebraska 68127 (402-592-4950) OR from Master Builders of Iowa, 4100 Westown Pkwy, West Des Moines, IA 50266 (515 288-8904) between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Planholder's list and addenda, if any, may be viewed at [www.adtechsupply.com](http://www.adtechsupply.com) OR [www.mbi.build](http://www.mbi.build).
- C. Examination. Bidders shall carefully examine the Bidding Documents and construction site to obtain firsthand knowledge of existing conditions. Contractors will not be given extra payments for conditions which can be determined by examining the Bidding Documents.
- D. Submission of a bid will be construed that bidders are in compliance with this instruction.
- E. Questions. Submit all questions about Bidding Documents to the Architect, except Electrical questions shall be submitted to the Consulting Engineer, Morrissey Engineering. Replies will be issued to all Bidders of record as Addenda to the Drawings and Project Manual, and will become part of the Contract. The Architect/ Engineer and the Owner will not be responsible for oral clarification. Questions received less than 48 hours before the bid opening that will affect project construction schedule or project cost cannot be answered.
- F. Substitutions. To obtain approval to use unspecified products, bidders shall submit written requests at least 14 calendar days before the bid date and hour. Requests received after this time will not be considered. Requests shall clearly describe the product for which approval is asked, including all data necessary to demonstrate acceptability. If the product is acceptable, the Architect/Engineer will approve it in an Addendum issued to all bidders of record.
- G. Voluntary Substitutions. In the proper spaces shown on the Bid Form, proposals for substitute materials of other makes, but of similar design and equal quality, capacity and performance, are desired. The name and catalog number of proposed substitute items shall be given. The proposal of the substitute item is for the information of the Owner in the selection of desired materials from the successful bidder and will not affect the award of the Contract. The Lump Sum Base Bid shall be based upon the products specified or approved by Addendum.
- H. Basis of Bids. The bidder must include all bid items shown on the bid form; failure to comply may be cause for rejection. No segregated bids or assignments will be considered.
- I. Bid Security. Cash or a certified check, cashier's check, money order, or bank draft payable to the Lewis Central Community School District or a bid bond executed by the bidder, in the amount of 5 percent of the amount of the bid, shall be submitted with each bid.
- J. If a Bid Bond is submitted, it shall be issued by a surety company authorized by the State of Iowa to issue such bonds, and shall be acceptable to the Owner, and shall be submitted on AIA Document A310, February 1970 or later edition.
- K. Bid Security of the 2 lowest bidders will be retained until a contract is entered into and required bonds and insurance filed. This period will not exceed 30 days after the date of receipt of bids. The Bid Security of others will be returned after tabulation of bids is completed.
- L. Sales and Use Tax:
  - 1. Iowa Use Taxes shall be paid on all supplies and materials used in, and made component parts of, the Project.

2. Iowa Sales Taxes shall not be paid on qualified building materials purchased, or withdrawn from inventory, which will be incorporated into real property for Project.
  3. The Owner is a designated exempt entity and will complete an online application to register this Contract with the Iowa Department of Revenue and Finance. The Owner will distribute Tax Exemption Certificates and Authorization Letters to the Contractor and all Subcontractors who have been identified at, or before filing of the Performance Bond. Refer to Iowa Department of Revenue and Finance publications available at <http://www.state.ia.us/tax/business/Contr-ExEnt-Index.html>.
- M. Federal Excise Tax. The Owner is exempt from Federal Excise Tax. The bidder shall exclude from his bid all Federal Excise Tax on taxable items.
- N. Preparation of Bids. Bids shall be made on unaltered bid forms furnished by the Architect/Engineer. Fill in all blank spaces, and submit one copy. Bids shall be signed with the name typed below the signature. Where the bidder is a corporation, the bid must be signed with the legal signature of an officer authorized to bind the corporation to a Contract.
- O. Permits and Fees. Unless specifically noted below, all required permits and fees shall be applied and paid for by the General Contractor (or Subcontractor as coordinated by the GC).
- P. All utility company charges and inspection fees shall be paid by the appropriate Contractor or Subcontractor. All licenses (both permanent and temporary) necessary to perform the work shall be applied and paid for by the Contractor and appropriate Subcontractors.
- Q. Online Submittal Service Use and Fees. The General Contractor shall be responsible for establishing, paying the fees for, coordinating and utilizing an Online Submittal Service designed specifically for transmitting submittals between construction team members. See Section 01 30 00 - Administrative Requirements for additional information.
- R. Insurance requirements for the Contractor shall be as specified in the Supplementary Conditions of the Contract for Construction.
- S. Submittal: Bids shall be submitted in opaque, sealed envelopes bearing on the outside the bidder's name and address, and marked "Bid for Titan Hill Exterior Envelope - Combined Contract." If bids are sent by mail, they shall be received prior to the Bid Date and Time by Dr. Brent Hoising - Superintendent of Schools, Lewis Central Community School District - 4121 Harry Langdon Blvd., Council Bluffs, Iowa 51503.
- T. Modification and Withdrawal. Bids may not be modified after submittal. Bidders may withdraw bids at any time before opening, but may not resubmit them. No bid may be withdrawn or modified after the bid opening, except where the award of the Contract has been delayed for 30 days or more.
- U. Acceptance or Rejection of Bids. The Owner may reject any or all bids or waive defects in any bid if it be in his interest to do so.
- V. The Owner and the Architect/Engineer may make such investigations as they deem necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to them all such information and data for this purpose as they may request. The Owner and the Architect/Engineer reserve the right to reject any bid if the evidence submitted by, or investigation of such bidder fails to satisfy them that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein. Conditional bids may not be accepted.
- W. Disqualification. The Owner reserves the right to disqualify bids, before or after opening, upon evidence of collusion with the intent to defraud or other illegal practices upon the part of the bidder.
- X. Opening. Bids will be received until 2:00 p.m., local time, on December 11, 2025, at the Lewis Central Education Resource Center located at 4121 Harry Langdon Blvd., Council Bluffs, Iowa 51503. Bids received after this time will not be accepted.
- Y. Bids will be publicly opened and read aloud.

- Z. Schedule for Award of Contract and Substantial Completion. The required Substantial Completion date and date of Final Completion are specified in Section 01 10 00. While the paragraph above entitled "Modification and Withdrawal" requires that bids remain firm and valid for 30 days after the receipt of bids, it is the Owner's intent to present the bids and award a Contract on December 15, 2025 at 6:00 pm.

**END OF SECTION**

**SECTION 00 30 30  
BID FOR COMBINED CONTRACT**

**PROJECT NAME: TITAN HILL EXTERIOR ENVELOPE**

**PROJECT CITY/STATE: COUNCIL BLUFFS, IOWA**

**BCDM PROJECT NO.: 5551-03**

**0.01 BIDDING INFORMATION:**

- A. Bid of \_\_\_\_\_ a  
corporation organized and existing under the laws of the State of  
\_\_\_\_\_; or a partnership consisting of  
\_\_\_\_\_, partners; or an  
individual hereinafter called the bidder.
- B. To: Dr. Brent Hoelsing  
Superintendent of Schools  
Lewis Central Community School District  
4121 Harry Langdon Blvd.  
Council Bluffs, Iowa 51503
- C. The undersigned acknowledges that he/she has received and familiarized himself/herself with the following:
1. Project Manual dated November 7, 2025.
  2. Drawings:
    - a. Sheets G0-0 thru (1 Sheet)
    - b. Sheets C0-1 thru C1-2 (3 Sheets)
    - c. Sheets AD1-1 thru A4-1 (4 Sheets)
    - d. Sheets S0-0 thru S1-0 (2 Sheets)
    - e. Sheets E0-0 thru E1-0 (3 Sheets)
  3. Addenda: No. \_\_\_\_\_ through \_\_\_\_\_
- D. The undersigned further acknowledges that he/she has visited the site and familiarized himself/herself with local conditions affecting the cost of the Work at the place where the Work is to be done.
- E. In submitting this bid, the undersigned agrees:
1. To furnish all material, labor, tools, expendable equipment, and all utility and transportation services necessary to perform and complete, in a workmanlike manner, all of the Work required for the Combined Contract, including General Construction, Mechanical Work and Electrical Work in accord with the Bidding Documents prepared by BCDM and its subconsultants, for the consideration hereinafter set forth.
  2. To hold his/her bid open for 30 days after the receipt of bids, and to accept the provisions of the Instructions to Bidders regarding disposition of Bid Security.
  3. To enter into and execute a Contract, if awarded on the basis of this bid, and to furnish a Performance Bond and a Payment Bond in accord with the General Conditions and General Requirements of this Contract.
  4. To start and complete the Work according to the schedule specified in Section 01 10 00, and as shown on the Drawings.

**0.02 BIDDING REQUIREMENTS:**

- A. **LUMP SUM BASE BID.** The undersigned hereby proposes and agrees to perform the foregoing, for the Lump Sum of

\_\_\_\_\_ Dollars

(\$ \_\_\_\_\_).

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern).

- B. **VOLUNTARY SUBSTITUTIONS.** The undersigned proposes the following Voluntary Substitutions:

| 1. | <u>Product</u> | <u>Manufacturer</u> | <u>Model No.</u> | <u>Difference in Cost</u> |
|----|----------------|---------------------|------------------|---------------------------|
| a. | _____          | _____               | _____            | Add/Deduct \$ _____       |
| b. | _____          | _____               | _____            | Add/Deduct \$ _____       |
| c. | _____          | _____               | _____            | Add/Deduct \$ _____       |
| d. | _____          | _____               | _____            | Add/Deduct \$ _____       |

- C. The undersigned has attached the required Bid Security as stated in the Instructions to Bidders.
- D. In submitting this bid, it is understood that the right to reject any and all bids and to waive irregularities in the bidding has been reserved by the Owner.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2025

\_\_\_\_\_  
Name of Bidder

\_\_\_\_\_  
Address

\_\_\_\_\_  
City / State / Zip

\_\_\_\_\_  
Authorized Officer

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

**END OF SECTION**

**SECTION 00 60 00  
PROJECT FORMS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. The following project forms shall be used for their indicated purpose. All forms shall be furnished and prepared by the Contractor, except as noted.
- B. These forms may be examined at the office of the Architect/Engineer.
- C. Standard American Institute of Architects (AIA) forms are available for purchase from the following address:
  - AIA Nebraska
  - 102 Architecture Hall, University of Nebraska-Lincoln
  - PO Box 80045
  - Lincoln, Nebraska 68501-0045
  - Phone: (402) 472-1456

**1.02 PROJECT FORMS**

- A. BID PROPOSAL FORM - STIPULATED SUM
  - 1. Copy included previously under Section 00 30 30.
  - 2. Submit one copy.
- B. BID BOND
  - 1. AIA Document A310.
  - 2. Submit one copy with bid.
- C. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND
  - 1. Submit AIA Document A312.
  - 2. Submit three copies with contracts.
- D. CONTRACTOR'S QUALIFICATION STATEMENT
  - 1. AIA Document A305.
- E. GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION
  - 1. AIA Document A201 as modified by Owner.
  - 2. Copy included following Section 00 72 00.
- F. APPLICATION AND CERTIFICATE FOR PAYMENT AND CONTINUATION SHEETS
  - 1. AIA Document G702 and AIA Document G703.
  - 2. Contractor to submit a minimum of three copies.
- G. CONSENT OF SURETY COMPANY TO FINAL PAYMENT
  - 1. AIA Document G707.
  - 2. Submit two copies.

**PART 2 NOT USED.**

**PART 3 NOT USED.**

**END OF SECTION**

**SECTION 00 63 00  
CLARIFICATION AND MODIFICATION FORMS**

**PART 1 SCOPE**

**1.01 GENERAL**

- A. The following clarification and modification forms shall be used for their indicated purpose. All forms shall be furnished and prepared by the Architect/Engineer.
- B. These forms may be examined at the office of the Architect/Engineer.

**1.02 SAMPLE FORMS**

- A. CHANGE ORDER
  - 1. AIA Document G701.
  - 2. Furnished by Architect/Engineer.
- B. PROPOSAL REQUEST
  - 1. AIA Document G709
  - 2. Furnished by Architect/Engineer.
- C. ARCHITECT/ENGINEER'S SUPPLEMENTAL INSTRUCTIONS
  - 1. AIA Document G710
  - 2. Furnished by Architect/Engineer.
- D. CONSTRUCTION CHANGE DIRECTIVE
  - 1. AIA Document G714.
  - 2. Furnished by Architect/Engineer.

**PART 2 NOT USED.**

**PART 3 NOT USED.**

**END OF SECTION**

**SECTION 00 72 00  
GENERAL AND SUPPLEMENTARY CONDITIONS**

**OF THE CONTRACT FOR CONSTRUCTION**

**1.01 GENERAL CONDITIONS**

**A. ARTICLES 1 THROUGH 15**

1. The General Conditions of this Contract is the American Institute of Architects' Document A201, THE GENERAL CONDITIONS OF THE CONTRACT FOR THE CONSTRUCTION, 2007 Edition, 16 Articles, 43 pages, hereinafter referred to as the General Conditions, a copy of which may be referred to at the office of the Architect/Engineer.

**1.02 SUPPLEMENTARY CONDITIONS**

**A. MODIFICATIONS OF THE GENERAL CONDITIONS**

1. The following supplements modify, change, delete from, or add to the "General Conditions of the Contract for Construction", AIA Document A201, 2007 Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph, or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

**B. MODIFICATION OF PARAGRAPH 2.2.5**

1. Delete the last portion of this paragraph starting at "...Owner shall furnish..." and replace with the following:  
"...Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the work."

**C. MODIFICATION OF PARAGRAPH 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

1. Add the following Subparagraph 3.3.4:  
"3.3.4 The Prime General Contractor shall be responsible for assuring that the Mechanical and Electrical Subcontractors and all other involved trades have properly coordinated the exact placement of ducts, piping, lights conduit and other items in order to fit those items within the spaces provided. After extensive coordination and investigation, the Mechanical, Electrical and Structural Engineers and the Architect believe that, to the best of their knowledge, the items shown will fit within the spaces provided above ceilings, in walls, etc., if there is a reasonable amount of on-site preplanning and coordinating by the involved trades. The Drawings are diagrammatical and thus, bidders should expect that minor changes in the location, exact routing and size/proportion of certain ducts and other items will be necessary in order to fit the available spaces. Extra costs will not be accepted by the Owner and redesign will not be performed by the Architect/Engineer if such costs or redesign are necessitated by the Contractor's failure to perform routine coordination of the involved elements before the first of those items are installed. Extra costs and/or design will be an acceptable alternative if the items shown will not fit after the reasonable amount of field coordination outlined above has been accomplished."

**D. MODIFICATION OF PARAGRAPH 3.6, TAXES**

1. Add the following at the end of Paragraph 3.6:
  - a. "See Instructions to Bidders for other information regarding the responsibility of the Contractor relating to taxes."

**E. MODIFICATION OF PARAGRAPH 3.7 PERMITS, FEES AND NOTICES AND COMPLIANCE WITH LAWS**

1. Add the following at the end of Subparagraph 3.7.1:
  - a. "See Instructions to Bidders for other information regarding responsibilities of the Owner and Contractor for obtaining permits and paying for them."

F. MODIFICATION OF PARAGRAPH 3.9, SUPERINTENDENT

1. Add the following Subparagraph 3.9.4:
  - a. "3.9.4" The project superintendent shall be on the site as a full time employee of the Contractor, and solely dedicated to his/her responsibilities as superintendent for this Project. The superintendent shall be the same person throughout the construction period, and on the site from beginning of construction through the date of Substantial Completion. If the superintendent cannot continue his/her responsibilities throughout the construction period, the Contractor shall notify the Architect/Engineer in writing immediately. Substituting superintendent personnel by the Contractor must be approved in writing by the Architect/Engineer. The credentials of the person to serve as superintendent shall be submitted to the Architect/Engineer for approval."

G. MODIFICATION OF PARAGRAPH 7.2, CHANGE ORDERS

1. Add the following Subparagraph 7.2.2:
  - a. "7.2.2 The maximum percent which shall be allowed for Contractor's combined overhead and profit shall be as follows:
    - 1) For the Subcontractor, 10 percent of the net extra cost of the work he/she performs.
    - 2) For the Contractor, 5 percent of the net extra cost of the work performed by the Subcontractors.
    - 3) For the Contractor, 10 percent of the net extra cost of the work he/she performs with his/her own forces.
      - (a) The cost shall include all direct and necessary production costs of the work itself, i.e., labor and items incidental to labor (such as public liability and workmen's compensation insurance, old-age and unemployment insurance, social security), pro-rata charges for foremen, material, and the use of power tools and equipment. Among the items to be considered as overhead and not as cost are supervision, superintendents, timekeepers, clerks, watchmen, small tools; incidental job burdens, and general office expense. Costs for other insurance not previously stated and bond(s) required by the Contract shall be added to the subtotal after the previously stated percentage increases for overhead and profit are calculated.
      - (b) For each Change Order issued, the Contractor shall furnish an itemized, bona fide, written proposal in multiple-copy form and with such supporting papers as the Architect/Engineer may require."

H. MODIFICATION OF PARAGRAPH 8.3, DELAYS AND EXTENSION OF TIME

1. At Subparagraph 8.3.1, in line 5, delete the words "and arbitration".

I. MODIFICATION TO PARAGRAPH 9.3, APPLICATIONS FOR PAYMENT

1. Add the following at the end of Subparagraph 9.3.2:
  - a. Application for Payment may also be submitted for materials stored off-site, but only if these materials are stored in an insured facility within a 50 mile radius of the project location, and only if the respective Application contains evidence that such materials are properly insured. The Architect/Engineer will furnish, "Off-Site Storage Agreement" forms which must be filled out and attached to each Application which requests payment for materials stored off-site. Invoices for the materials stored off-site shall also be attached to the Application."

J. MODIFICATION OF PARAGRAPH 11.1, CONTRACTOR'S LIABILITY INSURANCE

1. Delete Paragraph 11.1.2 in its entirety, and substitute the following:
  - a. "11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than limits of liability specified below, or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made, shall be maintained without interruption from date of commencement of the work until date of final payment and termination of any coverage required to be maintained after final payment."
  - b. Insurance required by Section 11.1.2, shall be written for not less than limits of liability specified or required by law, whichever is greater:
  - c. Workers' Compensation - Statutory. Employers' Liability Insurance with minimum limits shown below
    - 1) Bodily injury by accident \$500,000 each accident
    - 2) Bodily injury by disease \$500,000 each accident
    - 3) Bodily injury by disease \$500,000 policy limit
  - d. Commercial General Liability Insurance, which shall be no less comprehensive and no more restrictive than coverage provided by a standard form Commercial General Liability Policy (ISO CG0001) with minimum limits shown below covering bodily injury, property damage and personal injury.
    - 1) General Aggregate Limit \$2,000,000
    - 2) Products Completed Operations Aggregate Limit \$2,000,000
    - 3) Personal and Advertising Injury Limit \$1,000,000
    - 4) Each Occurrence Limit \$1,000,000
    - 5) Fire Damage Limit (any one fire) \$ 50,000
    - 6) Medical Damage Limit (any one person) \$ 5,000
    - 7) This insurance must include the following features:
      - (a) Coverage shall be on an occurrence form and not claims made.
      - (b) Coverage for all premises and operations. Policy shall be endorsed to provide a per project aggregate endorsement.
      - (c) Personal and advertising injury.
      - (d) Operations by independent contractors.
      - (e) If work to be performed by Contractor includes construction or demolition operations within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass, or crossing, then such policy will include coverage for work done within 50 feet of a railroad right of way.
      - (f) Coverage for demolition of any building or structure, collapse, explosion, blasting, excavation and damage to property below surface of ground (XCU coverage)
      - (g) Policy shall not contain a total or absolute pollution exclusion. Coverage shall be provided for pollution exposures arising from products and completed operations. (As per standard CG0001 Pollution Exclusion or equivalent.)
      - (h) Products and completed operations shall be maintained for duration of work, and shall be further maintained for a minimum period of one year after final acceptance and payment, unless modified in the Special Provisions.
      - (i) In lieu of including Owner as an additional insured on Contractor's commercial general liability insurance, Owner, at its option, may require Contractor to provide an Owner's protective liability policy by special provision, or may allow Contractor to provide an Owner's protective liability policy by change order. If an Owner's protective liability policy is provided, minimum coverage, limits and exclusions shall be as shown above, and

Contractor's premium cost of obtaining such insurance shall be as shown above, and Contractor's premium cost of obtaining such insurance shall be considered incidental to work and shall not be subject to reimbursement by Owner.

- (j) Broad form blanket contractual liability to be included. Defense costs shall be in addition to policy limits.
- e. Automobile Liability Insurance, which shall be at least as broad as and no less restrictive than ISO form CA 0001, covering all owned, non-owned, hired and leased vehicles with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident. Insurance must include contractual liability coverage. Policy shall provide auto cargo pollution endorsement (ISO CA 99 48, or equivalent), if requested in special provisions. If work to be performed by Contractor includes construction or demolition operations within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass, or crossing, then such policy will include coverage for work done within 50 feet of a railroad right of way.
- f. Railroad Protective Liability, if required by Owner by special provision, or by an affected railroad, Contractor shall procure and maintain railroad protective liability insurance naming railroad as insured with minimum limit for bodily injury and property damage liability of \$2,000,000 per occurrence, \$6,000,000 aggregate, or with such other limits as railroad shall require. Original of said policy shall be furnished to railroad and a certified copy of said policy shall be furnished to Owner prior to any construction or entry upon railroad easement premises by Contractor.
- g. Umbrella/Excess Insurance: Limits of \$2,000,000 each occurrence and aggregate.
- h. Additional Insured Endorsements: Except for Workers' Compensation and Auto Liability, insurance specified shall:
  - 1) Name Owner and Architect/Engineer as an additional insured, including Completed Operations for one year, with respect to liability for bodily injury, property damage, or personal & advertising injury caused in whole or in part by Contractor's acts or omissions or the acts or omissions of those acting on your behalf.
  - 2) General Liability additional insured shall be primary and non contributory.
- i. Waiver of Subrogation in favor of Owner and Architect/Engineer on auto liability, general liability, workers compensation, and umbrella/excess liability.
- j. Certificate of Insurance
  - 1) 1. Contractor shall file with Owner and each additional insured, a Certificate of Insurance on the standard ACORD form (and other evidence of insurance requested by Owner or any other additional insured) as evidence of required coverages and limits, and showing additional insured and waiver of subrogation. Such certificate shall state that the insurer shall endeavor to notify Owner thirty (30) days in advance of cancellation of insurance coverages.
- k. Contractor shall assume full responsibility for all loss or damage from any cause whatsoever to any tools owned by mechanics, any tools, machinery, equipment, or motor vehicles owned or rented by Contractor or Contractor's agents, subcontractors, suppliers of their employees, as well as to any shed or other temporary structures, scaffolding and stagings, protective fences, and bridges.
- l. Contractor shall cause its insurance carrier providing physical damage insurance to Contractor, covering construction equipment, tools, temporary structures and supplies owned or used by Contractor, to provide a waiver of right of subrogation against Owner.
- m. Upon occurrence of any event, liability for which is herein assumed by Contractor, Contractor agrees to forthwith notify Owner in writing of such happening, which notice shall give details as to happening, cause as far as can be ascertained, estimate of loss or damage done, name of witnesses, if any, and stating amount of any claim.

- n. In event Owner has or obtains actual knowledge of any event, liability for which is herein assumed by Contractor, Owner agrees to notify Contractor of such event with a reasonable period of time after acquiring knowledge thereof; provided, however, that Owner shall have no duty to inspect project to obtain knowledge of such events, and provided further that Owner's failure to so notify Contractor shall not relieve Contractor of any liability or obligation which is herein assumed by Contractor."
  - K. MODIFICATION OF PARAGRAPH 11.3 PROPERTY INSURANCE
    - 1. Delete Paragraph 11.3 in its entirety, and substitute the following:
      - a. PROPERTY INSURANCE
        - 1) 11.3.1 It shall be the sole responsibility of the Contractor to maintain as minimum coverage insurance on the Work, all risk coverage in an amount equal to 100 percent of the replacement cost of the Work performed under this Contract with the 90 percent co-insurance clause, and, in addition, the Contractor shall be solely responsible for any amounts which may become payable as a result of any deductible provision, corridor, or self-insured retention of the policy or policies, as well as any losses arising from any uninsured perils. All risk coverage shall include protection against losses by theft of building materials, both installed and uninstalled. All risk coverage shall be maintained from Award of Contract through Substantial Completion.
        - 2) 11.3.2 It is a condition of the Contract that the Owner, Architect/Engineer, and all Contractors and their corporate sureties waive all rights of recovery against each other for damages caused by fire or other perils to the extent such damages are covered by any valid and collectible insurance, and further, that all property insurance policies shall include the standard "waiver of subrogation" clause."
  - L. MODIFICATION TO PARAGRAPH 11.4 PERFORMANCE BOND AND PAYMENT BOND
    - 1. Delete this paragraph in its entirety, and substitute the following:
      - a. PERFORMANCE BOND AND PAYMENT BOND"
        - 1) "11.4.1 A Performance Bond and Payment Bond, each in the amount equal to 100 Percent of the Contract Price, shall be submitted in duplicate to the Architect/Engineer prior to issuance of a Notice-to-Proceed or execution of the Owner-Contractor Agreement (whichever occurs first). Such bonds shall be issued by a surety company acceptable to the Owner and properly licensed in the State of Iowa. Such bonds shall be issued on AIA Document A312, 1984 Edition or later, amended to conform with applicable state statutes.
  - M. MODIFICATION OF PARAGRAPH 15.1.6, CLAIMS FOR CONSEQUENTIAL DAMAGES
    - 1. Delete the first part of the second sentence of Subparagraph 15.1.6 that states "This mutual waiver includes:", and substitute "This mutual waiver includes, but is not limited to:".
  - N. MODIFICATION OF PARAGRAPH 15.4, ARBITRATION
    - 1. Delete 15.4 in its entirety.
- 1.03 ADD ARTICLE 16 AS FOLLOWS:**
- A. ARTICLE 16 - ADDITIONAL CONDITIONS
    - 1. 16.1 - PRODUCT CERTIFICATION
      - a. 16.1.1 The Contractor shall provide to the Owner a written certification statement that all materials incorporated into the project do not contain asbestos. This certification must be submitted to the Owner prior to final closeout of the project.
    - 2. 16.2 - SMOKING LIMITATIONS
      - a. 16.2.1 The use of tobacco and/or use of tobacco products in any school building, upon school grounds or in any school vehicles owned, leased, or operated by the Lewis Central Community School District are prohibited.
    - 3. 16.3 - EXCLUSION OF PERSONS WITH CRIMINAL RECORDS

- a. 16.3.1 The Owner requires that firms agree to not assign any individual or agent to any work on an awarded project, requiring work on a Lewis Central Community School District site, with a criminal record of a serious nature including but not limited to any of the following: (a) a felony; (b) rape, including statutory rape, or any other sexual assault; (c) sexual conduct with a minor of any kind; (d) abuse of a minor child of any kind; (e) endangerment of a child or debauching a minor; (f) public indecency; (g) prostitution, pandering, or keeping a place of prostitution; (h) assault or battery; (i) kidnapping, false imprisonment or abduction; (j) child pornography; or (k) any offense in which a minor was a victim or a witness. Bidder agrees, by signing this proposal, to cooperate in obtaining any additional authorization or consent necessary to assure compliance with this requirement; to actively continue and implement this policy throughout any awarded project or contract period and to require implementation of this policy by any subcontractors and/or agents involved by the Bidder in the performance of any awarded project or contract.
- 4. 16.4 - FIRE SPRINKLER SYSTEM COORDINATION AND WARRANTY
  - a. 16.4.1 The General Contractor and Sprinkler Subcontractor shall meet with the Architect/Engineer to coordinate routing of all piping and head placement in exposed areas prior to submittal of shop drawings to ascertain the aesthetic requirements in such areas.
  - b. 16.4.2 The General Contractor shall take full responsibility for locating all fire sprinkler lines and heads within the building at locations not subject to freezing condition. For areas of building, where that is not deemed possible, a "dry" system shall be substituted as described in the fire sprinkler specifications. The Contractor, in locating such piping and heads, shall take into account the possibility that the interior space temperature may be reduced to approximately 60 degrees through the Owner's off-hours temperature control set back.
  - c. 16.4.3 In areas where concealment of sprinkler piping is required, if the General Contractor and/or Sprinkler Contractor determines that additional chases, bulkheads and other architectural modifications are required in order to conceal the piping while complying with the above freeze production requirements, he/she shall coordinate such concerns with the Architect/Engineer prior to submittal of shop drawings.
  - d. 16.4.4 All entry vestibules and other minimally conditioned spaces, where system piping, heads and/or drop nipples are subject to freezing, dry pendent sprinklers shall be used.
  - e. 16.4.5 The General Contractor shall coordinate installation of the fire sprinkler system with the insulation characteristics of the building, and warrant the fire sprinkler system against freezing for a period of 2 years from date of Substantial Completion. Such warranty shall cover the cost of repair including damaged building materials. Such warranty shall not cover freezing in the event of a loss of heat due to malfunction or shut down of mechanical heating system beyond normal set backs previously stated.

**END OF SECTION**

## **DIVISION 01 – GENERAL REQUIREMENTS**

**SECTION 01 10 00  
SUMMARY**

**PART 1 GENERAL**

**1.01 WORK UNDER THIS CONTRACT INCLUDES:**

- A. All material, labor, tools, expendable equipment, transportation and utility services, and all incidental items necessary to perform and complete, in a workmanlike manner, the Work required for the Combined Construction, including General and Electrical Work, for the Titan Hill Exterior Envelope.

**1.02 WORK PERFORMED UNDER SEPARATE CONTRACTS. THE OWNER WILL LET SEPARATE CONTRACTS AS FOLLOWS:**

- A. This Combined Contract (including General and Electrical Work)
- B. Access Control System (rough-in conduit under this Combined Contract)
- C. Other items as may be noted on the Drawings or specified herein

**1.03 WORK BY OTHERS (VIA THE OWNER)**

- A. Work furnished, installed and/or accomplished by the Owner or Others includes the following:
  - 1. Technical and Special Equipment.
  - 2. Door Position Switches.
  - 3. Other items as may be noted on the Drawings or specified herein.

**1.04 SEQUENCE AND SCHEDULING OF THE WORK SHALL BE IN ACCORD WITH THE FOLLOWING:**

- |                                                                     |                   |
|---------------------------------------------------------------------|-------------------|
| A. Receipt of Bids                                                  | December 11, 2025 |
| B. Presentation of Bids to Board of Education and Award of Contract | July 21, 2025     |
| C. Start of Construction                                            | July 22, 2025     |
| D. Substantial Completion                                           | August 14, 2026   |
| E. Final Completion                                                 | August 21, 2026   |

**1.05 CONTRACTOR USE OF PREMISES / WORK HOURS**

- A. General: During the construction period, the Contractor shall have shared and limited use of the premises for construction operations. Work hours for the Contractors construction activities shall be limited to coincide with the needs of Lewis Central Community School District. In general, available work times shall be as follows:
  - 1. Owner Occupancy: Allow for continued Owner occupancy and use by the public.
  - 2. Driveways and Entrances: See Civil sheets for use of driveways, entrances, and areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
  - 3. Use of the existing Building: Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building, contents, and its occupants during the construction period.
  - 4. Use of the existing facilities restrooms is not allowed.
  - 5. Coordinate with Owner for times of events and additional requirements.
  - 6. School Year Activities: Work shall be limited to occur between the hours of 7am and 10pm and only on days when school is normally in-session (i.e. not on weekends, holidays, etc.)
  - 7. Summer (when School is not in Session): Work shall be limited to occur between the hours of 7am and 6pm and only on normal weekdays (i.e. not on weekends, holidays, etc.)

#### **1.06 CONSTRUCTION SCHEDULES**

- A. If Contractor fails to adhere to the Construction Schedule, including accepted revisions, the Contractor shall promptly adopt such other or additional means and methods of construction as will make up the time lost and complete the Work in accordance with the Construction Schedule, at no additional cost to the Owner, except as specifically provided in the Contract.
- B. If the Owner notifies the Contractor of any change in the Contract, or if conditions arise which are likely to cause or are actually causing delays, the Contractor shall notify the Owner and Architect, in writing, within 5 days of such notice or the occurrence of such condition. This notice shall document the effect, if any, of such change or condition upon the Construction Schedule, with the reason therefore.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 25 00  
SUBSTITUTION PROCEDURES**

**PART 1 GENERAL**

**1.01 RELATED DOCUMENTS**

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

**1.02 SUMMARY**

- A. This Section includes administrative and procedural requirements for requests for substitutions by the Contractor that do not require modification of Contract Sum or Contract Time.

**1.03 DEFINITIONS**

- A. Substitutions: Changes in products, materials, equipment, and methods of construction proposed by the Contractor after award of the Contract and that do not require modification of Contract Sum or Contract Time are considered to be requests for substitutions.
- B. The following are not considered to be requests for substitutions:
  - 1. Substitutions requested during bidding, and accepted by Addendum prior to award of the Contract.
    - a. Substitutions requested during bidding period must be submitted no later than 14 calendar days prior to date of bid opening.
  - 2. Specified choices of products and options included in the Contract Documents.

**1.04 SUBMITTALS**

- A. Substitution Request Submittal: Submit the following:
  - 1. Submit 2 copies of each request for substitution for consideration.
  - 2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
  - 3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
    - a. Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate the proposed substitution.
    - b. A comparison of qualities of the proposed substitution with those of the Work specified.
    - c. Product Data, including Drawings and fabrication and installation procedures.
    - d. Samples, where applicable or requested.
  - 4. Engineer/Architect Action: If necessary, the Engineer/Architect will request additional information or documentation for evaluation. The Engineer/Architect will notify the Contractor of acceptance or rejection of the substitution in the form of a letter from the Engineer/Architect.

**PART 2 PRODUCTS**

**2.01 SUBSTITUTIONS**

- A. The Architect will receive and consider the Contractor's request for substitution only when all of the following conditions are satisfied:
  - 1. Extensive revisions to the Contract Documents are not required.
  - 2. Proposed changes are in keeping with the general intent of the Contract Documents.
  - 3. The request is timely, fully documented, and properly submitted.
- B. Requests for substitutions must be based on at least one of the following conditions:
  - 1. The request is directly related to an "or-equal" clause in the Contract Documents.
  - 2. The specified product cannot be provided within the Contract Time.
  - 3. The specified product cannot receive necessary approval by a governing authority.
  - 4. The specified product cannot be provided in a manner that is compatible with other materials.

Titan Hill Exterior Envelope

- C. The Architect/Engineer's acceptance of Shop Drawings, Product Data, or Samples not complying with the Contract Documents does not constitute a valid request for substitution, nor do they constitute approval.
- D. It shall be the responsibility of the Mechanical Contractor to coordinate with the Electrical Contractor on all electrical requirements for the equipment prior to ordering. All requirement changes shall be the responsibility of the Mechanical Contractor/Supplier at no additional cost to the project.

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 29 00  
PROGRESS AND PAYMENT**

**PART 1 GENERAL**

**1.01 APPLICATIONS FOR PAYMENT**

- A. Applications for Payment shall be submitted to the Architect/Engineer on or before the eighteenth day of each month for work completed and material stored up to the fifteenth day of that month. Applications for Payment shall be submitted in triplicate on AIA Documents G702 and G703, 1992 edition.

**1.02 PAYMENT**

- A. Upon review and recommendation by the Architect/Engineer, the Owner will, on or before the day following the second Monday of the following month, pay to the Contractor, on account of the Contract, 90 percent of the value of labor and materials incorporated in the Work and 90 percent of materials suitably stored in accord with Subparagraph 9.3.2 of the General Conditions, up to the fifteenth day of the preceding month.

**1.03 REDUCTION IN RETAINAGE AFTER WORK IS 50 PERCENT COMPLETE**

- A. After 50 percent of the Work is complete, and upon receipt of Applications for Payment accompanied by Consent of Surety to Reduction in or Partial Release of Retainage executed in triplicate on AIA Document G707A, 1994 or later Edition, the Architect/Engineer may, if he finds satisfactory progress is being made, recommend that any of the remaining Progress Payments be paid in full. The full retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Architect/Engineer or the Owner, or for other good and sufficient reasons, or if Surety revokes its Consent for Reduction in or Partial Release of Retainage.

**1.04 REDUCTION IN RETAINAGE AFTER SUBSTANTIAL COMPLETION**

- A. After Substantial Completion, and upon receipt of Applications for Payment accompanied by Consent of Surety to Reduction in or Partial Release of Retainage executed in triplicate on AIA Document G707A, 1994 or later Edition, and upon review and recommendation by the Architect/Engineer, the Owner will pay the Contractor, on account of the Contract, 95 percent of the value of labor and materials incorporated in the Work and 95 percent of the materials suitably stored in accord with Subparagraph 9.3.2 of the General Conditions, up to the fifteenth day of the preceding month.

**1.05 FURTHER REDUCTION IN RETAINAGE**

- A. The final 3 percent of the Contract Sum will not be paid until the Contractor has submitted to the Architect/Engineer, in triplicate, a written clearance from the Iowa Commissioner of Labor certifying that all payments then due of contributions to the fund or interest thereon, owing by reason of the performance of the Work under this Contract, have, in fact, been paid by the Contractor and his/her Subcontractors to the Unemployment Compensation Fund of the State of Iowa.

**1.06 FINAL PAYMENT**

- A. After Final Completion, and upon receipt of the Final Application of Payment submitted in triplicate on AIA Documents G702 and G703, 1992 Edition, accompanied by Consent of Surety Company to Final Payment and Contractor's Affidavit of Payment of Debts and Claims executed in duplicate on AIA Documents G707 and G706, 1994 or later Editions respectively, Contractor's Affidavit of Release of Liens executed in duplicate on AIA Document G706A latest edition, the Contractor's Release or Waiver of Liens from all subcontractors and suppliers and other items required in Section 01 78 00, and upon the review and recommendation of the Architect/Engineer, the Owner will pay the Contractor the entire balance of the Contract Sum.

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**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

BCDM Architects  
1015 North 98th Street, Suite 300  
Omaha, Nebraska 68114-2334

### SUPPLEMENTAL OFF-SITE STORAGE AGREEMENT

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

The Undersigned understands and agrees that a portion of the payment made under Application and Certificate for Payment No. \_\_\_\_\_, to \_\_\_\_\_ (Contractor) for their work on \_\_\_\_\_ (Project) under Contract dated \_\_\_\_\_ represents payment for materials procured and to be furnished and installed under the terms of the contract and which are to be stored off the building site by contractor or sub-contractor until used in such construction work, such payment being made in advance of, rather than following, delivery of such materials to the building site as required by said construction contract, and under the following conditions:

1. Materials being paid for hereunder are to be plainly tagged or marked as Property of \_\_\_\_\_ (Project Owner).
2. Such materials shall be separately located and stored at jobsite and \_\_\_\_\_ (off-site location) and segregated in said place of storage, clearly marked the materials in this space as property of \_\_\_\_\_ (Project Owner).
3. Such materials shall be kept free from any liens or encumbrances by contractor or sub-contractor and shall be kept adequately insured against loss to \_\_\_\_\_ (Project Owner) by theft, fire or other casualty at the expense of the contractor or sub-contractor. Proof of Insurance is attached.
4. Such materials shall be stored as herein provided and moved to the building site as needed in the construction work without expense to \_\_\_\_\_ (Project Owner).
5. Material paid for and stored as herein provided are as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed:

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Bonding Company for Contractor

\_\_\_\_\_  
BCDM Architects

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Authorized Signature

**SECTION 01 30 00  
ADMINISTRATIVE REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section 01 29 00 - Progress and Payment
  - 1. Applications for Payment
  - 2. Supplemental Off-Site Storage Agreement
  - 3. Consent of Surety to Reduction in or Partial Release of Retainage
  - 4. Consent of Surety to Final Payment
  - 5. Contractor's Affidavit of Payment of Debts and Claims
  - 6. Certification of Unemployment Compensation Contributions
  - 7. Contractor's Affidavit of Release of Liens
  - 8. Release or Waiver of Liens from Subcontractors and Suppliers
- B. Section 01 78 00 - Closeout Submittals
  - 1. Inspection Certificates
  - 2. Certification of Unemployment Compensation Contributions
  - 3. Extra Stock
  - 4. Specified Product Warranties as listed in that Section
  - 5. Operating and Maintenance Manuals
  - 6. Performance Test Reports
  - 7. Project Record Drawings

**1.02 PROGRESS AND VALUE SCHEDULE**

- A. Progress and Value Schedule shall be completed in duplicate on forms furnished by the Architect/Engineer at the Preconstruction Conference, and submitted prior to the first Application for Payment and shall reflect in detail all of the Work included under the Combined Contract.
- B. Value Schedule shall be broken out by individual specification section. A preliminary copy of this form shall be submitted to the Architect/Engineer to approve or modify the breakdown of line items before final copies are submitted.

**1.03 LIST OF SUBCONTRACTORS AND MATERIAL SUPPLIERS**

- A. List of Subcontractors and Material Suppliers shall be entered on the form furnished by the Architect/Engineer, and submitted in duplicate within 10 days after the Notice-to-Proceed or Award of the Project.

**1.04 CERTIFICATE OF INSURANCE**

- A. ACORD Insurance Certificate Form 25-S shall be submitted by the Contractor in duplicate before work is started on the site.

**1.05 PERFORMANCE BOND AND PAYMENT BOND**

- A. Performance Bond and Payment Bond each in the amount equal to 100 Percent of the Contract Price, shall be submitted in duplicate to the Architect/Engineer prior to issuance of a Notice-to-Proceed or execution of the Owner-Contractor Agreement (whichever occurs first). Such bonds shall be issued by a surety company acceptable to the Owner and properly licensed in the State of Iowa. Such bonds shall be issued on AIA Document A312, amended to conform with applicable state statutes.

**1.06 AIA DOCUMENTS**

- A. AIA Documents which are required for submittals in this or other sections of this Project Manual may be obtained from:
  - A.I.A. Nebraska
  - P.O. Box 80045
  - Lincoln, Nebraska 68501

(402) 472-1456  
(800) 332-0265

- B. The Contractor at his/her option, may use electronic copies of the AIA documents by contacting the Client Contractor Billing Program, (1-888-272-4115).

#### **1.07 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

- A. Shop Drawings, Product Data and Samples shall be submitted as follows:
1. **All shop drawings and product data submittals shall be submitted in electronic (PDF) format using an Online Submittal Service.** The Service shall be similar to Procure and is a website service designed specifically for transmitting submittals between construction team members. The General Contractor shall be responsible for establishing, contracting with, coordinating and utilizing the on-line construction submittal services.
  2. Shop drawings shall be numbered consecutively within each Division. Each shop drawing transmittal form shall list only items within the Division.
  3. All shop drawings and samples related to color choices and color issues shall be submitted at one time with all samples and colors submitted in triplicate.
  4. The distribution area in the center of the sheet shall be for the use of the Architect/Engineer only.
  5. The Contractor shall review, mark-up and stamp all shop drawings prior to submittal to the Architect. The Architect will use red ink for his markings; the Contractor shall use a color other than red.
  6. Changes from the Contract Documents on a shop drawing shall be listed in a letter of explanation accompanying the shop drawing.
  7. Separate submittals for Section 03 30 00 - Cast-in-Place Concrete, concrete mix design, shall be sent to the Structural Engineer and the Civil Engineer. Concrete mix design submittals are to be divided into submittals solely for the building and submittals solely for the site. A submittal shall be sent to the Structural Engineer when the submittal addresses the building. A submittal shall be sent to the Civil Engineer when the submittal addresses the site.
  8. A copy of the following list shall be updated monthly and submitted with the Application for Payment.
  9. All shop drawing dimensions shall be in English units and metric units or English units only. Shop drawings with dimensions in metric units only will be rejected.

#### **1.08 SUCCESSFUL CONTRACTOR/SUPPLIER**

- A. The successful contractor/supplier may, at their option, obtain electronic drawing files for architectural drawings (A Series Drawings) for use in preparation of shop drawings. This information is available from BCDM upon written request. A non-refundable one time charge of \$150 per request plus \$20 per drawing file requested (plus shipping and handling if required) will be required at the time of receipt of electronic files. The use of these drawing files is intended solely for the preparation of drawings as required by these Contract Documents. All other uses are strictly prohibited by Copyright law. The user of these electronic drawing files assumes full responsibility for their accuracy and scale.

#### **1.09 SHOP DRAWINGS, PRODUCT DATA AND RELATED SAMPLES**

- A. Shop drawings, product data and related samples shall be submitted as noted within each specification section.

#### **1.10 CERTIFICATES**

- A. Miscellaneous Certifications shall be submitted in duplicate for all items so noted in individual Specification Sections.
- B. Asbestos Certification. Submit 2 copies of the certification regarding use of asbestos-free products as required by the Supplementary Conditions.
- C. Silicone Building Sealant Certification. Submit 2 copies of certificates indicating products have been pretested to comply with performance requirements indicated in Section 07 92 00.

Titan Hill Exterior Envelope

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**



# SHOP DRAWING TRANSMITTAL

☐ FIRST SUBMITTAL

☐ RE-SUBMITTAL

☐ PREV. NO. \_\_\_\_\_

|                                                                                                                                                                            |       |            |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|-----------------|
| PROJECT                                                                                                                                                                    | BCDM# | DATE       | TRANSMITTAL NO. |
|                                                                                                                                                                            |       | CONTRACTOR |                 |
|                                                                                                                                                                            |       | ADDRESS    |                 |
| LOCATION                                                                                                                                                                   |       |            |                 |
| <b>THE CONTRACTOR HAS REVIEWED THE ENCLOSED SHOP DRAWINGS AND CERTIFIES THAT ALL MATERIALS ARE IN COMPLIANCE WITH THE CONTRACT DOCUMENTS EXCEPT AS SPECIFICALLY NOTED.</b> |       |            |                 |
|                                                                                                                                                                            |       | BY         | CONTRACT        |

| SPEC. SECTION | NO. COPIES | DESCRIPTION | MANUFACTURER | DRAWING OR DATA NO. | ACTION TAKEN |
|---------------|------------|-------------|--------------|---------------------|--------------|
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- ☐ OWNER  
☐ CONTRACTOR  
☐ ARCHITECT  
☐ OTHER

**THE ABOVE DRAWINGS ARE RETURNED WITH ACTION AS DESIGNATED ABOVE IN ACCORDANCE WITH THE FOLLOWING**

**LEGEND:**

**A:** APPROVED  
**B:** APPROVED AS NOTED  
**C:** REVISE AND RESUBMIT  
**D:** REJECTED  
**E:** NOT REVIEWED

REMARKS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_

**SECTION 01 31 00  
PROJECT MEETINGS**

**PART 1 GENERAL**

**1.01 PRE-BID CONFERENCE**

- A. There will be a Pre-Bid Conference held at Titan Hill Intermediate School at 3:00 p.m. local time on November 19, 2025. Attendance of this Pre-Bid Conference is **highly encouraged** for all General Contractors. Other subcontractors are highly encouraged to attend this Pre-Bid Conference. Additional times may be made available by appointment. To make an appointment, contact Brett Wallace, Project Advocates at (712) 355-8261 or Brett@project-advocates.com.

**1.02 PRECONSTRUCTION CONFERENCE**

- A. The Prime (General) Contractor and the Mechanical and Electrical Subcontractors shall attend a preconstruction conference at a time and location to be determined to discuss and clarify Contract Administration procedures. Representatives of the Owner and the Architect/Engineer will also attend.

**1.03 PROGRESS MEETINGS**

- A. The Prime (General) Contractor shall convene and conduct progress meetings during normal working hours at the construction site as required by the Architect/Engineer to discuss the progress of construction and properly coordinate respective responsibilities and schedules. The time, date, and location of these meetings shall be set by agreement of those involved. The Mechanical and Electrical Subcontractors shall also attend these meetings. A representative of the Owner and the Architect/Engineer will also attend these meetings when required to coordinate schedules and working relationships with the Contractor.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 50 00  
TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

**1.01 WATER**

- A. All water required for construction activities will be furnished by the Prime (General) Contractor as may be needed for the entire prosecution of the Work. The cost of the water used will be paid by the Prime (General) Contractor. The Contractor shall be responsible for furnishing all hoses and piping necessary to extend the water services to the construction areas, and shall be responsible for returning existing water sources to their original condition at completion of the project.

**1.02 TEMPORARY POWER AND LIGHTING**

- A. Temporary power will be provided throughout the construction period by the Prime (General) Contractor for use by all trades, Contractors, and Subcontractors for the following purposes:
  - 1. Operation of miscellaneous power tools and equipment
  - 2. Temporary lighting
  - 3. Power and lighting in temporary construction site office and storage buildings (if any).
  - 4. Testing and checking equipment
  - 5. Welding units
  - 6. Night security lighting
  - 7. Other general construction power needs
- B. All power sources, load centers, distribution boxes, circuit breakers, and other materials, including the methods of installing them, will be as required for safe working conditions and as required by applicable Codes and Ordinances.
- C. Where possible, at areas of the existing building in which construction work will take place, temporary lighting will be provided during the construction period by the Owner via the existing lighting for use by all trades, Contractors and Subcontractors up until such time where existing lighting which is to be removed is no longer operational. The Prime Contractor shall be responsible for adding whatever additional temporary lighting (over and above that provided by the existing building lighting) might be required for proper execution of the work. See list of required footcandle levels below. In areas where existing ceiling and lighting will be removed, the Prime (General) Contractor shall provide temporary lighting as specified below.
- D. At all new building areas, temporary lighting shall be provided during the construction period by the Prime (General) Contractor for use by all trades, Contractors, and Subcontractors for safe and adequate working conditions throughout the building, and shall provide minimum illumination measured in foot candles (FC) at the floor line as follows:

|                                                        |       |
|--------------------------------------------------------|-------|
| 1. General area and walkway lighting                   | 5 FC  |
| 2. Mechanical and electrical rooms                     | 20 FC |
| 3. General, electrical and mechanical rough work areas | 10 FC |
| 4. Concrete, masonry and finish work areas             | 20 FC |
- E. Cost of electrical energy used during construction at all areas will be paid by the Owner. The Contractor shall make every effort to conserve the use of electrical energy and minimize those costs to the Owner.

**1.03 SANITARY CONVENIENCES**

- A. Sanitary conveniences for use by all persons employed on the Work shall be provided and maintained by the Prime (General) Contractor.
  - 1. New and existing building toilets, sinks, and other plumbing fixtures may not be used by Construction Personnel.

**1.04 SECURITY AND WEATHER PROTECTION.**

- A. The Prime (General) Contractor shall be responsible for proper security for the building at all times. He/she shall also schedule his/her work and provide temporary facilities and materials as

required to assure continuous proper weather protection of all spaces for the duration of the construction process.

- B. This requirement will be strictly enforced in order to minimize the potential for damage to the nearly completed Project and resulting time delays.

#### **1.05 DUSTPROOF ENCLOSURES**

- A. When demolishing and remodeling portions of the existing building, the Prime Contractor shall provide temporary dustproof partitions at all openings where dust producing work will be accomplished in order to protect the existing building areas scheduled to remain from dust and dirt. Temporary partitions shall consist of a minimum of wood or metal studs with untaped 1/2-inch gypsum wallboard on the public side (both sides if they are both exposed to the public). Where required by the applicable Code Authorities, at temporary partitions shall be 5/8-inch fire-taped, fire-rated GWB on both sides of wood or metal studs. The Contractor shall also erect temporary walls where excessively noisy activities would severely hamper adjacent occupied room functions.

#### **1.06 MAINTENANCE OF EXITS**

- A. During renovations of the existing building, the Prime Contractor shall maintain means of egress, free and unobstructed from the existing exits as required by the City of Council Bluffs Building Inspector, State Fire Marshal, and other responsible authorities.

#### **1.07 BARRICADES, FENCES, AND PROTECTION**

- A. The Prime (General) Contractor shall erect temporary barricades, fences and other protective items as necessary to provide for the general safety of the public during the construction of this project. As a minimum, 4-foot high sound snow fencing with posts at 10-foot centers shall be provided. These minimum requirements may be exceeded by the Contractor at his/her option since he/she is responsible for safety at the project site. Where the existing fencing is removed to provide temporary access to the site, it shall be reinstalled or replaced to match existing conditions at the end of the construction day.

#### **1.08 OFFICES AND STORAGE FACILITIES FOR THE CONTRACTORS AND SUBCONTRACTORS**

- A. The Prime (General) Contractor shall maintain on the site as necessary for the proper conduct of the Work offices and storage facilities for the Contractor and Subcontractors. After consulting with the Architect/Engineer, these shall be located on the site so that they cause no interference to Work performed on the site under this Contract or by others or to traffic on adjoining streets. Material and equipment may not be stored on parking and drive areas without permission of the Owner, and such items may not be stored on public streets without permission of the City of Council Bluffs.
- B. Removal of temporary offices and storage facilities. Upon completion of the project, or as directed by the Architect/Engineer, remove the temporary offices and storage facilities, and leave the premises in the condition required by the Contract. All areas affected by the construction shall be finely graded to the profile shown on the Drawings (or to their original profile at areas where the existing contours are shown to be unchanged) in preparation for installation of sod or seed by the Owner. The Contractor shall make every effort to restrict his/her construction activities to the areas shown to receive grade changes and enclosed by the construction fence.

#### **1.09 PARKING**

- A. Parking for construction personnel may take place on the existing parking lot areas as directed. Details related to on-site parking to be coordinated with the Owner once a contract has been awarded. Parking on public streets must be coordinated and approved by the City of Council Bluffs. Permitted parking on public streets shall not cause inconvenience and disturbance to neighbors and traffic near the site.

#### **1.10 CLEAN UP**

- A. The Prime (General) Contractor shall maintain all site areas involved in the Work of this Contract in a clean condition throughout the construction period. The Contractor shall also

## Titan Hill Exterior Envelope

clean adjoining streets soiled by removal activities as may be required by the governing authorities. In addition, all paving areas shall be cleaned of all dirt, dust, debris and snow at time of Substantial Completion.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 60 00  
PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 MATERIALS AND EQUIPMENT**

- A. Material and equipment shall be of the manufacturer, model, and type specified. Substitute materials and equipment approved prior to bidding, in accord with the Instructions to Bidders, are incorporated into this Project Manual as Addenda.

**1.02 MATERIALS AND EQUIPMENT OF ACCEPTABLE MANUFACTURER**

- A. An item of material or equipment may be used in place of an item which is specified by manufacturer and model number and type by conforming to all of the following provisions:
  - 1. The item is manufactured by one of the acceptable manufacturers listed in the Project Manual, Drawings, or Addenda.
  - 2. The item of material or equipment meets or exceeds the minimum qualities established by the specified item.
  - 3. The item is used throughout the project so that all items of material or equipment used in place of specified items are of the same make and type.
  - 4. The entire cost of all modifications which result from the use of items in place of specified items shall be borne by the Contractor who uses such items, at no additional cost to other Contractors or to the Owner.
- B. The Architect/Engineer has detailed and specified around a specific manufactured product for certain items. Although additional manufacturers are specified in Contract Documents, it is the Contractor's responsibility to coordinate the requirements of the product selected with all building components.

**1.03 REPEATED FEATURES AND MATERIALS**

- A. Repeated features and materials must be constructed alike, although detailed or indicated only once. Detail and ornament must continue throughout all moldings, bands, etc. Where items, devices and equipment are specified singular in number, the Specification shall apply to as many items, devices and pieces of equipment as are shown on the Drawings or required to complete the installation. Repeated items of equipment and materials shall be of the same manufacturer, model number and type.

**1.04 WHEN BULKY MATERIALS AND EQUIPMENT ARE FURNISHED BY OTHERS**

- A. The Prime (General) Contractor shall, upon receipt of notice in ample time, leave proper openings to permit the installation and properly close such openings afterwards.

**1.05 WHEN EQUIPMENT IS FURNISHED BY OTHERS**

- A. The Contractor shall use the manufacturer's detail drawings to establish roughing in dimensions and location of services. In case of conflict, the equipment detail drawings and dimensions shall be used, except where aesthetic or structural considerations make an adjustment necessary.

**1.06 DISCREPANCIES**

- A. In the event of discrepancies within the Drawings, within the Project Manual or between the Drawings and Project Manual, the discrepancies shall be brought to the attention of the Architect/Engineer immediately before proceeding with the affected work. The Architect/Engineer will make a written interpretation.
- B. If the Contractor fails to notify the Architect/Engineer of discrepancies and proceeds with the Work where discrepancies occur, such Work shall be considered done at the Contractor's risk. No excuse will thereafter be entertained for failure to carry out Work in a manner satisfactory to the Architect/Engineer.

**1.07 STANDARDS**

- A. Materials and processes for which standards have been adopted by ASTM, or other industry recognized organizations, shall conform to those standards. Methods shall be those recommended by the manufacturer of the material involved.

#### **1.08 MEASUREMENTS**

- A. Before ordering material and doing work, the Contractor shall verify measurements at the building and the site and be responsible for same. Extra compensation will not be allowed for differences between actual dimensions and measurements indicated on the Drawings. The Contractor shall submit differences to the Architect/Engineer.

#### **1.09 CHASES, OPENINGS, INSERTS, ETC**

- A. The General Contractor shall build into all new construction necessary chases, slots and openings required for his/her own or other contractor's work as shown on the Drawings or requested by other contractor's for their work. He/she shall cooperate with other contractors in the proper installation of sleeves, inserts, etc., furnished by the contractor or subcontractor concerned unless otherwise shown or specified.

#### **1.10 CUTTING AND PATCHING**

- A. Cutting, fitting and patching necessary to fit the several parts of this or other contractor's work together, or cutting, fitting, and patching of existing construction and new work in place shall be the expense of the contractor concerned. Each contractor shall determine and be responsible for proper location and character of all inserts, holes, chases, and other openings in new and existing construction, and give the other interested contractors proper notification with regard to same.
- B. Cutting, fitting, repairing, patching, etc., required whether it be in existing construction, new work in place or executing the initial installation, must be done by craftsmen skilled in their respective trades. Repair cut surfaces to match adjacent surfaces.

#### **1.11 SUBSTITUTIONS**

- A. Mill tests, chemical analysis, manufacturer's specifications, and such other information as is available shall be submitted as proof of quality when presenting substitute materials for Owner's approval. If the Contractor proposes the construction method other than that shown or specified, complete drawings and engineering notes shall accompany the request. The Contractor shall reimburse the Architect for architectural and engineering service furnished, time required for checking the proposed change, and drafting time required for preparing as built drawings made necessary by substitutions.

#### **1.12 STABILITY**

- A. Members shall be rigid and securely anchored. Members subject to vibration or wracking shall be attached with through bolts or cinch bolts. Connections shall be adequate to withstand all strains to which they normally would be subjected.

#### **1.13 TRUENESS**

- A. Surfaces and joints of all materials fabricated on or off the site into a single article or composition, or into an assembly of units, shall be uniform, true, plumb, level, properly curved or pitched as required and free from defects and blemishes.

#### **1.14 COORDINATION**

- A. The Contractor shall coordinate his/her work with that of the other contractors and shall cooperate with them to the fullest extent. He/she shall order all materials promptly so that they will be available when needed and not delay the installation of items by other contractors.

#### **1.15 THE PRIME (GENERAL) CONTRACTOR**

- A. The Prime (General) Contractor shall give ample notice of his/her and other contractor's intended operations including current progress schedules, directing their activities on the job to assure orderly procedures with the interests of the Owner's obligations to the public in mind.

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**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 78 00  
CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

**1.01 CLEANING**

- A. When the project is completed, the General Contractor shall clean all site and building areas affected by this work, removing all rubbish and excess materials, no matter by whom it is left. Dust accumulations shall be totally removed from all interior surfaces. See General Conditions and individual Specification Sections for further clean-up requirements.

**1.02 SUBMITTALS**

- A. The following submittals shall accompany the Contractor's final Application for Payment. Submittals shall be submitted in duplicate unless otherwise specified in the Sections indicated.
  - 1. 01 29 00 Contractor's Affidavit of Payment of Debts and Claims
  - 2. 01 29 00 Certification of Unemployment Compensation Contributions
  - 3. 01 29 00 Contractor's Affidavit of Release of Liens (AIA Document G706A, latest edition)
  - 4. 01 29 00 Individual Releases of Waivers of Liens from Subcontractors and Suppliers
  - 5. 01 29 00 Consent of Surety of Final Payment (AIA Document G707, latest edition)
  - 6. 07 92 00 Silicone Joint Sealer Warranty
  - 7. 08 16 13 Fiberglass Door Warranty
  - 8. 08 43 13 Aluminum Frame and Door Warranty
  - 9. 08 71 00 Finish Hardware Warranty
  - 10. 08 80 00 Glazing Warranty
  - 11. Divisions 21 thru 28 Various Mechanical and Electrical Warranties as noted

**1.03 INSPECTION CERTIFICATES**

- A. Inspection certificates issued by regulatory agencies shall be submitted to the Architect/Engineer before final payment.

**1.04 COORDINATE**

- A. Coordinate with requirements of Commissioning as outlined in various sections throughout the project manual.

**1.05 RECEIPTS FOR TESTING COSTS**

- A. Receipt for testing costs as specified in Section 01 40 00, Quality Control Services, shall be submitted to the Architect/Engineer before final payment.

**1.06 PROJECT RECORD DRAWINGS**

- A. Project Record Drawings shall be delivered to the Architect/Engineer before final payment in accordance with the General Conditions of the Contract. Record drawings shall be a copy of the Contract Drawings, properly marked to reflect changes made during construction, and with undamaged edges.
- B. These drawings shall be the Contractor's separate field set on which he/she has accurately marked changes that were made during construction.

**1.07 OPERATION AND MAINTENANCE MANUALS AND REPAIR KITS**

- A. Operation and Maintenance Manuals and Repair kits shall be submitted to the Architect/Engineer in duplicate before final payment or earlier when specified. Data to be included is as follows:
  - 1. Hardware Maintenance Data
  - 2. Electrical Operating and Maintenance Data, Parts Lists, Lubrication Schedules, Diagrams and Accessory Schedules

- B. Operation and Maintenance Manuals shall be bound in plastic or vinyl-covered 3-ring binders (Submit one copy). The binders shall be large enough to accommodate all materials and shall be marked with tabs to identify the contents. In addition to the hard copies Operation and Maintenance Manuals shall also be submitted in PDF form by approved external storage media or digital file transfer.

**1.08 INSTRUCTIONS FOR THE OWNER**

- A. On completion of the project, the Contractor shall demonstrate the proper operation and maintenance procedures for all mechanical, electrical and operating general construction items prior to final acceptance by the Owner. Such demonstration sessions shall be video-recorded by the Contractor at his/her expense. One copy of each video-recording shall be in DVD format, and turned over to the Owner.

**1.09 EXTRA STOCK**

- A. Extra Stock shall be delivered to the Owner before final payment, and shall include the following:
  - 1. Paint
  - 2. Electrical Items as may be noted in Divisions 22 thru 28 and on the Drawings

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

## **DIVISION 02 – EXISTING CONDITIONS**

**SECTION 02 41 00  
DEMOLITION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Selective demolition of building elements for alteration purposes.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 10 00 - Summary: Description of items to be salvaged or removed for re-use by Contractor.
- C. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- D. Section 01 60 00 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- E. Section 01 78 00 - Closeout Submittals: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

**1.03 REFERENCE STANDARDS**

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Site Plan: Indicate:
  - 1. Areas for temporary construction and field offices.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

**1.05 QUALITY ASSURANCE**

- A. Pre-Demolition Conference:
  - 1. Once the ceilings have been removed, prior to any demolition related to any walls and/or structural items, the General Contractor shall hold a Pre-Demolition Conference with the General Contractor, Demolition Sub-Contractor, Architect, Structural Engineer and Owner to review limits of demolition and the Contractor's proposed means and methods to perform the work.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Not Used.

**PART 3 EXECUTION**

**3.01 DEMOLITION**

- A. Refer to Drawings for scope of demolition.
- B. Remove other items indicated, for salvage, relocation, and recycling.

**3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS**

- A. The Contractor shall thoroughly review the site, the building, and the Bidding Documents before submittal of bids in order to determine the scope of the demolition involved.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.

2. Comply with applicable requirements of NFPA 241.
  3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  4. Provide, erect, and maintain temporary barriers and security devices.
  5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
  6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
  8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
  9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Do not begin removal until built elements to be salvaged or relocated have been removed.
- E. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.
- F. Protect existing structures and other elements to remain in place and not removed.
1. Provide bracing and shoring.
  2. Prevent movement or settlement of adjacent structures.
  3. Stop work immediately if adjacent structures appear to be in danger.
- G. 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.
- H. Hazardous Materials:
1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
  2. If the Contractor discovers material which he/she suspects may contain asbestos, he/she shall immediately notify the Owner and cease work in close proximity to the suspected asbestos containing material. The Owner will then arrange for the testing and removal of the asbestos material. If time delays are encountered because of required asbestos removal work, the schedule shall be adjusted accordingly by Change Order.
- I. Remove building materials regardless of how they are constructed. Components shall be removed as follows:
1. Demolish masonry walls in small sections.
  2. Remove structural steel, cast iron, heavy timbers, and wood framing, etc. by individual pieces and lower carefully.
  3. Completely remove floor slabs, pavement and walks regardless of depth below the surface. Under new paving and walk areas, abandoned utilities shall be removed to a depth of at least 3-feet below finished grade.
  4. Remove materials where shown or required.
  5. Remove area of walks, drives, curbs, rubbish, junk, and miscellaneous items.
  6. Where paving, slabs and curbs are removed next to paving, slabs and curbs scheduled to remain, the paving, slabs and curbs shall be saw-cut to provide a straight edge.
  7. Locate demolition equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors and framing.
- J. The Contractor shall be responsible for providing all necessary temporary shoring and supports as required during removal of existing walls, floors, and other structural items and until final structural replacement items are in place. He/she shall be responsible for damage to existing

facilities which are scheduled to remain caused by his/her demolition operations. The Architect/Engineer will not be responsible for problems/accidents which occur because of the Contractor's failure to thoroughly inspect the structure and review the drawings of the existing building before removing such items. A copy of the Owner's drawings of the existing building will be made available for review at the Owner's office prior to receipt of bids and during construction of the project. These drawings may be helpful to the Contractor in determining the sequence or methods of removal for certain items. The Contractor shall be responsible for verifying the accuracy of such existing drawings before making decisions regarding demolition based upon them.

### **3.03 EXISTING UTILITIES**

- A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.
- H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone. Identify and mark, in same manner as other utilities to remain, utilities to be reconnected.

### **3.04 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 1-hour fire-rated partitions to separate areas of the building under construction from areas occupied by the Owner. Coordinate the locations of these walls with the local Authority having Jurisdiction to meet egress requirements.
- 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 items indicated on drawings.
  - 2. The following items shall be carefully removed by the Contractor and delivered to the Owner at a location designated by the Owner:
    - a. Certain Door Hardware as noted on the Drawings.
    - b. Other items as may be noted on the Drawings.
  - 3. Items to be removed and reinstalled by the Contractor shall be as follows:
    - a. Access Control as noted on the Drawings.
    - b. Other items so noted on the Drawings.
- E. Services (Including but not limited to Electrical, Telecommunications, and Access Control):  
Remove existing systems and equipment as indicated.

1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
- 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.

**3.05 DEBRIS AND WASTE REMOVAL**

- A. Remove debris, junk, and trash from site.
- B. Materials shall not be stored on the site for sale, nor shall the Contractor conduct any sale on the site. The Owner reserves the right to remove any materials scheduled for demolition prior to the scheduled time of removal and to retain such materials as their property.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**

## **DIVISION 03 – CONCRETE**

**SECTION 03 30 00  
CAST-IN-PLACE CONCRETE**

**PART 1 GENERAL**

**2.01 SECTION INCLUDES**

- A. Concrete formwork.
- B. Floors, slabs on grade and footings.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.

**2.02 RELATED REQUIREMENTS**

- A. Section 03 35 11 - Concrete Floor Finishes: Densifiers, hardeners, applied coatings, and polishing.
- B. Section 07 92 00 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

**2.03 REFERENCE STANDARDS**

- A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary 2019 (Reapproved 2022).
- B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.
- C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction 2015.
- D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).
- E. ACI PRC-306 - Guide to Cold Weather Concreting 2016.
- F. ACI PRC-308 - Guide to External Curing of Concrete 2016.
- G. ACI PRC-347 - Guide to Formwork for Concrete 2014 (Reapproved 2021).
- H. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).
- I. ACI SPEC-301 - Specifications for Concrete Construction 2020.
- J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.
- K. ASTM A775/A775M - Standard Specification for Epoxy-Coated Steel Reinforcing Bars 2022.
- L. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2023.
- M. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.
- N. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2023.
- O. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.
- P. ASTM C150/C150M - Standard Specification for Portland Cement 2022.
- Q. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method 2023.

- R. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
- S. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019, with Editorial Revision (2022).
- T. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2023, with Editorial Revision.
- U. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing 2017.
- V. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2018.
- W. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types) 2018.
- X. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars 2021.
- Y. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers 2020.
- Z. ASTM E1155M - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers (Metric) 2014.
- AA. COE CRD-C 572 - Handbook for Concrete and Cement Corps of Engineers Specifications for Polyvinylchloride Waterstop 1974.

## **2.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Mix Design: Submit proposed concrete mix design.
  - 1. Indicate proposed mix design complies with requirements of ACI CODE-318, Chapter 5 - Concrete Quality, Mixing and Placing.
- C. Samples: Submit samples of underslab vapor retarder to be used.
- D. Test Reports: Submit report for each test or series of tests specified.

## **2.05 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
- B. Follow recommendations of ACI PRC-306 when concreting during cold weather.

## **PART 2 PRODUCTS**

### **4.01 FORMWORK**

- A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
  - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
  - 2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

#### **4.02 REINFORCEMENT MATERIALS**

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
  - 1. Type: Deformed billet-steel bars.
  - 2. Finish: Unfinished, unless otherwise indicated.
  - 3. Finish: Epoxy coated in accordance with ASTM A775/A775M, unless otherwise indicated.
- B. Reinforcement Accessories:
  - 1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
  - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
  - 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

#### **4.03 CONCRETE MATERIALS**

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
- C. Fly Ash: ASTM C618, Class C or F.
- D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

#### **4.04 ADMIXTURES**

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C260/C260M.
- C. Water Reducing Admixture: ASTM C494/C494M Type A.

#### **4.05 BONDING AND JOINTING PRODUCTS**

- A. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.
  - 1. Material: Closed-cell, non-absorbent, compressible polymer foam in sheet form.
  - 2. Products:
    - a. W. R. Meadows, Inc; Deck-O-Foam Joint Filler with pre-scored top strip: [www.wrmeadows.com/#sle](http://www.wrmeadows.com/#sle).
    - b. Sonneborn Dugussa Building Systems; Sonoflex F Polyethylene Foam Joint Filler.
- B. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.

#### **4.06 CONCRETE MIX DESIGN**

- A. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
  - 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- B. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.
- C. Normal Weight Concrete:
  - 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch.

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2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Water-Cement Ratio: Maximum 45 percent by weight.
4. Total Air Content: Max 3 Percent (7 percent at exterior locations), determined in accordance with ASTM C173/C173M.
5. Maximum Slump: 6 inches.
6. Maximum Aggregate Size: 3/4 inch.

### 4.07 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

## PART 3 EXECUTION

### 6.01 EXAMINATION

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

### 6.02 PREPARATION

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.

### 6.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D3963/D3963M.
- B. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- C. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- D. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

### 6.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Place concrete for floor slabs in accordance with ACI PRC-302.1.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Ensure reinforcement, inserts, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

#### **6.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES**

- A. An independent testing agency, as specified in Section 01 40 00, will inspect finished slabs for compliance with specified tolerances.
- B. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
  - 1. Stoops: F(F) of 35; F(L) of 25, on-grade only.
- C. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M), within 48 hours after slab installation; report both composite overall values and local values for each measured section.
- D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
- E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

#### **6.06 CONCRETE FINISHING**

- A. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
  - 1. Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.
    - a. Chemical Hardener: See Section 03 35 11.

#### **6.07 CURING AND PROTECTION**

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
  - 1. Normal concrete: Not less than seven days.
- C. Surfaces Not in Contact with Forms:
  - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water-fog spray or saturated burlap.
    - a. Spraying: Spray water over floor slab areas and maintain wet.
    - b. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.
  - 2. Final Curing: Begin after initial curing but before surface is dry.
    - a. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

#### **6.08 FIELD QUALITY CONTROL**

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.
- E. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

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- F. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

### **6.09 DEFECTIVE CONCRETE**

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

### **6.10 PROTECTION**

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

**END OF SECTION**

## **DIVISION 04 – MASONRY**

**SECTION 04 01 00  
MAINTENANCE OF MASONRY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Repointing mortar joints. See Drawings for locations.

**1.02 REFERENCE STANDARDS**

- A. ASTM C91/C91M - Standard Specification for Masonry Cement; 2025.
- B. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2025.
- C. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- D. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2024.
- E. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2025a.
- F. ASTM C476 - Standard Specification for Grout for Masonry; 2023.
- G. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2024.
- H. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Preinstallation Meeting: Convene one week prior to commencing work of this section.
  - 1. Require attendance of parties directly affecting work of this section.
  - 2. Review conditions of installation, installation procedures, and coordination with related work.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on cleaning compounds.

**1.05 QUALITY ASSURANCE - MASONRY WORK**

- A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
- B. Restorer: Company specializing in masonry restoration with minimum three years of documented experience.

**1.06 MOCK-UPS**

- A. Restore and repoint an existing masonry wall area sized 8 feet long by 6 feet high; include in mock-up area instances of mortar, accessories, wall openings, and flashings.
- B. Locate where directed.
- C. Acceptable panel will become the standard for work of this section.
- D. Mock-up may remain as part of the Work.

**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Store materials in covered, well-ventilated area protected from exposure to detrimental conditions, including airborne contaminants, dirt, dust, sunlight, temperatures lower than 40 degrees F or greater than 100 degrees F, rainfall, sparks, or flame, and in accordance with the manufacturer's requirements. Store polymer resins and hardeners in separate area from construction materials that can absorb odors.

**1.08 FIELD CONDITIONS - MASONRY WORK**

- A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

## **PART 2 PRODUCTS**

### **2.01 MORTAR MATERIALS**

- A. Masonry Cement: ASTM C91/C91M, Type S.
  - 1. Pre-mixed with retarder additives, not allowed.
  - 2. Colored Mortar: Color as selected by Architect from full manufacturer's range.
- B. Portland Cement: ASTM C150/C150M, Type I (Type III - High Early Strength may be used for cold weather construction) . Provide natural gray color cement for all standard CMU. Colored mortar shall be used for all exposed brickwork, burnished masonry, and precast masonry.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Mortar Aggregate: ASTM C144.
- E. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M.
  - 1. Color: To match existing .
  - 2. All colored mortar shall be approved by the Architect/Engineer during the sample panels review. Colored mortar shall be mixed in accord with the manufacturer's printed instructions.
- F. Water: Clean and potable.
- G. Air-entraining add-mixtures shall not be used. Air content shall not exceed 8-percent.
- H. Anti-Freeze Compounds: Not permitted.
- I. Calcium chloride shall not be used in mortar.

### **2.02 MORTAR AND GROUT MIXING**

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
  - 1. Masonry below grade and in contact with earth: Type S.
  - 2. Exterior, loadbearing masonry: Type S.
  - 3. Exterior, non-loadbearing masonry: Type S.
  - 4. Interior, loadbearing masonry: Type S.
  - 5. Interior, non-loadbearing masonry: Type N (Type S may be used at the Contractor's option).
- B. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio.
- C. New Mortar for Old Brick: Proportion by volume only; no more than 20 percent of the total volume of Portland cement and lime combined to be Portland cement.
  - 1. Repointing Mortar: Use proportions from 1 part lime to 2 parts sand with no Portland cement, up to 2 parts Portland cement to 3 parts lime to 6 parts sand.
- D. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

### **3.02 PREPARATION**

- A. Protect surrounding elements from damage due to restoration procedures.
- B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.
- C. Separate areas to be protected from restoration areas using means adequate to prevent damage.
- D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

### **3.03 REPOINTING - JOINT RAKING**

- A. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch depth or until sound mortar is reached.
- B. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
- C. Use power tools only after test cuts determine no damage to masonry units will result.
- D. Do not damage masonry units.
- E. Do not spall edges of masonry units or widen joints. Replace any masonry units, which become damaged.
- F. When cutting is complete, remove dust and loose material by brushing.
- G. Premoisten joint and apply mortar. Pack tightly in maximum 1/4 inch layers. Form a smooth, compact concave joint to match existing.

### **3.04 REPOINTING - JOINT POINTING**

- A. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
- B. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
- C. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess tool final layer slightly back from face of brick. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.
- D. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
- E. Cure mortar by maintaining in a damp condition for not less than 72 hours.
- F. Where repointing work precedes cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.
- G. Owner shall have the right to perform periodic tests to verify depth of repointing. Contractor shall repair with like materials area where mortar has been removed to ascertain depth of repointing.

### **3.05 CLEANING**

- A. After mortar has fully hardened thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray applied at low pressure.
- B. Remove excess mortar, smears, and droppings as work proceeds and upon completion.
- C. Use of metal scrapers or brushes will not be permitted.
- D. Use of acid or alkali cleaning agents will not be permitted.
- E. Clean surrounding surfaces.

**END OF SECTION**

**SECTION 04 20 00  
UNIT MASONRY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concrete block.
- B. Clay facing brick.
- C. Mortar and grout.
- D. Reinforcement and anchorage.
- E. Accessories.

**1.02 RELATED REQUIREMENTS**

- A. Section 07 21 00 - Thermal Insulation: Insulation for cavity spaces.
- B. Section 07 27 00 - Air Barriers: Air barriers applied to exterior face of backing sheathing or unit masonry substrate.
- C. Section 07 92 00 - Joint Sealants: Sealing control and expansion joints.

**1.03 REFERENCE STANDARDS**

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- B. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2024.
- C. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2022.
- D. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2024.
- E. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2023.
- F. ASTM C90 - Standard Specification for Dry-Cast Loadbearing Concrete Masonry Units; 2024a.
- G. ASTM C91/C91M - Standard Specification for Masonry Cement; 2025.
- H. ASTM C129 - Standard Specification for Dry-Cast Nonloadbearing Concrete Masonry Units; 2025.
- I. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2025.
- J. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- K. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2024.
- L. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale); 2024.
- M. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2025a.
- N. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2024.
- O. ASTM C476 - Standard Specification for Grout for Masonry; 2023.
- P. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2024.
- Q. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2025.
- R. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types); 2023.

- S. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

#### 1.04 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Masonry Conference: Prior to the installation of masonry and associated work, and after approval of required job mock-up, the General Contractor shall arrange a Pre-masonry conference at the site at a pre-arranged time approved by the Architect/Engineer. The conference shall include in attendance the masonry subcontractor and his/her jobsite foreperson, and the Architect/Engineer. The Contractor shall record discussions and agreements that are made, which are not specifically addressed in the Contract Documents, and shall furnish a copy to all involved participants.

#### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
- C. Samples: Submit two samples of facing brick and mortar units to illustrate color, texture, and extremes of color range.
- D. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

#### 1.06 QUALITY ASSURANCE

- A. All work shall comply with the latest standards of the Brick Institute of America (BIA) and Portland Cement Association (PCA).
- B. The Brick Manufacturers shall closely coordinate with the Architect/Engineer to assure that the brick on the sample panels match the panels available for review at the office of the Architect/Engineer.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

| <u>Course Aggregate</u>             | <u>4-Hour</u> | <u>3-Hour</u> | <u>2-Hour</u> | <u>1-Hour</u> |
|-------------------------------------|---------------|---------------|---------------|---------------|
| Expanded Slag or Domic              | 4.7           | 4.0           | 3.2           | 2.1           |
| Expanded Clay or Shale              | 5.7           | 4.8           | 3.8           | 2.6           |
| Limestone, Cinders, Unexpanded Slag | 5.9           | 5.0           | 4.0           | 2.7           |
| Calcareous Gravel                   | 6.2           | 5.3           | 4.2           | 2.8           |
| Siliceous Gravel                    | 6.7           | 5.7           | 4.5           | 3.0           |

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Masonry units shall be delivered, unloaded and handled in a manner to adequately protect exposed corners, edges and faces from chipping, cracking and other damage. Such chipped and otherwise damaged units shall not be utilized in exposed wall areas, but may be selected for utilization in concealed wall areas, if damaged characteristics are minor and do not affect the structural integrity of the wall.
- B. Brick masonry units shall be inspected by the distributor or manufacturer to insure color match with the approved sample panel at the jobsite prior to installation within the wall. Units not matching the approved sample shall not be placed in exposed wall areas.
- C. Delivery of mortar materials other than aggregate and water shall be in sealed and labeled packages.
- D. Do not order colored mortar for brickwork until the sample panel has been approved at the job site.

- E. Masonry units shall be stored off the ground on pallets or in some manner that will prevent absorption of moisture from the ground and the soiling of masonry units. Concrete masonry units shall be protected from becoming wet from rain, snow and capillary action. All masonry units shall be so protected when the temperature is below 40F.
- F. Reinforcing shall be stored off the ground and shall be free of loose rust and other coatings that will reduce bond.
- G. General storage of materials shall be in a manner to prevent deterioration and intrusion of foreign material. Material that has become unsuitable for good construction shall not be used and shall be immediately removed from the site.

#### 1.08 JOB CONDITIONS

- A. Protection of Masonry: During erection, cover tops of walls, projections, and sills with waterproof sheeting at the end of each day's work. Extend cover a minimum of 24-inches down both sides and hold cover securely in place. Where one wythe of multi-wythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24-inches down face next to unconstructed wythe and hold cover in place.
- B. Environmental Conditions: During cold and hot weather, masonry materials shall be stored, erected, and protected to meet the requirements of the Brick Institute of America Technical Note 1 Revised dated June, 2018, Technical Note 11A Revised dated September 1988, and National Concrete Masonry Association TEK 3-1C dated 2002.
- C. Cold Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply to cold-weather construction requirement contained in ACI 530.1/ASCE 6/TMS 602. Comply with the following requirements:
  - 1. Construction: When the ambient temperature is within the limits indicated, use the following procedures:
    - a. 40-32 deg F: Heat mixing water or sand to produce mortar temperatures between 40 and 120 deg F.
    - b. 32-25 deg F: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F. Heat grout materials to produce grout temperatures between 70 and 120 deg F. Maintain mortar above freezing until used in masonry. Maintain grout temperature above 70 deg F at time of placement.
    - c. 25-20 deg F: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F. Heat grout materials to produce grout temperatures between 70 and 120 deg F. Maintain mortar above freezing until used in masonry. Maintain grout temperature above 70 deg F at time of placement. Heat masonry units to 40 deg F if grouting. Use heat on both sides of walls under construction.
    - d. 20 deg F and Below: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F. Heat grout materials to produce grout temperatures between 70 and 120 deg F. Maintain mortar above freezing until used in masonry. Maintain grout temperature above 70 deg F at time of placement. Heat masonry units to 40 deg F. Provide enclosures and use heat on both sides of walls under construction to maintain temperatures above 32 deg F within the enclosures.
  - 2. Protection: When the mean daily temperature is within the limits indicated, provide the following protection:
    - a. 40-25 deg F: Cover masonry with a weather-resistive membrane for 48 hours after construction.
    - b. 25-20 deg F: Cover masonry with insulating blankets or provide enclosure and heat for 48 hours after construction to prevent freezing. Install wind breaks when wind velocity exceeds 15 mph.
    - c. 20 deg F and Below: Provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for 48 hours after construction.
  - 3. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above, but not less than 7 days after completion of cleaning.

- D. Do not lay masonry units which are wet or frozen.
- E. Remove ice and snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.
- F. Remove all masonry determined to be damaged by freezing conditions.
- G. Hot Weather Requirements: Protect unit masonry work when temperatures and humidity conditions produce excessive evaporation of water. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F and above. Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

## **PART 2 PRODUCTS**

### **2.01 CONCRETE MASONRY UNITS**

- A. Concrete Block: Comply with referenced standards and as follows:
  - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
  - 2. Special Shapes: Provide non-standard blocks configured for corners, lintels, headers, end and jamb blocks, bond beams, and other detailed conditions.
    - a. Provide reinforced concrete masonry lintels fabricated from precast load-bearing units.
    - b. Corners: All outside 90 degree angle corners at exposed CMU locations shall be bullnosed, unless noted otherwise. See floor plans and the enlarged plan and frame details for locations.
      - 1) Bullnose shall be 1-inch radius.
      - 2) Square corners shall only occur at specific locations as indicated on the Drawings. It shall be the mason's responsibility to work with the General Contractor in order to establish a time to have an on-site meeting to review all square and bullnose corner locations. Attendees of this meeting shall at a minimum include the Mason, General Contractor, Architect and Owner. Any locations constructed with incorrect corner conditions will need to be removed and replaced at the Contractor's expense.
  - 3. Load-Bearing Units: ASTM C90, normal weight.
    - a. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi (13.1 Mpa).
    - b. Weight Classification: All units shall be manufactured with standard weight aggregate. (125 lbs. per cu. ft. or more, oven dry weight of concrete.)
    - c. Exposed Faces: Manufacturer's standard color and texture unless otherwise indicated.
  - 4. Nonloadbearing Units: ASTM C129.

### **2.02 BRICK UNITS**

- A. Facing Brick: ASTM C216, Type FBX, Grade SW.
  - 1. Color and texture to match Architect's sample. A brick panel will be required for the approval of the brick provided.
  - 2. Color and texture: To match existing.
  - 3. Actual size: Modular - 3 5/8 x 2 1/4 x 7 5/8 inches to match existing.
  - 4. Special and solid shapes of facing brick, as required, shall be furnished. Solid shapes shall be furnished for locations where holes in brick would otherwise be exposed. All exposed surfaces of special bricks shall be finished unless noted otherwise.
  - 5. Compressive strength: 2500 psi, measured in accordance with ASTM C67.

### **2.03 MORTAR AND GROUT MATERIALS**

- A. Masonry Cement: ASTM C91/C91M, Type S.
  - 1. Pre-mixed with retarder additives, not allowed.
  - 2. Colored Mortar: Color as selected by Architect from full manufacturer's range.

- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Aggregate: ASTM C144.
- D. Grout Aggregate: ASTM C404.
- E. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M.
  - 1. Color: To match existing .
  - 2. All colored mortar shall be approved by the Architect/Engineer during the sample panels review. Colored mortar shall be mixed in accord with the manufacturer's printed instructions.
- F. Water: Clean and potable.
- G. Air-entraining add-mixtures shall not be used. Air content shall not exceed 8-percent.
- H. Anti-Freeze Compounds: Not permitted.
- I. Calcium chloride shall not be used in mortar.

#### **2.04 REINFORCEMENT AND ANCHORAGE**

- A. Manufacturers:
  - 1. Heckman Building Products, Inc.; Product - 213 with 282 Masonry Ties.
  - 2. Hohmann & Barnard, Inc; HB 213 Veneer Anchor: [www.h-b.com/#sle](http://www.h-b.com/#sle).
  - 3. WIRE-BOND; RJ-711 [www.wirebond.com/#sle](http://www.wirebond.com/#sle).
  - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi), deformed billet bars; uncoated.
- C. Single Wythe Joint Reinforcement: ASTM A951/A951M.
  - 1. Type: Ladder.
  - 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to 16 CFR 1201 Class B.
  - 3. Size: 0.1875 inch side rods with 0.1875 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- D. Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
  - 1. Type: Ladder.
  - 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to 16 CFR 1201 Class B.
  - 3. Size: 0.1875 inch side rods with 0.1875 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- E. Adjustable Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
  - 1. Type: Ladder, with adjustable ties or tabs spaced at 16 in on center.
  - 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M Class B.
  - 3. Size: 0.1875 inch side rods with 0.1875 inch cross rods and adjustable components of 0.1875 inch wire, width of components as required to provide not less than 5/8 inch of mortar coverage from each masonry face.
  - 4. Vertical adjustment: Not more than 1 1/4 inches.
- F. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not less than 5/8 inch of mortar coverage from masonry face.
  - 1. Concrete frame: Dovetail anchors of bent steel strap, nominal 1 inch width x 0.024 in thick, with trapezoidal wire ties 0.1875 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B.
  - 2. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch thick, with trapezoidal wire ties 0.1875 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B.

- G. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not less than 5/8 inch of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in.
- H. Metal-to-Metal Fasteners: Self-drilling, self-tapping screws; corrosion resistant finish or hot dip galvanized to ASTM A153/A153M.

## **2.05 ACCESSORIES**

- A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.
  - 1. Manufacturers:
    - a. Hohmann & Barnard, Inc: [www.h-b.com/#sle](http://www.h-b.com/#sle).
    - b. WIRE-BOND: [www.wirebond.com/#sle](http://www.wirebond.com/#sle).
- B. Compressible Expansion Joint Fillers:
  - 1. Compressible filler ASTM D1751 to be used in masonry expansion joints (3/4-inch or wider) behind caulking and backer rod shall be "X-Foam" manufactured by W.R. Meadows. Thickness shall be as required to fill the joint in an uncompressed state.
  - 2. Compressible fillers to be used at exterior masonry control joints shall be preformed "Neo-Seal IV" as manufactured by Williams Products, Inc.
  - 3. Compressible filler to be used where masonry walls abut or surround concealed columns, shall be 5008-3 Column Boxboard manufactured by Williams Products Company. Thickness shall be 1/2-inch unless noted otherwise on the Drawings.
- C. Polyurethane foam for use at existing cavity walls where noted on the Drawings shall be a 2-part spray applied product, Froth-Pak Sealant 12 by Dow Chemical Company.
- D. Building Paper: ASTM D226/D226M, Type I ("No.15") asphalt felt used as a bond breaker at control joints in concrete block at exterior walls.
- E. Metal lath shall be 2.5-pound galvanized steel diamond mesh lath, and shall be installed to close off bottom of cores which are to be filled with grout.
- F. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

## **2.06 MORTAR AND GROUT MIXING**

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
  - 1. Masonry below grade and in contact with earth: Type S.
  - 2. Exterior, loadbearing masonry: Type S.
  - 3. Exterior, non-loadbearing masonry: Type S.
  - 4. Interior, loadbearing masonry: Type S.
  - 5. Interior, non-loadbearing masonry: Type N (Type S may be used at the Contractor's option).
- B. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio.
- C. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

### **3.02 PREPARATION**

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

### **3.03 COLD AND HOT WEATHER REQUIREMENTS**

- A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

### **3.04 GENERAL**

- A. Cutting of masonry units shall be avoided if possible. If cutting of exposed brick and concrete masonry units is necessary, it shall be done with a carborundum wheel, with all junctions and joints carefully and accurately fitted. No piece shorter than 4-inches shall be used at any vertical corner or jamb unless shown otherwise on the Drawings.
- B. Distribution of Brick: Tenders distributing brick to bricklayers shall take from 3 separate cubes on an alternating basis, to improve the evenness of the blend within the finished walls. This requirement will be strictly enforced.
- C. Wetting of Masonry Units: Brick having absorption rates (according to ASTM C 67) in excess of 30 grams/sq. in./minute shall be wetted from 3 to 4 hours before laying. All units shall be uniformly wetted and nearly saturated so the absorption rate does not exceed the above amount, but shall be surface dry without free water on surfaces when laid in the wall. During freezing weather, units that require wetting shall be sprinkled with warm water just before laying. (For units with surface temperatures above 32 degrees F, wet with water heated to above 70 degrees F. For units with surface temperatures below 32 degrees F, wet with water heated to above 130 degrees F.)
- D. Do not wet concrete masonry units.
- E. Layout walls in advance for accurate spacing of surface bond patterns, with uniform joint widths and to properly locate openings, movement-type joints, returns and offsets.
- F. Laying Up Masonry: Masonry shall be laid up true and plumb, with special units (corners, jamb blocks, headers, fillers, closers, fitters, etc.) as required to form corners, returns, openings, and offsets, and maintain a proper bond throughout the length of wall. Masonry walls shown on the Drawings as extending to the structure shall be laid up tight against or held free of beams, upper floor slabs, joists and roof deck, according to the following schedule or as shown on the Drawings.
  - 1. Exterior Walls: Lay up tight against beams, joists, and bottom of roof deck lowest corrugations unless noted otherwise on the Drawings. (It will not be necessary to fill in between steel deck corrugations with grout). Under Section 07 21 00, the Insulation Subcontractor shall fill voids between deck corrugations at exterior wall where the deck ribs are perpendicular to the wall.
  - 2. Interior Non-Bearing Walls: Hold 3/8-inch clear of all beams, joists, and upper floor slabs unless noted otherwise on the Drawings. Hold 3/8-inch clear and install backer rod and caulk where abutting exposed concrete and steel beam members in finished rooms unless noted otherwise. (Backer rod and caulk included under Section 07 9200. It will not be necessary to fill in between deck corrugations with grout.)
- G. Stopping and Resuming Work: Rack back 1/2-masonry unit length in each course; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if specified to be wetted), and remove loose masonry units and mortar prior to laying fresh masonry.
- H. Protection of Work: During erection, cover top of walls with waterproof sheeting at end of each days' work. Cover partially complete structures when work is not in progress. Extend cover a minimum of 24-inches down both sides and hold cover securely in place.

### **3.05 COURSING**

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

- C. Concrete Masonry Units:
  - 1. Bond: Running.
  - 2. Coursing: One unit and one mortar joint to equal 8 inches.
  - 3. Mortar Joints: Concave.
- D. Brick Units:
  - 1. Bond: Running.
  - 2. Coursing: Three units and three mortar joints to equal 8 inches.
  - 3. Mortar Joints: Concave.

### **3.06 PLACING AND BONDING**

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints. Bed webs in mortar starting course on footings and foundation walls and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or to be filled with concrete or grout. For starting courses on footings where cells are not grouted, spread out full mortar bed including areas under cells.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Joints: Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not otherwise indicated, lay walls with 3/8-inch joints.
- E. Remove excess mortar and mortar smears as work progresses.
- F. Interlock intersections and external corners.
- G. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- H. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- I. Cut mortar joints flush where walls are concealed by other finish materials, walls are concealed in chases or above ceilings, resilient base is scheduled, cavity insulation vapor barrier adhesive is applied, or bitumen dampproofing is applied.
- J. Collar (vertical longitudinal) joints between facing and backing wythes or solid back-up material, except cavities, shall be completely filled with mortar by back parging either the facing or backing wythe and shoving units tight.
- K. Staining: Prevent grout, mortar and soil from staining the face of masonry to be left exposed or painted. Remove immediately grout and mortar in contact with such masonry. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.
- L. Protect sills, ledges and projections from droppings of mortar.
- M. Isolate masonry partitions from vertical structural framing members with a control joint.
- N. Cavity Protection: Cover cavities at all times when the walls are not being worked on to assure proper protection of the insulation from moisture and sunlight (at masonry cavity walls) and to provide proper protection for the insulating sheathing (at brick veneer walls).

### **3.07 TOOLING AND POINTING**

- A. Tooling and Pointing: Joints shall be struck flush and after mortar has partially set but is still sufficiently plastic to bond, joints shall be tooled with a tool which compacts mortar and presses excess mortar out of the joint rather than dragging it out. All joints shall be made with a straight, clean line. Exercise special care to avoid getting mortar on faces of brick which will be exposed.
- B. Rake joints back 3/4-inch at interior control joints in preparation for backer rod and caulking to be installed under Section 07 92 00.

- C. Pointing:
  - 1. Joints which are not tight at the time of tooling shall be raked out, pointed, and then tooled
  - 2. During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up all joints at corners, openings, and adjacent work to provide a neat, uniform appearance, properly prepared for application of caulking or sealing compounds.

### **3.08 REINFORCEMENT AND ANCHORAGE - GENERAL, SINGLE WYTHE MASONRY, AND CAVITY WALL MASONRY**

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 24 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.
- E. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 24 inches horizontally and 16 inches vertically.

### **3.09 REINFORCEMENT AND ANCHORAGES - MULTIPLE WYTHE UNIT MASONRY**

- A. Fully embed longitudinal side rods in mortar for their entire length with a minimum cover of 5/8-inch on exterior side of walls and 1/2-inch at other locations.
- B. Do not bridge control and expansion joints with reinforcing, unless otherwise indicated, and where specified otherwise hereinafter above and below masonry openings.
- C. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" section. Cut and bend units as directed by manufacturer for continuity at returns, offsets, pipe enclosures and other special conditions.

### **3.10 MASONRY WORK ADJACENT TO STRUCTURAL MEMBERS**

- A. Anchoring Masonry to Structural Members: Provide an open space not less than 1/2-inch in width between masonry and structural members, unless otherwise shown. Keep open space free of mortar and other rigid materials. Place continuous compressible filler at all column sides adjacent to masonry construction as detailed on the Drawings maintaining the total space completely free of mortar and debris. Also place compressible fillers where non-bearing masonry abuts beam, joists or deck and at other locations shown on the Drawings or specified earlier in this Section.

### **3.11 GROUTED COMPONENTS**

- A. Lap splices minimum 24 bar diameters.
- B. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- C. Place and consolidate grout fill without displacing reinforcing.

### **3.12 CONTROL AND EXPANSION JOINTS**

- A. Do not continue horizontal joint reinforcement through control or expansion joints.
- B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- C. Form expansion joint as detailed on drawings to form continuous vertical breaks from top to bottom of wall junctures. Expansion joints shall be straight and plumb, uniform in width, and totally filled with expansion joint filler as specified and other materials shown on the Drawings. Place expansion joint flashing lengths into wall as erected at locations indicated on the Drawings. Overlap lengths minimum of 4-inches in direction of flow.
- D. See Section 07 92 00 - Joint Sealants.

### **3.13 BUILT-IN WORK**

- A. As work progresses, install built-in metal door frames, window frames, anchor bolts, plates, and sleeves and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
  - 1. Fill space between hollow metal frames and masonry solidly with mortar of Portland cement/sand grout mixed to be as stiff as possible without interfering with proper workability and solid filling of jambs. Additives and mixtures which could cause internal rusting in frames shall be strictly prohibited.
- D. Do not build into masonry construction organic materials that are subject to deterioration.

### **3.14 MISCELLANEOUS MASONRY INSTALLATION REQUIREMENTS**

- A. Openings and chases for heating, plumbing, and electrical ducts, pipes and conduits shall be built into masonry walls. Cutting of units to accommodate work of others shall be performed by masonry mechanics. Chases shall be kept free from mortar and debris.
- B. Fill cores of concrete masonry units of each course, as they are laid up, with sand at special sound isolation walls and partitions noted on the Drawings to receive sand fill. Protect top of unfinished walls and partitions to prevent sand from becoming moist.
- C. Installation of Steel Lintels and Other Built-In Structural Steel: Lintels and bearing plates shall be set on full beds of grout, as shown on the Drawings, leveled and at correct elevation.
- D. Install bond breaker at locations as shown on the Drawings in relation to other construction to allow separation for required movements.
- E. Install reglets and nailers for sheet metal flashing and other related work where shown or required to be built into the work.
- F. Miscellaneous Grouting: Unless otherwise shown on the Drawings, fill cores of concrete masonry units solid with grout at pilasters and piers, at 2 courses below bearing plates, at beam and lintel bearing and where required to secure anchors and bolts, grout fill all jambs at metal frames, and elsewhere as shown on the Drawings. Also, the cores shall be grouted full at courses which support at least 4 courses of concrete masonry units and roof loads, if the face shells of this lower course do not line up with the face shells of the course immediately above. Install metal lath in horizontal joint below cores to be filled solid with grout.
- G. Do not apply concentrated loads for at least 3 days after completion of erection of masonry walls and columns.

### **3.15 REPAIR AND POINTING OF MASONRY**

- A. Remove and replace masonry units which are loose, chipped, broken, stained and otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar or grout, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up all joints at corners, openings, and adjacent work to provide a neat, uniform appearance, properly prepared for application of caulking or sealant compounds.

### **3.16 TOLERANCES**

- A. Tolerances shall meet or exceed those recommended by the Brick Institute of America.

### **3.17 CLEANING**

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution.

**3.18 PROTECTION**

- A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

**END OF SECTION**

## **DIVISION 05 – METALS**

**SECTION 05 50 00  
METAL FABRICATIONS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Shop fabricated steel and aluminum items.

**1.02 RELATED REQUIREMENTS**

- A. Section 04 20 00 - Unit Masonry: Placement of metal fabrications in masonry.
- B. Section 09 96 00 - High-Performance Coatings: Painting of exterior lintels.

**1.03 REFERENCE STANDARDS**

- A. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.
- B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
- C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.
- D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.
- E. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2024.
- F. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2021.
- G. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- H. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.
- I. ASTM B210/B210M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2019a.
- J. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
- K. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- L. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi, 144 ksi, and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2025.
- M. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 2004.
- N. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).
- O. SSPC-SP 2 - Hand Tool Cleaning; 2024.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

**1.05 QUALITY ASSURANCE**

- A. Field Measurement: Take field measurements prior to preparation of shop drawings and fabrication, where possible.

- B. Shop Fabrications: Fabricate, fit, and assemble miscellaneous metal items in the shop. Work that cannot be permanently shop-assembled shall be completely assembled, marked, and disassembled before shipment to ensure proper assembly in the field.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS - STEEL**

- A. General: For metal work which will be exposed to view, use only materials which are smooth and free of all surface blemishes.
- B. Steel Sections: ASTM A36/A36M and ASTM A992/A992M.
- C. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- D. Plates: ASTM A283/A283M.
- E. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
- F. Slotted Channel Framing: ASTM A653/A653M, Grade 33.
- G. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.
- H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- I. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

### **2.02 MATERIALS - ALUMINUM**

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
- B. Sheet Aluminum: ASTM B209/B209M, 5052 alloy, H32 or H22 temper.
- C. Aluminum-Alloy Drawn Seamless Tubes: ASTM B210/B210M, 6063 alloy, T6 temper.
- D. Bolts, Nuts, and Washers: Stainless steel.

### **2.03 MATERIALS - FASTENERS**

- A. General: Provide zinc-coated fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade and class required.
- B. Provide bolts and fastening devices as required to set miscellaneous and ornamental metal items in place.

### **2.04 FABRICATION**

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds at exterior locations.
  - 1. Miscellaneous metal items exposed on the interior shall be intermittently welded, ground smooth, and filled with sanded body putty; or at the Contractor's option, they may be continuously welded and ground smooth.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to a 1/32-inch radius. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work with exposed faces flat, smooth and free of deformation and distortion.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- G. Cut, reinforce, drill and tap miscellaneous metal work as required to receive hardware and similar items.

- H. Weather Exposure: Fabricate joints which will be exposed to the weather in a manner to exclude water and/or provide weep holes where water may accumulate through condensation or other means.

## **2.05 FABRICATED ITEMS**

- A. Ledge Angles and Shelf Angles Not Attached to Structural Framing: For support of metal decking; prime paint finish.
- B. Lintels: As detailed; prime paint finish.
  - 1. Lintels shall have a minimum 8-inch bearing unless otherwise noted.
  - 2. All surfaces of exterior lintels shall be prepared and hot-dipped galvanized after fabrication.
- C. Aluminum brake metal enclosures and trim – see Architectural Drawings. Note that these enclosures shall have no exposed seams. Brake metal shall be 0.040-inch thick aluminum.
  - 1. See Section 09 30 00 - Tiling for additional locations.

## **2.06 FINISHES - STEEL**

- A. Prime paint steel items.
  - 1. Exceptions: Galvanize items to be embedded in concrete and items to be embedded in masonry.
  - 2. Exceptions: Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.
- B. Prepare surfaces to be primed in accordance with SSPC-SP2.
- C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- D. Prime Painting: Two coats.
- E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements.
- F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

## **2.07 FINISHES - ALUMINUM**

- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field conditions are acceptable and are ready to receive work.

### **3.02 PREPARATION**

- A. Furnish setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

### **3.03 INSTALLATION**

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.
- D. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

## **END OF SECTION**

## **DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES**

**SECTION 06 10 00  
ROUGH CARPENTRY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concealed wood blocking, nailers, and supports.

**1.02 REFERENCE STANDARDS**

- A. ASME B18.2.1 - Square, Hex, Heavy Hex, and Askew Head Bolts and Hex, Heavy Hex, Hex Flange, Lobed Head, and Lag Screws (Inch Series); 2012 (Reaffirmed 2021).
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- C. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.
- D. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts; 2021a.
- E. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.
- F. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2021.
- G. ASTM F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs; 2024.
- H. ASTM F594 - Standard Specification for Stainless Steel Nuts; 2024.
- I. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.
- J. ITS (DIR) - Directory of Listed Products; Current Edition.
- K. PS 20 - American Softwood Lumber Standard; 2025.
- L. UL (DIR) - Online Certifications Directory; Current Edition.

**1.03 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide technical data on each type of process and factory-fabricated product.
- C. Product Data: Submit technical data on wood treatment.
- D. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.

**1.04 QUALITY ASSURANCE**

- A. New Products: Only new lumber shall be utilized throughout the project.

**1.05 DELIVERY, STORAGE, AND HANDLING**

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

**PART 2 PRODUCTS**

**2.01 GENERAL REQUIREMENTS**

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  - 1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
  - 2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at [www.alsc.org](http://www.alsc.org), and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

3. Where nominal sizes are indicated, provide actual sizes required by PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
4. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

## **2.02 DIMENSION LUMBER**

- A. General: Provide dimension lumber of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
  1. For items of dimension lumber size, provide Construction, Stud or No. 2 grade SPF lumber with 19 percent maximum moisture content.
  2. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
    - a. Spruce-pine-fir (south) or Spruce-pine-fir, Construction or No. 2 Common grade; NELMA, NLGA, WCLIB, or WWPA.

## **2.03 FIRE-RETARDANT TREATMENT (FRT)**

- A. Products:
  1. Hoover Treated Wood Products, Inc: [www.frtw.com/#sle](http://www.frtw.com/#sle).
  2. Koppers, Inc; FlamePRO: [www.koppersperformancechemicals.com/#sle](http://www.koppersperformancechemicals.com/#sle).
  3. Viance, LLC; D-Blaze: [www.treatedwood.com/#sle](http://www.treatedwood.com/#sle).
- B. Factory-treat wood members in accordance with AWPA U1 and use category indicated.
- C. Fire-Retardant Treatment: Interior Type A, Use Category UCFA (HT), High Temperature.
  1. Treat blocking and other wood members concealed in noncombustible construction.
  2. Treat electrical and communications panel backer boards.
  3. Treat wood and plywood used in roof framing and attic spaces.
- D. Kiln-dry after treatment (KDAT) to maximum moisture content of 19 percent for sawn material and 15 percent for plywood.
- E. Fabrication of FRT Wood:
  1. Ripping or milling of boards, lumber, and timber after treatment is not permitted.
  2. Field cutting to length and drilling of holes in boards, lumber, and timber are permitted without additional treatment.
  3. Field cutting and drilling of holes in plywood are permitted.
- F. Label or brand FRT wood with classification mark of UL (DIR) or ITS (DIR) or other approved inspection agency, the treatment plant, name of treatment, species of wood, flame spread and smoke developed index, method of drying after treatment, and treating standard.

## **2.04 FASTENERS**

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  1. Where rough carpentry is exposed to weather, in ground contact, or in an area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153.
- B. Nails, Brads, and Staples: ASTM F1667 .
- C. Power-Driven Fasteners: CABO NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1 .
- F. Bolts: Steel bolts complying with ASTM A307 , Grade A, Property Class 4.6; with ASTM A563 Hex nuts and, where indicated, flat washers.

- G. Headed Anchor Bolts at Sill Plates: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six (6) times the load imposed when installed in unit masonry assemblies and equal to four (4) times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
  - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B633, Class FeZn 5.
  - 2. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2.

## **2.05 ACCESSORIES**

- A. Metal and Finish of Fasteners:
  - 1. Fire-Retardant-Treated Wood:
    - a. Nails, timber rivets, wood screws, and lag screws: Hot-dip galvanized steel complying with ASTM A153/A153M Class D.
  - 2. Untreated Wood: Unfinished steel.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Coordinate installation of rough carpentry members specified in other sections.

### **3.02 INSTALLATION - GENERAL**

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.
- B. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. CABO NER-272 for power-driven fasteners.
  - 2. Published requirements of metal framing anchor manufacturer.
  - 3. Table 2304.9.1, "Fastening Schedule", in the 2006 International Building Code.
  - 4. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; pre-drill as required.
  - 5. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

### **3.03 BLOCKING, NAILERS, AND SUPPORTS**

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
- C. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.
- D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

### **3.04 SITE-APPLIED WOOD TREATMENT**

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

## Titan Hill Exterior Envelope

- B. Allow preservative to dry prior to erecting members.

**END OF SECTION**

## **DIVISION 07 – THERMAL AND MOISTURE PROTECTION**

**SECTION 07 92 00  
JOINT SEALANTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

**1.02 RELATED REQUIREMENTS**

- A. Section 09 21 16 - Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.

**1.03 REFERENCE STANDARDS**

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).
- B. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018 (Reapproved 2022).
- C. ASTM C834 - Standard Specification for Latex Sealants; 2017 (Reapproved 2023).
- D. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2024.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).
- F. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2023.
- G. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.
- H. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.
- I. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

**1.04 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. Backing material recommended by sealant manufacturer.
  - 4. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
  - 5. Substrates the product should not be used on.
  - 6. Certification by manufacturer indicating that product complies with specification requirements.
- C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection. Samples shall be strips of actual caulking. Paper samples shall not be acceptable.
- D. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.
- E. Executed warranty.

**1.05 QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

- B. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
  - 1. Adhesion Testing: In accordance with ASTM C794.
  - 2. Compatibility Testing: In accordance with ASTM C1087.
  - 3. Allow sufficient time for testing to avoid delaying the work.
  - 4. Deliver sufficient samples to manufacturer for testing.
  - 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
  - 6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

#### **1.06 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide listed manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.
  - 1. Urethane Sealants: Five years.
  - 2. Silicone Sealants: Twenty years.
- C. Extended Correction Period: Correct defective work within 5-year period commencing on Date of Substantial Completion.

#### **1.07 JOB CONDITIONS**

- A. Weather and Temperature: Sealants shall be installed on dry days preferably with temperatures between 40F and 55F, but in no case shall sealants be installed when temperatures are below 40F or above 90F.
- B. Protection: Special care shall be exercised to prevent damage to adjacent work during installation of sealants.
- C. Sequencing:
  - 1. Install sealant adjacent to painted and stained surfaces before adjacent surfaces receive their final coat of paint or stain.
  - 2. Install sealants after brickwork and concrete is washed down and before water repellent treatment is applied.
  - 3. Caulking shall not begin until all samples have been approved and until a meeting has been held at the construction site between the Architect/Engineer and the caulking subcontractor to discuss miscellaneous caulking requirements and workmanship.

### **PART 2 PRODUCTS**

#### **2.01 JOINT SEALANT APPLICATIONS**

- A. Scope:
  - 1. Exterior Joints:
    - a. Seal the following joints:
      - 1) Wall expansion and control joints.
      - 2) Joints between doors, windows, and other frames or adjacent construction.
      - 3) Joints between different exposed materials.
  - 2. Interior Joints:
    - a. Do not seal through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
    - b. Seal the following joints:
      - 1) Joints between door frames and window frames and adjacent construction.
      - 2) In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, and piping penetrations.

- 3) In sound-rated wall and ceiling assemblies, seal joints between wall assemblies and ceiling assemblies; between wall assemblies and other construction; between ceiling assemblies and other construction.
3. Do Not Seal:
  - a. Intentional weep holes in masonry.
  - b. Joints indicated to be covered with manufactured expansion joint cover assemblies or other sealing devices.
  - c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
  - d. Joints where sealant installation is specified in other sections.
  - e. Joints between suspended ceilings and walls.
- B. Exterior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
  1. Control and Expansion Joints in Concrete Paving: Self-leveling polyurethane "traffic-grade" sealant.
  2. Joints within and at perimeter of Exterior Insulation Finish System.
- C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
  1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
  2. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
  3. Interior Expansion Joints at Exterior Walls.
- D. Interior Wet Areas: restrooms, kitchens, and food service areas; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.

## 2.02 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

## 2.03 NONSAG JOINT SEALANTS

- A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
  1. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
  2. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
  3. Products:
    - a. Dow; DOWSIL 790 Silicone Building Sealant: [www.dow.com/#sle](http://www.dow.com/#sle).
    - b. Dow; DOWSIL 791 Silicone Weatherproofing Sealant: [www.dow.com/#sle](http://www.dow.com/#sle).
    - c. Pecora Corporation: [www.pecora.com/#sle](http://www.pecora.com/#sle).
    - d. Tremco Commercial Sealants & Waterproofing; Spectrem 1: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
    - e. Tremco Commercial Sealants & Waterproofing; Spectrem 3: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
    - f. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
  1. Color: White.
  2. Products:
    - a. Dow; Dowsil 786 Silicone Sealant: [www.dow.com](http://www.dow.com).
    - b. General Electric; Sanitary SCS1700 Sealant: [www.siliconeforbuilding.com](http://www.siliconeforbuilding.com).
    - c. Tremco Commercial Sealants & Waterproofing; Tremsil 200: [www.tremcosealants.com](http://www.tremcosealants.com).
    - d. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.

1. Movement Capability: Plus and minus 50 percent, minimum.
  2. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
  3. Products:
    - a. Pecora Corporation; Dynatrol II: [www.pecora.com/#sle](http://www.pecora.com/#sle).
    - b. Sika Corporation; Sikaflex-2c NS: [www.usa-sika.com/#sle](http://www.usa-sika.com/#sle).
    - c. Tremco Commercial Sealants & Waterproofing; Vulkem 116: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
    - d. Tremco Commercial Sealants & Waterproofing; Dymeric 511: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface .
1. Movement Capability: Plus and minus 35 percent, minimum.
  2. Products:
    - a. Pecora Corporation; NR-200 Urexpan: [www.pecora.com](http://www.pecora.com).
    - b. Sika Corporation; Sikaflex-2c NS EZ Mix+: [usa.sika.com/#sle](http://usa.sika.com/#sle).
    - c. Tremco Commercial Sealants & Waterproofing; THC-900: [www.tremcosealants.com](http://www.tremcosealants.com).
    - d. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use. Acoustical Sealant for use at penetrations through walls and at the tops of walls.
1. Color: To be selected by Architect from manufacturer's standard range.
  2. Products:
    - a. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: [www.us.hilti.com/#sle](http://www.us.hilti.com/#sle).
    - b. Pecora Corporation; AC-20: [www.pecora.com/#sle](http://www.pecora.com/#sle).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.

#### **2.04 SELF-LEVELING JOINT SEALANTS**

- A. Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; multi-component; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion .
1. Movement Capability: Plus and minus 25 percent, minimum.
  2. Hardness Range: 35 to 55, Shore A, when tested in accordance with ASTM C661.
  3. Products:
    - a. Sika Corporation; Sikaflex-2c SL: [usa.sika.com/#sle](http://usa.sika.com/#sle).
    - b. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Self-Leveling Polyurethane Sealant for Horizontal Expansion Joints: ASTM C920, Grade P, Uses T, M and O; multi-component; explicitly approved by manufacturer for horizontal expansion joints.
1. Movement Capability: Plus and minus 25 percent, minimum.
  2. Hardness Range: 30 to 35, Shore A, when tested in accordance with ASTM C661.
  3. Products:
    - a. Tremco Commercial Sealants & Waterproofing: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
    - b. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Self-Leveling Polysulfide Sealant: ASTM C920, Grade P, Uses M and A; multicomponent; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
1. Movement Capability: Plus and minus 25 percent.
  2. Products:
    - a. W. R. Meadows, Inc; Deck-O-Seal (pourable): [www.wrmeadows.com/#sle](http://www.wrmeadows.com/#sle).
    - b. Substitutions: See Section 01 60 00 - Product Requirements.

## **2.05 ACCESSORIES**

- A. Sealant Backing Materials, General: Materials placed in joint before applying sealants; assists sealant performance and service life by developing optimum sealant profile and preventing three-sided adhesion; type and size recommended by sealant manufacturer for compatibility with sealant, substrate, and application.
- B. Overlay Extrusion for Glazing System Joint Protection: Rubber profiled extrusions placed over joints in glazing system and provided with watertight seal.
  - 1. Profile: As required to match existing metal glazing cap requirements.
- C. Preformed Extruded Silicone Joint Seal: Pre-cured low-modulus silicone extrusion, in sizes to fit applications indicated on drawings, combined with a neutral-curing liquid silicone sealant for bonding joint seal to substrates.
  - 1. Thickness: 0.78 inch, with ridges along outside bottom edges for bonding area.
  - 2. Products:
    - a. Tremco Commercial Sealants & Waterproofing; Spectrem Simple Seal: [www.tremcosealants.com/#sle](http://www.tremcosealants.com/#sle).
- D. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- E. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- F. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- G. 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. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

**3.04 FIELD QUALITY CONTROL**

- A. See Section 01 40 00 - Quality Requirements for additional requirements.
- B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

**END OF SECTION**

## **DIVISION 08 – OPENINGS**

**SECTION 08 16 13  
FIBERGLASS DOORS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Fiberglass doors.
- B. Fiberglass door frames.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 71 00 - Door Hardware.

**1.03 REFERENCE STANDARDS**

- A. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2022.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.
- C. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.
- E. UL (DIR) - Online Certifications Directory; Current Edition.
- F. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination: Obtain hardware templates from hardware manufacturer prior to starting fabrication.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturer's standard details, installation instructions, hardware and anchor recommendations.
- C. Shop Drawings: Indicate layout and profiles; include assembly methods.
  - 1. Indicate product components, including hardware reinforcement locations and preparations, accessories, finish colors, patterns, and textures.
  - 2. Indicate wall conditions, door and frame elevations, sections, materials, gauges, finishes, location of door hardware by dimension, and details of openings; use same reference numbers indicated on drawings to identify details and openings.
- D. Verification Samples: Submit door surface samples for each finish specified, 10 inches by 10 inches in size, illustrating finishes, colors, and textures.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Store materials in original packaging, under cover, protected from exposure to harmful weather conditions and from direct contact with water.
  - 1. Store at temperature and humidity conditions recommended by manufacturer.
  - 2. Do not use non-vented plastic or canvas shelters.
  - 3. Immediately remove wet wrappers.
- C. Store in position recommended by manufacturer, elevated minimum 4 inches above grade, with minimum 1/4 inch space between doors.

### **1.07 FIELD CONDITIONS**

- A. Do not install doors until structure is enclosed.
- B. Maintain temperature and humidity at manufacturer's recommended levels during and after installation of doors.

### **1.08 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide 5-year manufacturer warranty covering materials and workmanship, including degradation or failure due to chemical contact. Complete forms in Owner's name and register with manufacturer.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Molded Fiberglass Doors:
  - 1. ChemPruf Door Company, Ltd: [www.chem-pruf.com/#sle](http://www.chem-pruf.com/#sle).
  - 2. Edgewater Door: [www.edgewaterfrp.com](http://www.edgewaterfrp.com).
  - 3. Tiger Door, LLC: [www.tigerdoor.com/#sle](http://www.tigerdoor.com/#sle).

### **2.02 DOOR AND FRAME ASSEMBLIES**

- A. Door and Frame Assemblies: Factory-fabricated, prepared and machined for hardware.
  - 1. Screw-Holding Capacity: Tested to 890 pounds, minimum.
  - 2. Surface Burning Characteristics: Flame spread index (FSI) of 0 to 25, Class A, and smoke developed index (SDI) of 450 or less, when tested in accordance with ASTM E84.
  - 3. Flammability: Self-extinguishing when tested in accordance with ASTM D635.
  - 4. Clearance Between Door and Frame: 1/8 inch, maximum.
  - 5. Clearance Between Bottom of Door and Finished Floor: 3/4 inch, maximum; not less than 1/4 inch clearance to threshold.
- B. Fire-Rated Doors and Frames: Comply with fire-ratings as indicated on drawings.
  - 1. Tested in accordance with ICC (IBC) for positive pressure or UL 10C.
  - 2. UL (DIR) listed and labeled.
  - 3. Visible seals when doors are open or closed is not permitted.
  - 4. Provide mineral fiber or intumescent core as required for fire-rating as indicated.

### **2.03 COMPONENTS**

- A. Doors: Fiberglass construction with reinforced core.
  - 1. Type: As indicated on drawings, including swinging doors.
  - 2. Thickness: 1-3/4 inch, nominal.
  - 3. Core Material: Mineral fiber, fire-rated doors.
  - 4. Construction:
    - a. Fiberglass faces laminated to core with an applied gel coating, or molded in one piece including gel coating on each side.
  - 5. Face Sheet Texture: Smooth.
  - 6. Door Panel: Flush door.
  - 7. Subframe and Reinforcements: Fiberglass pultrusions or polymer foam; no metal or wood.
  - 8. Waterproof Integrity: Provide factory fabricated edges, cut-outs, and hardware preparations of fiberglass reinforced plastic (FRP); provide cut-outs with joints sealed independently of glazing, louver inserts, or trim.
  - 9. Hardware Preparations: Factory reinforce, machine, and prepare for door hardware including field installed items; provide solid blocking for each item; field cutting, drilling or tapping is not permitted; obtain manufacturer's hardware templates for preparation as necessary.
- B. Door Frames: Provide type in compliance with performance requirements specified for doors.

1. Type: Factory assembled with chemically welded joints.
2. Profiles: As indicated on drawings.
3. Fire-Rated: Provide frames bearing labels to match doors.
  - a. Fiberglass reinforced plastic (FRP) with gel-coating matching doors.
4. Frame Anchors: Stainless steel, Type 304; provide three anchors in each jamb for heights up to 84 inches with one additional anchor for each additional 24 inches in height.

#### **2.04 FINISHES**

- A. Gel Coating: Ultraviolet (UV) stabilized polyester finish.
  1. Thickness: Minimum 15 mils, 0.015 inch wet thickness, plus/minus 3 mils, 0.003 inch.
  2. Color: To be selected from manufacturer's standard range.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

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

#### **3.02 PREPARATION**

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Clean and prepare substrate in accordance with manufacturer's directions.

#### **3.03 INSTALLATION**

- A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.
- B. Install fire-rated assemblies in accordance with NFPA 80.
- C. Install door hardware as specified in Section 08 71 00.
- D. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.
- E. In masonry walls, install frames prior to laying masonry; anchor frames into masonry mortar joints; fill jambs with grout as walls are laid up.
- F. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.
- G. Repair or replace damaged installed products.

#### **3.04 ADJUSTING**

- A. Lubricate, test, and adjust doors to operate easily, free from warp, twist or distortion, and to fit watertight for entire perimeter.
- B. Adjust hardware for smooth and quiet operation.
- C. Adjust doors to fit snugly and close without sticking or binding.

#### **3.05 CLEANING**

- A. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.

**END OF SECTION**

**SECTION 08 33 23  
OVERHEAD COILING DOORS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Exterior coiling doors.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 71 00 - Door Hardware: Cylinder cores and keys.

**1.03 REFERENCE STANDARDS**

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- C. UL (DIR) - Online Certifications Directory; Current Edition.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide general construction and component connections and details.
- C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.
- D. Maintenance Data: Indicate lubrication requirements and frequency and periodic adjustments required.

**1.05 QUALITY ASSURANCE**

- A. Furnish each overhead coiling door as a complete unit produced by one manufacturer, including hardware (except as noted otherwise), accessories, mounting and installation components.
- B. Inserts and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry for installation of units. Furnish templates as necessary to avoid delay of work.
- C. Products Requiring Electrical Connection: Listed and classified by UL (DIR) or testing firm acceptable to authorities having jurisdiction as suitable for purpose specified.

**1.06 DIMENSIONS**

- A. Dimensions shown on the Drawings are "opening" dimensions. See details for size variations required by track location at jambs, above ceiling mounting, etc. Field verify all opening sizes prior to ordering materials to assure proper fit.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Overhead Coiling Doors - Basis of Design:
  - 1. Overhead Door Corporation; Model 625 Stormtite Insulated Rolling Service Door: [www.overheaddoor.com/#sle](http://www.overheaddoor.com/#sle).
- B. Overhead Coiling Doors - Acceptable Manufacturers:
  - 1. Alpine Overhead Doors, Inc: [www.alpinedoors.com/#sle](http://www.alpinedoors.com/#sle).
  - 2. Cornell Iron Works, Inc: [www.cornelliron.com](http://www.cornelliron.com).
  - 3. Raynor Garage Doors, Model IF: [www.raynor.com/#sle](http://www.raynor.com/#sle).
  - 4. The Cookson Company: [www.cooksondoor.com/#sle](http://www.cooksondoor.com/#sle).
  - 5. Wayne-Dalton, a Division of Overhead Door Corporation: [www.wayne-dalton.com/#sle](http://www.wayne-dalton.com/#sle).

**2.02 COILING DOORS**

- A. Exterior Coiling Doors: Steel slat curtain.

1. Capable of withstanding positive and negative wind loads of 20 psf without undue deflection or damage to components.
2. Sandwich Slats: Manufacturer's standard, with core of foamed-in-place polyurethane insulation; minimum R-value of 4.88.
3. Nominal Slat Size: 2 inches wide by required length.
4. Finish: Powder Coat. Black.
5. Guide, Angles: Primed steel.
6. Hood Enclosure: Manufacturer's standard; galvanized steel.
7. Manual hand chain lift operation.
8. Mounting: As indicated on drawings.
9. Locking Devices: Lock and latch handle on outside.

### **2.03 MATERIALS**

- A. Metal Curtain Construction: Interlocking slats.
  1. Curtain Bottom for Slat Curtains: Fitted with angles to provide reinforcement and positive contact in closed position.
  2. Weatherstripping for Exterior Doors: Moisture and rot proof, resilient type, located at jamb edges, bottom of curtain, and where curtain enters hood enclosure of exterior doors.
  3. Steel Slats: Minimum thickness, Gauge of steel to be determined from manufacturer's standards as best suited for size of opening; ASTM A653/A653M galvanized steel sheet.
- B. Guides - Angle: ASTM A36/A36M metal angles, size as required for wind loading.
- C. Hood Enclosure and Trim: Internally reinforced to maintain rigidity and shape.
- D. Lock Hardware:
  1. Latch Handle: Manufacturer's standard.
  2. Manual Chain Lift: Provide padlockable chain keeper on guide.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that adjacent construction is suitable for door installation.
- B. Verify that electrical services have been installed and are accessible.
- C. Verify that door opening is plumb, header is level, and dimensions are correct.
- D. Notify Architect of any unacceptable conditions or varying dimensions.
- E. Commencement of installation indicates acceptance of substrate and door opening conditions.

### **3.02 INSTALLATION**

- A. Install units in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure.
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Install perimeter trim and closures.

### **3.03 ADJUSTING**

- A. Adjust operating assemblies for smooth and noiseless operation.
- B. Adjust operating mechanism so that operating speed meets the approval of the Owner and the Architect/Engineer in the field.

### **3.04 CLEANING**

- A. Clean installed components.
- B. Remove labels and visible markings.

**SECTION 08 43 13  
ALUMINUM-FRAMED STOREFRONTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Aluminum-framed storefront, with vision glass.
- B. Aluminum doors and frames.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.
- B. Section 08 80 00 - Glazing : Glass and glazing accessories.

**1.03 REFERENCE STANDARDS**

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.
- B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2025.
- C. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.
- D. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.
- E. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
- F. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- G. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.
- H. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.
- I. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).
- J. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordinate with installation of other components that comprise the exterior enclosure.
- B. All frame details which will incorporate glazing shall be coordinated with the glass manufacturer to assure that all details, methods of frame weepage, materials and methods of installation are in accordance with the glass manufacturer's requirements.
- C. All hardware preparation, reinforcing and other requirements shall be coordinated with the hardware supplier to assure proper operation and fit of all doors and hardware items.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.

- D. Samples: Submit two samples of 4-inch long extrusions illustrating finished aluminum surface, glass, glazing materials.
- E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- F. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

#### **1.07 FIELD CONDITIONS**

- A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

#### **1.08 MOCK UP**

- A. Install one representative aluminum frame condition for Owner/Architect approval prior to installing the remaining locations.

#### **1.09 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide 10 year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.
- D. Provide 10 year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

### **PART 2 PRODUCTS**

#### **2.01 BASIS OF DESIGN -- FRAMING FOR INSULATING GLAZING**

- A. Center-Set Style, Thermally-Broken (Exterior Aluminum Frames):
  - 1. Basis of Design: Kawneer North America; Trifab VG 451T: [www.kawneer.com](http://www.kawneer.com).
  - 2. Vertical Mullion Dimensions: 2 inches wide by 6 inches deep.
- B. Center-Set Style, Double Thermal Break System (Exterior Aluminum Frame - Where Noted):
  - 1. Basis of Design: Kawneer North America; Trifab VersaGlaze 601UT: [www.kawneer.com](http://www.kawneer.com).
  - 2. Vertical Mullion Dimensions: 2 inches wide by 6 inches deep.
- C. Other Manufacturers: Provide either the product identified as "Basis of Design" or an equivalent product of one of the manufacturers listed below:
  - 1. Manko Window Systems, Inc: [www.mankowindows.com/#sle](http://www.mankowindows.com/#sle).
  - 2. EFCO, a Pella Company; 402 (NT), 403 (T): [www.efcocorp.com/#sle](http://www.efcocorp.com/#sle).
  - 3. Tubelite Inc.; T14000 Series: [www.tubeliteinc.com](http://www.tubeliteinc.com).

#### **2.02 BASIS OF DESIGN -- SWINGING DOORS**

- A. Wide Stile, Insulating Glazing, Thermally-Broken (Exterior Doors):
  - 1. Basis of Design: Kawneer North America; Model 500T: [www.kawneer.com](http://www.kawneer.com).
  - 2. Thickness: 2-1/4 inches.
- B. Other Manufacturers: Provide either the product identified as "Basis of Design" or an equivalent product of one of the manufacturers listed below:
  - 1. EFCO, a Pella Company: [www.efcocorp.com/#sle](http://www.efcocorp.com/#sle).
  - 2. Manko Window Systems, Inc.: [www.mankowindows.com](http://www.mankowindows.com).
  - 3. Tubelite Inc.: [www.tubeliteinc.com](http://www.tubeliteinc.com).

### 2.03 ALUMINUM-FRAMED STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
  - 1. Finish: Class I color anodized.
    - a. Factory finish all surfaces that will be exposed in completed assemblies.
  - 2. Finish Color: Dark bronze.
  - 3. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
  - 4. Fabrication: To the greatest possible extent, complete fabrication, assembly, finishing, hardware application, and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.
  - 5. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
  - 6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
  - 7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
  - 8. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
  - 9. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
  - 10. Maintain continuous air barrier and/or vapor retarder seal throughout assembly, primarily in line with inside pane of glazing and inner sheet of infill panel, and heel bead of glazing compound.

### 2.04 PERFORMANCE REQUIREMENTS

- A. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
- B. Water Penetration Resistance on Manufactured Assembly: No uncontrolled water on interior face, when tested in accordance with ASTM E331 at pressure differential of 8 psf.
- C. Air Leakage: 0.06 cfm/sq ft maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 1.57 psf pressure difference.
- D. Condensation Resistance Factor of Framing: 50, minimum, measured in accordance with AAMA 1503.
- E. Overall U-value Including Glazing: 0.45 Btu/(hr sq ft deg F), maximum.

### 2.05 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
  - 1. Framing members for interior applications need not be thermally broken.
  - 2. Glazing Stops: Manufacturer's standard blade-type stops.
- B. Glazing: See Section 08 80 00.
- C. Infill Metal Infill Panels (IMFP): Insulated, aluminum, with edges formed to fit glazing channel and sealed.
  - 1. Total Nominal Thickness: 1 inch.
  - 2. Reinforcement Layer: Manufacturer's standard water-resistant tempered hardboard.
  - 3. Core: Rigid polyurethane insulation core.
  - 4. Finish: Same as storefront.

- 5. Products:
  - a. Mapes Industries; Mapes R: <https://mapes.com/#sle>.
  - b. Substitutions: Equal panels manufactured by Laminators, Inc. will also be accepted.
- D. Swing Doors: Glazed aluminum.
  - 1. Thickness: 2 1/4 inches at exterior doors.
  - 2. Glazing Stops: Manufacturer's standard blade-type stops.
  - 3. Finish: Same as storefront.
- E. Closure plates and brake metal: Provide matching closure plates and brake metal at locations noted on the Drawings. Brake metal shall be 0.040-inch thick aluminum.

## **2.06 MATERIALS**

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Sheet Aluminum: ASTM B209/B209M.
- C. Fasteners: Stainless steel.
  - 1. Do not use exposed fasteners except where unavoidable. Exposed fasteners shall match finish of frame members.
- D. Exposed Flashings: Aluminum sheet, 20 gauge, 0.032 inch minimum thickness; finish to match framing members.
- E. Concealed Flashings: Galvanized steel, 26 gauge, 0.0179 inch minimum base metal thickness.
- F. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.
- G. Glazing Accessories: See Section 08 80 00.
- H. Caulking materials for internal frame joints, fasteners, etc., shall be of a color to most closely match the aluminum framing, and of the types recommended by the frame manufacturer. Caulking which is totally concealed may be of any color selected by the manufacturer.
- I. All caulking of frame perimeters shall comply with the requirements, materials and colors specified in Section 07 92 00, and shall be included under this Section.

## **2.07 FINISHES**

- A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A44 Electrolytically deposited colored anodic coating not less than 0.7 mils thick.
- B. Color: Dark bronze.

## **2.08 HARDWARE**

- A. For each door, include weatherstripping, sill sweep strip, and threshold.
- B. Coordinate installation of security components at exterior doors. Coordinate as required with the door hardware supplier, the electrical sub-contractor and the Owner's security system provider. When there are electrical door hardware items being installed, the aluminum frame supplier shall provide boxes of the appropriate size to protect the hardware devices from damage and also to allow room for wire termination and installation of the electrified hardware items.
- C. Other Door Hardware: See Section 08 71 00.
- D. Weather-stripping:
  - 1. Meeting stiles on pairs of doors shall be equipped with an adjustable astragal utilizing wool pile with polymeric fin.
  - 2. The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing.
- E. Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fasteners

- F. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier seal materials are ready to receive work of this section.

#### **3.02 INSTALLATION**

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Anchor securely in place, separating aluminum and other corrodible metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials. At points where members are attached to structure, use nylon or neoprene washers or other non-metallic materials for separation to allow for movement due to thermal range between aluminum unit and structure.
- E. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- F. Provide thermal isolation where components penetrate or disrupt building insulation.
- G. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- H. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- I. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- J. Set thresholds in bed of sealant and secure to provide weathertight construction. Comply with requirements of the frame manufacturer regarding sealant types. Caulking at the perimeter of all frames where abutting adjacent materials shall be included in Section 07 9200.
- K. Drill frames and doors and install hardware items with bolted connections, complying with hardware manufacturer's instructions and template requirements. Use concealed fasteners wherever possible. Check and adjust as required to maintain a tight fit against all weatherstripping.
- L. Install glass and infill panels in accordance with Section 08 80 00, using glazing method required to achieve performance criteria.
- M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

#### **3.03 TOLERANCES**

- A. Maximum Variation from Plumb: 0.06 inch per 3 feet non-cumulative or 0.06 inch per 10 feet, whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

#### **3.04 FIELD QUALITY CONTROL**

- A. Water-Spray Test: Provide water spray quality test of installed storefront components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.
  - 1. Perform a minimum of two tests in each designated area. Test not less than 2% minimum of each window system. Field verify exact location of testing with Architect in the field.

2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.

**3.05 ADJUSTING**

- A. Adjust operating hardware for smooth operation.

**3.06 CLEANING**

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.

**3.07 PROTECTION**

- A. Protect installed products from damage until Date of Substantial Completion.

**END OF SECTION**

**SECTION 08 71 00  
FINISH HARDWARE**

**PART 1 GENERAL**

**1.01 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 08 16 13 - Fiberglass Doors.
- B. Section 08 33 23 - Overhead Coiling Doors
- C. Section 08 43 13 - Aluminum-Framed Storefronts.
- D. Section 28 00 00 - for Electrical requirements.

**1.02 QUALITY ASSURANCE**

- A. Supplier: The firm supplying hardware for this project shall employ a member of the American Society of Architectural Hardware Consultants, or a person of equivalent capability who is approved by the Architect. The Consultant shall be available during all phases of construction for consultation and technical assistance. The firms bidding on this project must understand all of the requirements of their jobsite work. If they aren't certified to perform all work associated with this contract then they need to make certain they make arraignments with people that are able to perform the technical aspects of this contract defined below.
  - 1. All door hardware low voltage wires provided and installed by the access control/security contractor.
  - 2. Door hardware power supplies provided by the door hardware subcontractor and installed by the electrician.
- B. Coordination with Steel Door and Frame Supplier: The hardware supplier shall coordinate all hardware items to be installed in or on steel doors and frames with the supplier of those items to assure proper fit, reinforcing and operation.
- C. Electrical System Rough-In: There is to be a coordination meeting set up by the General Contractor, with the Architect, the Owner's representative, the aluminum frame subcontractor, the electrician, the metal door/frame and hardware subcontractor as well as the access controls contractor to review all electrical products being installed and to make certain everyone understands their role in the process. This meeting needs to be held very early in the construction process, before any frames are installed, to eliminate any conflicts during the installation phase. The General Contractor shall keep meeting minutes and distribute copies to the above described.
- D. Fire-Rated Openings: Provide hardware for fire-rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or FM for types and sizes of doors required and complies with requirements of door and door frame labels.

**1.03 SUBMITTALS**

- A. Hardware Schedule: Submit hardware schedule to the Architect/Engineer in accord with the General Conditions and 01 30 00 - Administrative Requirements. The hardware schedule shall list the type, manufacturer's name and number, finish, size, function and location. All abbreviations and symbols used on the schedule shall be explained. Catalog cuts and information covering each item of hardware shall be attached to the hardware schedule. No hardware shall be ordered, or delivered to the job, until approval of the schedule has been received from the Architect. Approval of the schedule does not relieve the hardware supplier of fulfilling all terms of the specifications.
- B. Maintenance Manual: Supply 1 paper and 1 digital copy of installation instructions, maintenance instructions for each operating item, maintenance instructions for finishes, and parts manuals for all locksets, closers, exit devices and other operating devices to the Prime Contractor for inclusion in the overall project maintenance manual.
- C. Installation and Adjustment Tools: Supply 2 complete sets of all installation and adjustment tools for transmittal to the Owner by the Prime Contractor for each different style, type and

series of lockset, latch, lock, exit device, closer or other adjustable hardware item provided and installed at this project.

- D. Keying Schedule: Verify keyway requirements and establish core mark, control, grand master, master, submaster divisions and individual passage keying requirements with the Owner's representative. Verification shall include keying for miscellaneous locks on other items listed at the beginning of this Section. Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.

#### 1.04 SUBMITTAL SEQUENCE

- A. Submit schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., steel and aluminum doors and frames) which are critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by builders of hardware, and other information essential to the coordinated review of hardware schedule.
- B. Steel and Aluminum Doors and Frames: Hardware for installation on steel and aluminum doors and frames is to be made to standard templates, and such templates, schedules and other pertinent information shall be delivered to the individual door and frame fabricators within 10 days after receipt of the approved finish hardware schedule. All steel and aluminum doors and frames shall be reinforced, drilled, and tapped by the fabricator for mortised hardware. Reinforcement for surface-applied hardware shall be by the fabricators. Drilling and tapping shall be done in the field by the hardware installer for surface applied hardware items.

#### 1.05 PRODUCT HANDLING

- A. Packaging and Marking: Package hardware in individual containers on a set by set basis with set numbers which correspond to the approved hardware schedule. Each set shall contain each item of hardware required for that set including necessary screws, keys and installation instructions, and installation templates for spotting mortising tools. Two or more identical sets may be packaged in the same container. Mark each container clearly with hardware set numbers. All keys shall be tagged according to their corresponding locks and delivered to the Owner or his authorized representative as described hereinafter. All construction keys for new exterior locks shall be delivered to the Prime Contractor or his/her authorized representative.

#### 1.06 TEMPLATES

- A. Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of finish hardware. Upon request, check the shop drawings of such other work, to confirm that adequate provisions are made for the proper installation of hardware.

### PART 2 PRODUCTS

#### 2.01 HARDWARE

- A. Finish Hardware shall be as hereinafter specified and scheduled. Provide additional items of hardware which are necessary to make a complete workable and workmanlike installation even though such items are not herein specifically scheduled. Such miscellaneous items shall be equal in quality and finish to items which are specified.
- B. Approved Products: Brands and models designated in this Section are intended to define the exact standards of quality, function and design required. Substitution in the brands noted as acceptable shall be equivalent in every respect. Substitutions, other than as below noted, will not be permitted unless given prior approval via addendum, as described in the Instructions to Bidders.

| <u>ITEM</u>       | <u>SPECIFIED</u> | <u>ACCEPTABLE</u> |
|-------------------|------------------|-------------------|
| Hinges            | McKinney         | No Substitutions  |
| Continuous Hinges | Best             | Pemko             |
| Power Transfers   | Securitron       | No Substitutions  |
| Locks & Cylinders | Best             | No Substitutions  |

|                    |           |                     |
|--------------------|-----------|---------------------|
| Exit Devices       | Precision | Sargent, Von Duprin |
| Electric Strikes   | HES       |                     |
| Overhead Stops     | Rixson    | ABH                 |
| Closers            | Best      | LCN, Sargent        |
| Flat Goods & Stops | Rockwood  | Trimco              |
| Weatherproofing    | Pemko     | National Guard      |

\*PROVIDE 188S PERIMETER SMOKE GASKET AT ALL NEW FIRE/SMOKE RATED AND CORRIDOR DOORS.

- C. Continuous Hinges: All frames shall be properly reinforced per manufacturer's standards. Exterior hinges will be installed with the barrel of the hinge extended down to within 1/8" of the top of the threshold to prevent gaps in sealing the opening.
- D. Provide mounting brackets for door position switches as required at aluminum doors.

## **2.02 MISCELLANEOUS REQUIREMENTS**

- A. All doors over 36-inches wide shall require 5-inch high butts. Doors shall be provided with 3 each 4 1/2" x 4 1/2" hinges. Provide 1 hinge for each 30" of door height.
- B. Mounting of Closers: Closers on all doors shall be mounted with sex bolts and finishing washers. Grommet nuts will not be acceptable. Provide all drop plates, spacers and mounting brackets to facilitate secure mounting to all door and frame conditions.
- C. Closers shall be of the parallel arm configuration where possible. Closer arms shall be heavy duty type for all closers.
- D. Door Silencers at Steel Frames: All steel frames shall receive Glynn Johnson GJ64 silencers as required. Provide 3 silencers on strike jambs of frames of single swing doors and 2 silencers on heads of frames of double-swing doors. At existing metal frames to remain, remove any existing silencers and provide new silencers as required. This latter requirement shall apply only to doors listed in the Schedule to receive a new hardware set; doors shown to have all existing hardware shall not require new silencers. Silencers shall also be provided at the tops in the metal frame door pocket enclosures at cross-corridor doors.
- E. Overhead Stops: Provide overhead stops wherever wall conditions will not allow use of standard wall stops.
- F. Deadstop Angles for closers and overhead stops shall be accurately determined to prevent doors from contacting adjoining walls or other doors while still affecting the hold-open point at the greatest possible angle.
- G. Provide cylinders and keys as required for the following equipment: (See those Specification Sections listed at this beginning of this Section).
- H. Note: Finish of all cylinders and keys shall be 626.

## **PART 3 EXECUTION**

### **3.01 QUALITY CONTROL**

- A. Pre-Installation Meeting: There is to be a coordination meeting set up by the General Contractor, with the Architect, the hardware installer, the Owner's representative and the hardware manufacturer to review all products being installed. This meeting needs to be held very early in the construction process, before any hardware is installed, to eliminate any conflicts during the installation phase. The General Contractor shall keep meeting minutes and distribute copies to above the described.
- B. Post-Installation Review: The General Contractor shall notify the Architect, Owner's representative and the hardware manufacturer upon completion of the hardware installation to review the work. The hardware manufacturer shall review and document the work and distribute copies to the above described.

### 3.02 HARDWARE LOCATIONS

- A. Hardware locations (height above finish floor) shall be in accordance with the Steel Door Institute Standards except for the following modifications:

|                     |                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------|
| Leversets/Latchsets | 36-inches to centerline of strike                                                                                  |
| Exit Devices        | 35-3/4-inches (plus or minus) to centerline of push pad, (center in door rail);<br>verify with Architect/Engineer. |

### 3.03 INSTALLATION OF HARDWARE - GENERAL

- A. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrate.
- B. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- C. Drill, tap, and countersink units for surface applied hardware and other items which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards and manufacturer's recommendations.

### 3.04 INSTALLATION OF WEATHERSTRIPPING AND SEALS

- A. Provide metal fasteners of type which will not work loose as a result of normal door use, and which are compatible with metal of the stripping, and the frame or the door. Provide only smooth exposed fastener heads, which do not constitute a snagging hazard to clothing of building occupants.
- B. Set units plumb and level, accurately centered at optimum location for maintaining a permanent seal.
- C. Adjust doors, frames, and hardware, as necessary, to achieve proper operation of seals and stripping.

### 3.05 INSTALLATION OF THRESHOLDS

- A. On concrete, masonry, and similar substrates, install lead-shield anchors, accurately placed to receive machine screw anchors at locations pre-drilled and evenly spaced in threshold units (spaced not more than 12-inches o.c.).
- B. Screw thresholds to substrate with No. 10 or larger flat head machine screws, of the proper type and length of bronze or stainless steel which will provide for permanent anchorage and will not corrode in contact with threshold metal or shield anchor.
- C. At exterior doors, and elsewhere where scheduled, set thresholds in a bed of sealant as scheduled in Section 07 92 00 to completely fill concealed voids and exclude moisture from every source. Do not plug drainage holes or block weeps. Remove excess sealant and clean all adjacent surfaces.
- D. Set threshold units level and accurately aligned with outside edges of frames and door bottom edge, and at proper elevation for door operation and full and positive seal to threshold stop. Shim, if necessary, for full continuous support of threshold at each edge and intermediate legs, if any. Use non-corrosive shims of metal or plastic (no wood), set in adhesive or otherwise anchored against dislocation from impact of traffic upon threshold.

### 3.06 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace any unit which cannot be adjusted to operate freely and smoothly as intended for the application made.

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### **3.07 HARDWARE**

A. See attached document.

**END OF SECTION**

## Titan Hill Exterior Envelope

### **Hardware Set 1** (Door # 113, 120, 507B, 621A)

|   |      |                  |                        |      |    |
|---|------|------------------|------------------------|------|----|
| 1 | Each | Continuous Hinge | 670HDUL                |      | ST |
| 1 | Each | Exit Device      | 2101 LD No Trim        | 690  | PR |
| 1 | Each | Electric Strike  | 9600                   | 613E | HS |
| 1 | Each | Pull             | BF157 Mtg-Type 1HD     | 10BE | RO |
| 1 | Each | Closer           | EHD9016 SDS90 BSNFHD90 | 695  | BE |
| 1 | Each | Threshold        | by Door Supplier       |      |    |
| 1 | Each | Perimeter Seal   | by Door Supplier       |      |    |
| 1 | Each | Position Switch  | by Access Control      |      |    |
| 1 | Each | Card Reader      | by Access Control      |      |    |
| 1 | Each | Motion Sensor    | by Access Control      |      |    |
| 1 | Each | Power Supply     | by Access Control      |      |    |

Presenting a valid credential to card reader will release electric strike and shunt door position switch allowing entry.

Loss of power will leave electric strike closed securing door.

Egress free at all times by depressing exit device pushpad, motion sensor will shunt door position switch.

Door position switch to monitor for propped door and unauthorized usage alert.

### **Hardware Set 2** (Door # 111, 114, 118, 151, 152, 154, 507A)

|   |      |                  |                        |     |    |
|---|------|------------------|------------------------|-----|----|
| 1 | Each | Continuous Hinge | 670HDUL                |     | ST |
| 1 | Each | Exit Device      | 2101 LD No Trim        | 690 | PR |
| 1 | Each | Closer           | EHD9016 SDS90 BSNFHD90 | 695 | BE |
| 1 | Each | Threshold        | by Door Supplier       |     |    |
| 1 | Each | Perimeter Seal   | by Door Supplier       |     |    |
| 1 | Each | Position Switch  | by Access Control      |     |    |
| 1 | Each | Motion Sensor    | by Access Control      |     |    |

Egress free at all times by depressing exit device pushpad, motion sensor will shunt door position switch.

Door position switch to monitor for propped door and unauthorized usage alert.

### **Hardware Set 3** (Door # 116, 155)

|   |      |                  |                    |      |    |
|---|------|------------------|--------------------|------|----|
| 1 | Each | Continuous Hinge | 670HDUL            |      | ST |
| 1 | Each | Exit Device      | 2101 LD No Trim    | 690  | PR |
| 1 | Each | Electric Strike  | 9600               | 613E | HS |
| 1 | Each | Pull             | BF157 Mtg-Type 1HD | 10BE | RO |
| 1 | Each | Operator         | by Section 087113  |      |    |
| 1 | Each | Threshold        | by Door Supplier   |      |    |
| 1 | Each | Perimeter Seal   | by Door Supplier   |      |    |
| 1 | Each | Position Switch  | by Access Control  |      |    |
| 1 | Each | Card Reader      | by Access Control  |      |    |
| 2 | Each | Actuator         | by Section 087113  |      |    |
| 1 | Each | Motion Sensor    | by Access Control  |      |    |
| 1 | Each | Power Supply     | by Access Control  |      |    |

Presenting a valid credential to card reader will release electric strike, shunt door position switch and provide power to exterior operator actuator allowing entry.

Inside operator actuator always active and will release electric strike before initiating operator.

Loss of power will leave electric strike closed securing door and disable exterior operator actuator.

Egress free at all times by depressing exit device pushpad, motion sensor will shunt door position switch.

Door position switch to monitor for propped door and unauthorized usage alert.

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### **Hardware Set 4** (Door # 123, 147)

|   |      |                  |                                              |      |    |
|---|------|------------------|----------------------------------------------|------|----|
| 2 | Each | Continuous Hinge | 670HDUL                                      |      | ST |
| 1 | Each | Keyed Mullion    | KR822 x S1447 x ST989                        | 695  | PR |
| 2 | Each | Exit Device      | 2101 LD No Trim                              | 690  | PR |
| 1 | Each | Cylinder         | 12E-72 R706 Less Core                        | 690  | BE |
| 1 | Each | Core             | by Owner                                     |      |    |
| 1 | Each | Electric Strike  | 9600 (RHR @ 123 / LHR @ 147)                 | 613E | HS |
| 1 | Each | Pull             | BF157 Mtg-Type 1HD<br>(RHR @123 / LHR @ 147) | 10BE | RO |
| 2 | Each | Closer           | EHD9016 SDS90 BSNFHD90                       | 695  | BE |
| 1 | Each | Threshold        | by Door Supplier                             |      |    |
| 1 | Each | Perimeter Seal   | by Door Supplier                             |      |    |
| 2 | Each | Position Switch  | by Access Control                            |      |    |
| 1 | Each | Card Reader      | by Access Control                            |      |    |
| 1 | Each | Motion Sensor    | by Access Control                            |      |    |
| 1 | Each | Power Supply     | by Access Control                            |      |    |

Electrical to provide quick connect at top of mullion for wiring to electric strike.

Presenting a valid credential to card reader will release electric strike and shunt door position switch allowing entry.

Loss of power will leave electric strike closed securing doors.

Egress free at all times by depressing exit device pushpads, motion sensor will shunt door position switches.

Door position switches to monitor for propped door and unauthorized usage alert.

### **Hardware Set 5** (Door # 125, 147A, 149, 153)

|   |      |                  |                        |     |    |
|---|------|------------------|------------------------|-----|----|
| 2 | Each | Continuous Hinge | 670HDUL                |     | ST |
| 1 | Each | Keyed Mullion    | KR822 x S1447 x ST989  | 695 | PR |
| 2 | Each | Exit Device      | 2101 LD No Trim        | 690 | PR |
| 1 | Each | Cylinder         | 12E-72 R706 Less Core  | 690 | BE |
| 1 | Each | Core             | by Owner               |     |    |
| 2 | Each | Closer           | EHD9016 SDS90 BSNFHD90 | 695 | BE |
| 1 | Each | Threshold        | by Door Supplier       |     |    |
| 1 | Each | Perimeter Seal   | by Door Supplier       |     |    |
| 2 | Each | Position Switch  | by Access Control      |     |    |
| 1 | Each | Motion Sensor    | by Access Control      |     |    |

Egress free at all times by depressing exit device pushpads, motion sensor will shunt door position switches.

Door position switches to monitor for propped door and unauthorized usage alert.

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### **Hardware Set 6** (Door # 135A)

|   |      |                  |                          |      |    |
|---|------|------------------|--------------------------|------|----|
| 2 | Each | Continuous Hinge | 670HDUL EPT              |      | ST |
| 2 | Each | Power Transfer   | CEPT                     | 613E | SU |
| 1 | Each | Keyed Mullion    | KR822 x S1447 x ST989    | 695  | PR |
| 2 | Each | Exit Device      | MLR 2101 No Trim         | 690  | PR |
| 1 | Each | Cylinder         | 12E-72 R706 Less Core    | 690  | BE |
| 1 | Each | Core             | by Owner                 |      |    |
| 2 | Each | Pull             | BF157 Mtg-Type 1HD (RHR) | 10BE | RO |
| 2 | Each | Closer           | EHD9016 SDST90 BSNFHD90  | 695  | BE |
| 1 | Each | Threshold        | by Door Supplier         |      |    |
| 1 | Each | Perimeter Seal   | by Door Supplier         |      |    |
| 2 | Each | Position Switch  | by Access Control        |      |    |
| 1 | Each | Motion Sensor    | by Access Control        |      |    |
| 1 | Each | Power Supply     | by Access Control        |      |    |

Access control system to electrically retract exit device latchbolts and shunt door position switches during designated hours.

Loss of power will release exit device latchbolts securing doors.

Egress free at all times by depressing exit device pushpads, motion sensor will shunt door position switches.

Door position switches to monitor for propped door and unauthorized usage alert.

### **Hardware Set 7** (Door # 135B)

|   |      |                    |                               |      |    |
|---|------|--------------------|-------------------------------|------|----|
| 2 | Each | Continuous Hinge   | 670HDUL EPT                   |      | ST |
| 2 | Each | Power Transfer     | CEPT                          | 613E | SU |
| 1 | Each | Keyed Mullion      | KR822 x S1447 x ST989         | 695  | PR |
| 1 | Each | Exit Device        | MLR 2101 No Trim (LHR)        | 690  | PR |
| 1 | Each | Exit Device        | MLR 2103 No Trim (RHR)        | 690  | PR |
| 1 | Each | Cylinder (trim)    | 12E-72 S2 RP3 Less Core (RHR) | 690  | BE |
| 1 | Each | Cylinder (mullion) | 12E-72 S2 R706 Less Core      | 690  | BE |
| 2 | Each | Core               | by Owner                      |      |    |
| 2 | Each | Pull               | BF157 Mtg-Type 1HD (RHR)      | 10BE | RO |
| 2 | Each | Closer             | EHD9016 SDST90 BSNFHD90       | 695  | BE |
| 1 | Each | Threshold          | by Door Supplier              |      |    |
| 1 | Each | Perimeter Seal     | by Door Supplier              |      |    |
| 2 | Each | Position Switch    | by Access Control             |      |    |
| 1 | Each | Motion Sensor      | by Access Control             |      |    |
| 1 | Each | Power Supply       | by Access Control             |      |    |

Access control system to electrically retract exit device latchbolts and shunt door position switches during designated hours.

When locked, presenting a valid credential to card reader will electrically retract exit device latchbolt and shunt door position switch at active leaf allowing entry.

Loss of power will release exit device latchbolts securing doors.

Egress free at all times by depressing exit device pushpads, motion sensor will shunt door position switches.

Door position switches to monitor for propped door and unauthorized usage alert.

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### **Hardware Set 8** (Door # 146)

|   |      |                  |                        |     |    |
|---|------|------------------|------------------------|-----|----|
| 1 | Each | Continuous Hinge | 670HDUL                |     | ST |
| 1 | Each | Lock             | 9K37W 15D S3 Less Core | 690 | BE |
| 2 | Each | Core             | by Owner               |     |    |
| 1 | Each | Closer           | EHD9016 SDS90 BSNFHD90 | 695 | BE |
| 1 | Each | Threshold        | by Door Supplier       |     |    |
| 1 | Each | Perimeter Seal   | by Door Supplier       |     |    |
| 1 | Each | Position Switch  | by Access Control      |     |    |

Door position switch to monitor for propped door and unauthorized usage alert.

### **Hardware Set 9** (Door # 148)

|   |      |            |                        |               |    |
|---|------|------------|------------------------|---------------|----|
| 3 | Each | Hinge      | TA2314 4 ½" x 4 ½"     | US10BE(SS) MK |    |
| 1 | Each | Lock       | 9K37D 15D S3 Less Core | 690           | BE |
| 1 | Each | Core       | by Owner               |               |    |
| 1 | Each | Closer     | EHD9016 DS90           | 695           | BE |
| 1 | Each | Kick Plate | K1050 8" x 2" L.D.W.   | US32D         | RO |
| 1 | Each | Gasket     | S88D                   |               | PE |

### **Hardware Set 10** (Door # 148A)

|   |      |                 |                         |               |    |
|---|------|-----------------|-------------------------|---------------|----|
| 3 | Each | Hinge           | TA2314 4 ½" x 4 ½"      | US10BE(SS) MK |    |
| 1 | Each | Exit Device     | FL 2103 4903A           | 690           | PR |
| 1 | Each | Cylinder        | 12E-72 S2 RP3 Less Core | 690           | BE |
| 1 | Each | Core            | by Owner                |               |    |
| 1 | Each | Closer          | EHD9016                 | 695           | BE |
| 1 | Each | Threshold       | 171D                    |               | PE |
| 1 | Each | Gasket          | S88D                    |               | PE |
| 1 | Each | Sweep           | 315DN                   |               | PE |
| 1 | Each | Position Switch | by Access Control       |               |    |
| 1 | Each | Motion Sensor   | by Access Control       |               |    |

Egress free at all times by depressing exit device pushpad, motion sensor will shunt door position switch.

Door position switch to monitor for propped door and unauthorized usage alert.

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### **Hardware Set 11** (Door # 150)

|   |      |                  |                         |      |    |
|---|------|------------------|-------------------------|------|----|
| 1 | Each | Continuous Hinge | 670HDUL                 |      | ST |
| 1 | Each | Exit Device      | 2103 LD No Trim         | 690  | PR |
| 1 | Each | Cylinder         | 12E-72 S2 RP3 Less Core | 690  | BE |
| 1 | Each | Core             | by Owner                |      |    |
| 1 | Each | Electric Strike  | 9600                    | 613E | HS |
| 1 | Each | Pull             | BF157 Mtg-Type 1HD      | 10BE | RO |
| 1 | Each | Closer           | EHD9016 SDS90 BSNFHD90  | 695  | BE |
| 1 | Each | Threshold        | by Door Supplier        |      |    |
| 1 | Each | Perimeter Seal   | by Door Supplier        |      |    |
| 1 | Each | Position Switch  | by Access Control       |      |    |
| 1 | Each | Card Reader      | by Access Control       |      |    |
| 1 | Each | Motion Sensor    | by Access Control       |      |    |
| 1 | Each | Power Supply     | by Access Control       |      |    |

Presenting a valid credential to card reader will release electric strike and shunt door position switch allowing entry.

Key override will manually retract latchbolt allowing entry but door position switch is not shunted.

Loss of power will leave electric strike closed securing door.

Egress free at all times by depressing exit device pushpad, motion sensor will shunt door position switch.

Door position switch to monitor for propped door and unauthorized usage alert.

### **Hardware Set 12** (Door # 156)

|   |      |                      |                                 |      |    |
|---|------|----------------------|---------------------------------|------|----|
| 1 | Each | Continuous Hinge     | 670HDUL (LHR)                   |      | ST |
| 1 | Each | Continuous Hinge     | 670HDUL EPT (RHR)               |      | ST |
| 1 | Each | Power Transfer       | CEPT (RHR)                      | 613E | SU |
| 1 | Each | Flush Bolt           | 555-24" (Top Only) (LHR)        | 10BE | RO |
| 1 | Each | Flush Bolt           | 555-12" (Bottom Only) (LHR)     | 10BE | RO |
| 1 | Each | Electric Lock        | 9KW37DEL 15D S3 Less Core (RHR) | 690  | BE |
| 1 | Each | Core                 | by Owner (RHR)                  |      |    |
| 1 | Each | Overhead Stop & Hold | 9-x26 (LHR)                     | 613E | RF |
| 1 | Each | Closer               | EHD9016 SDST90 BSNFHD90 (RHR)   | 695  | BE |
| 1 | Each | Threshold            | by Door Supplier                |      |    |
| 1 | Each | Perimeter Seal       | by Door Supplier                |      |    |
| 2 | Each | Position Switch      | by Access Control               |      |    |
| 1 | Each | Card Reader          | by Access Control               |      |    |
| 1 | Each | Motion Sensor        | by Access Control               |      |    |
| 1 | Each | Power Supply         | by Access Control               |      |    |

Presenting a valid credential to card reader will electrically unlock outside lever and shunt door position switch allowing entry.

Key override will manually retract latchbolt allowing entry but door position switch is not shunted.

Loss of power will lock outside lever securing doors.

Egress free at all times by turning inside lever, motion sensor will shunt door position switches.

Door position switches to monitor for propped door and unauthorized usage alert.

### **Hardware Set 13** (Door # 136D, 136E, 136F, 148E, 148F, 148G)

Existing Hardware to Remain.

### **Hardware Set 14** (Door # 622A)

All Hardware by Door Supplier.

**SECTION 08 71 13  
POWER DOOR OPERATORS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Product requirements for certain door hardware, supplementing specifications in Section 08 71 00.
- B. Power operators.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 71 00 - Door Hardware: General administrative and installation requirements applicable to this Section.

**1.03 REFERENCE STANDARDS**

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. BHMA A156.19 - Power Assist and Low Energy Power Operated Swinging Doors; 2019.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

**PART 2 PRODUCTS**

**2.01 POWER OPERATORS**

- A. Power Operators: Low energy type, surface mounted; capable of controlling door up to 350 pounds; operating as a mechanical closer when power is not available; complying with BHMA A156.19, ADA Standards and ICC A117.1.
  - 1. Self-contained electrical control unit, including necessary transformers, relays, rectifiers, and other electronic component for proper operation and switching.
    - a. Run wiring through door frames and provide external access for manual shut off of unit.
  - 2. Provide time delay option for normal cycle.
  - 3. When operating as a closer, provide operating forces complying with BHMA A156.19, ADA Standards and ICC A117.1.
  - 4. Provide delay switches for motor activation, exit device latch retraction interfacing and hold open times; hold open times to be adjustable from one second to multiple seconds duration.
  - 5. Degree of powered swing adjustable from 80 degrees to 110 degrees.
  - 6. Integral obstruction detection for closing and opening cycle.
  - 7. Adjustable built in stop, set from 80 degrees maximum to 180 degrees manual swing.
  - 8. When in "blow open" operation for smoke ventilation, keep operator in the open position when power is lost.
  - 9. Boost-to-close selectable by on/off switch.
  - 10. Inside vestibules, provide adjustable sequencing input for operation of two or more units.
  - 11. Manufacturers:
    - a. Basis of Design Manufacturers:
      - 1) Stanley Magic Door, Inc.; Product – Magic Access for interior doors.
    - b. Acceptable Manufacturers:
      - 1) ASSA ABLOY Entrance Solutions: [www.besam-usa.com/#sle](http://www.besam-usa.com/#sle).
      - 2) Horton Automatics: [www.hortondoors.com/#sle](http://www.hortondoors.com/#sle).
      - 3) LCN, an Allegion brand: [www.allegion.com/us/#sle](http://www.allegion.com/us/#sle).
    - c. Provide products of a single manufacturer.
- B. Actuators: Proximity access reader with adjustable range.
  - 1. Provide an actuator on each side of each door having a low energy power operator.
    - a. Provide frame mounted press switch at exterior doors.
  - 2. Size actuators to fit inside and fully cover a standard single mount electrical box.
  - 3. Locate actuators in accordance with ICC A117.1 and ADA Standards.

4. Material: Stainless steel.
  5. Basis of Design:
    - a. Stanley Magic Switch MS11 (stainless steel touchless actuator) to be provided.
    - b. Provide same manufacturer as power operators.
    - c. Acceptable Manufacturers as listed above.
- C. Signage: Provide signage in accordance with BHMA A156.19.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify installation conditions including, but not limited to the following: opening sizes, floor conditions, plumb and level mounting surfaces.
- B. Verify that surfaces are ready to receive work and dimensions are as indicated on shop drawings.
- C. Verify that electric power is available, in the correct location, and of the correct characteristics.

#### **3.02 INSTALLATION**

- A. Install in accordance with Hardware Schedule and manufacturer's written instructions.
- B. See Section 08 71 00 for additional requirements.

#### **3.03 ADJUSTING**

- A. Adjust door equipment for correct function and smooth operation.

#### **END OF SECTION**

**SECTION 08 80 00  
GLAZING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Insulating glass units.
- B. Glazing compounds.

**1.02 RELATED REQUIREMENTS**

- A. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.
- B. Section 08 43 13 - Aluminum-Framed Storefronts: Glazing provided as part of storefront assembly.

**1.03 REFERENCE STANDARDS**

- A. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2015).
- B. ASTM C1036 - Standard Specification for Flat Glass; 2025.
- C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2025.
- D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.
- E. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2021a.
- F. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2024.
- G. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.
- H. GANA (SM) - GANA Sealant Manual; 2008.
- I. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.
- J. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.
- K. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2023.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data on Insulating Glass Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.
- C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.
- D. Samples: Submit two samples 12 by 12 inch in size of glass units.
- E. Certificate: Certify that products of this section meet or exceed specified requirements.

**1.05 COORDINATION**

- A. The glazing subcontractor shall coordinate his/her requirements with the steel frame subcontractors to assure that frames are provided with required bite, edge, and face clearance.

**1.06 QUALITY ASSURANCE**

- A. Requirements of Regulatory Agencies: All areas of glazing shall comply with all applicable codes, including but not limited to the International Building Code, Edition as noted in the Drawings. In case of conflict between that regulation and these Drawings and Specifications, the requirements of the regulatory agency shall govern.

- B. Glass Standards: Glass installations shall meet the requirements of ASTM C1036. Heat-treated glass shall meet the requirements of ASTM C1048. Safety glass shall meet the requirements of Standard CPSC 16 CFR 1201.
- C. Glass material containing bubbles, scratches, or other glass shall be removed immediately upon notice.
- D. Manufacturer's Label: Each piece of glass shall bear the manufacturer's label.

#### **1.07 STORAGE AND HANDLING**

- A. Stack glazing sheets at 5 to 7 degrees from vertical. Separate sheets with interweaving of protection paper and cushion top and bottom edges with felt. Cover to protect material from wind-blown water or run-off, but provide for ventilation and circulation of cool, dry air. Maintain temperature above dew point. Protect glazing material from welding, sandblasting, and other potentially damaging operations before and after installation.
- B. Handle glazing sheets to prevent damage to edges and corners.

#### **1.08 FIELD CONDITIONS**

- A. Do not install glazing when ambient temperature is less than 40 degrees F.

#### **1.09 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Warranty on Hermetic Seals: Provide insulating glass manufacturer's written warranty, agreeing to, within specified warranty period, furnish FOB project site, replacement units for insulating glass units which have defective hermetic seals (excluding that due to glass breakage); defined to include intrusion of moisture or dirt, internal condensation at temperatures above -20F, and other visual evidence of seal failure or performance failure; provided manufacturer's instructions for handling, installation, protection, and maintenance have been adhered to during warranty period. If this warranty is not honored by the glass manufacturer because of defective installation procedures or other actions of the glazing subcontractor, that subcontractor shall be liable for the terms of that warranty for a period of 5 years after the date of Substantial Completion.
- C. Warranty period is 10 years after seal date permanently imprinted on unit, but not less than 9 years after date of Substantial Completion.
- D. All glass shall be warranted for 10 years against breakage due to defects in materials, workmanship or installation with all such glass immediately removed and replaced with matching new material at no additional cost to the Owner upon notification by the Owner.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Float Glass Manufacturers:
  - 1. Guardian Glass, LLC: [www.guardianglass.com/#sle](http://www.guardianglass.com/#sle).
  - 2. Pilkington North America Inc: [www.pilkington.com/na/#sle](http://www.pilkington.com/na/#sle).
  - 3. Vitro Architectural Glass (formerly PPG Glass): [www.vitroglazings.com/#sle](http://www.vitroglazings.com/#sle).

#### **2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES**

- A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
  - 1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
  - 2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
  - 3. Glass thicknesses listed are minimum.
- B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.

1. In conjunction with weather barrier related materials described in other sections, as follows:
- C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
  1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
  2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
  3. Solar Optical Properties: Comply with NFRC 300 test method.

### 2.03 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless otherwise indicated.
  1. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.

### 2.04 INSULATING GLASS UNITS

- A. Manufacturers:
  1. Cardinal Glass Industries: [www.cardinalcorp.com/#sle](http://www.cardinalcorp.com/#sle).
  2. Guardian Glass, LLC: [www.guardianglass.com/#sle](http://www.guardianglass.com/#sle).
  3. Insulite Glass Co.: [www.insuliteglass.com](http://www.insuliteglass.com).
  4. ITI Glass: [www.itiglass.com](http://www.itiglass.com).
  5. Oldcastle Building Envelope: [www.obe.com](http://www.obe.com).
  6. Pilkington North America Inc: [www.pilkington.com/na/#sle](http://www.pilkington.com/na/#sle). Pilkington North America Inc: [www.pilkington.com/na/#sle](http://www.pilkington.com/na/#sle).
  7. Viracon, Apogee Enterprises, Inc: [www.viracon.com/#sle](http://www.viracon.com/#sle).
  8. Vitro Architectural Glass (formerly PPG Glass): [www.vitroglazings.com/#sle](http://www.vitroglazings.com/#sle).
- B. Insulating Glass Units: Types as indicated.
  1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
  2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
  3. Spacer Color: Aluminum.
  4. Edge Seal:
    - a. Single-Sealed System: Provide silicone sealant as seal applied around perimeter.
  5. Color: Grey.
  6. Purge interpane space with dry air, hermetically sealed.
- C. Type CTIG - Clear Tempered Insulating Glass Units: Vision glass, double glazed.
  1. Applications: Exterior glazing unless otherwise indicated.
  2. Space between lites filled with air.
  3. Outboard Lite: Fully tempered float glass, 1/4 inch thick.
    - a. Tint: Clear.
    - b. Coating: VNE-63, on #2 surface.
  4. Inboard Lite: Fully tempered float glass, 1/4 inch thick.
    - a. Tint: Clear.
  5. Total Thickness: 1 inch.
  6. Thermal Transmittance (U-Value), .29 Winter and .26 Summer, nominal.
  7. Visible Light Transmittance (VLT): 51 percent, nominal.
  8. Shading Coefficient: .28, nominal.
  9. Solar Heat Gain Coefficient (SHGC): .25, nominal.

### 2.05 GLAZING SEALANTS

- A. Glazing Sealant for the exterior perimeter of all glass panes where they abut frame members (unless recommended otherwise by the glass manufacturer).

1. Manufacturer
  - a. Dow; DOWSIL 982 Silicone Insulating Glass Sealant Base and Catalyst:  
[www.dow.com/#sle](http://www.dow.com/#sle).
  - b. General Electric Company; SilPruf SCS2000.
- B. Other glazing sealants shall be of the type and manufacture recommended by the glazing manufacturer for the type of glass and application.
- C. Sealant Backer Rod: To be compressible continuous length rod stock of closed cell polyethylene foam for use as back-up of butt joint sealants as shown on the Drawings. Color shall be manufacturer's standard. Backer rod shall be of the diameter as recommended by the Fabricator/Installer and shall be one of the following or as otherwise recommended by the Fabricator/Installer:
  1. BASF; MasterSeal 920: [www.basf.com](http://www.basf.com).
  2. W.R. Meadows, Inc.; Kool-Rod: [www.wrmeadows.com](http://www.wrmeadows.com).
- D. Joint Primer/Sealer: To be the type of joint/sealer recommended by the sealant manufacturer for the joint surfaces to be primed, bonded, and sealed.

## **2.06 ACCESSORIES**

- A. Setting Blocks: Neoprene or EPDM, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene or EPDM, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.
- D. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.
- E. Glazing Clips: Manufacturer's standard type.

## **PART 3 EXECUTION**

### **3.01 VERIFICATION OF CONDITIONS**

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

### **3.02 STANDARDS AND PERFORMANCE**

- A. Watertight and airtight window and door installation of each glass product is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating doors), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.
- B. Protect all glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. During installation, discard units with significant edge damage or other imperfections.
- C. Glazing channel dimensions as shown are intended to provide for necessary bite on glass, minimum edge clearance, and adequate sealant thicknesses, with reasonable tolerance. Adjust as required by job conditions at time of installation.
- D. Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel , and with recommendations of Flat Glass

Marketing Association "Glazing Manual," except where more stringent requirements are indicated.

- E. Install insulating glass units to comply with recommendations by Sealed Insulating Glass Manufacturers Association, except as otherwise specifically indicated or recommended by glass and sealant manufacturers.

### **3.03 PREPARATION**

- A. Clean contact surfaces with appropriate solvent and wipe dry immediately before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.
- D. Coordinate with painter to assure that all metal frames have received their first coat of paint before glazing is started.

### **3.04 INSTALLATION, GENERAL**

- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.
- B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.
- C. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.
- D. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.
- E. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, and paint.
- F. Continuous glazing tape shall be installed at both faces of all glass. Exterior glazing shall be sealed at the full perimeter of each pane with silicone sealant where the glass abuts the metal frames.
- G. Make silicone joints where interior glass abuts glass and wall materials without frames.
- H. Install setting blocks of proper size and spacing, for glass sizes larger than 50 united inches, except where pre-shimmed tapes are used for glazing. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- I. Install tempered glass sheets in frame openings with manufacturer's identification seal placed in the lower right hand corner of each lite opening.
- J. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from the glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- K. Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminate stains and discolorations.

### **3.05 CLEANING**

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove nonpermanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

**3.06 PROTECTION**

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

**END OF SECTION**

## **DIVISION 09 – FINISHES**

**SECTION 09 30 00  
TILING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Tile for wall applications.

**1.02 RELATED REQUIREMENTS**

- A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- B. Section 09 99 90 - Color Schedule.

**1.03 REFERENCE STANDARDS**

- A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2024.
- B. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2023.
- C. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2019.
- D. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
- E. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2025.
- F. TCNA (HB-GP) - Handbook for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs Installation; 2023.

**1.04 ADMINISTRATIVE REQUIREMENTS**

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

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, and thresholds.
- D. Samples: Submit samples of each type and color of tile, base, trim, and grout color required to the Architect/Engineer.
- E. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Tile: 10 sq ft of each size, color, and surface finish combination.

**1.06 QUALITY ASSURANCE**

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

**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver and store materials in original containers with seals unbroken and labels intact until the time of use.
- B. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

### 1.08 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.
- C. Protect work from environmental conditions and construction activities during and after installation in accordance with manufacturer's printed recommendations.

### 1.09 SETTING PRODUCTS SYSTEM WARRANTY

- A. Provide 5 Year System Warranty from manufacturer of waterproofing/anti-fracture membrane, mortar, grout, and sealant. Contractor must use only products called for under manufacturer's warranty and install per manufacturer's instructions.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Tile:
  - 1. Dal-Tile Corporation; Katie Wheeler, [katie.wheeler@daltile.com](mailto:katie.wheeler@daltile.com): [www.daltile.com/#sle](http://www.daltile.com/#sle).
- B. Setting Materials:
  - 1. ARDEX Engineered Cements: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
  - 2. Custom Building Products: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
  - 3. TEC Specialty Products LLC: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
  - 4. LATICRETE International, Inc: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
  - 5. Mapei Corporation: [www.mapei.com/#sle](http://www.mapei.com/#sle).
- C. Grout:
  - 1. ARDEX Engineered Cements: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
  - 2. Custom Building Products: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
  - 3. TEC Specialty Products LLC: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
  - 4. LATICRETE International, Inc: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
  - 5. Mapei Corporation: [www.mapei.com/#sle](http://www.mapei.com/#sle).

### 2.02 TILE

- A. Ceramic Wall Tile, Type CT-1: ANSI A137.1 standard grade.
  - 1. Size: 4-1/4 by 4-1/4 inch, nominal.
  - 2. Edges: Square.
  - 3. Surface Finish: Glossy.
  - 4. Color: As indicated in 09 99 90 - Color Schedule.
  - 5. Products:
    - a. Dal-Tile Corporation; Color Wheel Classic : [www.daltile.com/#sle](http://www.daltile.com/#sle).

### 2.03 TRIM AND ACCESSORIES

- A. Provide break metal trim to cover any damaged tile near door XXX. See Section 05 50 00 - Metal Fabrications for more information.

### 2.04 SETTING MATERIALS

- A. Provide setting and grout materials from same manufacturer.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
  - 1. Applications: Use where indicated on drawings and where no other type of bond coat is indicated.
  - 2. Products:
    - a. ARDEX Engineered Cements; ARDEX X 5: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
    - b. Custom Building Products; ProLite Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - c. TEC Specialty Products LLC; TEC Ultimate 6 Plus Mortar: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).

- d. LATICRETE International, Inc; 245 Platinum: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
- e. Mapei Corporation; Keraflex Plus: [www.mapei.com/#sle](http://www.mapei.com/#sle).

## **2.05 GROUTS**

- A. Provide setting and grout materials from same manufacturer.
- B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
  - 1. Applications: Use where indicated on drawings and where no other type of grout is indicated.
  - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
  - 3. Color: As selected by Architect from manufacturer's full line.
  - 4. Products:
    - a. ARDEX Engineered Cements; ARDEX FL: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
    - b. Custom Building Products; Prism Color Consistent Grout: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - c. TEC Specialty Products LLC; TEC Power Grout: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
    - d. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - e. Mapei Corporation; Ultracolor Plus FA: [www.mapei.com/#sle](http://www.mapei.com/#sle).
    - f. Substitutions: See Section 01 60 00 - Product Requirements.

## **2.06 MAINTENANCE MATERIALS**

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, modified silane polymer, or urethane sealant; moisture- and mildew-resistant type.
  - 1. Applications:
    - a. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout.
    - b. Between tile and plumbing fixtures.
  - 2. Color: As selected to match grout.
  - 3. Products:
    - a. ARDEX Engineered Cements; ARDEX SX: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
    - b. Custom Building Products; Commercial 100% Silicone Caulk: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - c. LATICRETE International, Inc; LATICRETE LATASIL: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - d. Mapei Corporation; Mapesil T Plus: [www.mapei.com/#sle](http://www.mapei.com/#sle).

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify wall surfaces are smooth and flat within 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.

### **3.03 INSTALLATION - GENERAL**

- A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108/A118/A136, manufacturer's instructions, and TCNA (HB) recommendations, as applicable.
- B. Lay tile to pattern indicated on drawings. Do not interrupt tile pattern through openings. Align joints when adjoining tile on floor, base, walls and trim are the same size. Layout tile work and center tile fields in both directions in each space on each wall area. Adjust to minimize tile cutting. Maintain 1/8-inch joints at porcelain tile, unless recommended otherwise by tile manufacturer(s).

- 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 square.
- F. Sound tile after setting. Replace hollow sounding units.
- G. Keep control and expansion joints free of mortar, grout, and adhesive.
- H. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- I. Grout tile joints unless otherwise indicated on drawings. Use standard grout unless otherwise indicated on drawings.
- J. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

#### **3.04 CLEANING**

- A. Clean tile and grout surfaces.

#### **3.05 PROTECTION**

- A. Do not permit traffic over finished floor surface for 4 days after installation.
- B. Protect installed tile work with Kraft paper or other heavy covering during the construction period to prevent damage and wear.

**END OF SECTION**

**SECTION 09 91 23  
INTERIOR PAINTING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
  - 1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
  - 2. Mechanical and Electrical:
    - a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, electrical equipment, panel fronts exposed in a finished room, and new registers and grilles, unless otherwise indicated. Color shall match color of adjacent wall or ceiling; coordinate with Architect.
    - b. Paint interior surfaces of air ducts and plenum spaces that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
- D. Do Not Paint or Finish the Following Items:
  - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
  - 2. Items indicated to receive other finishes.
  - 3. Items indicated to remain unfinished.
  - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
  - 5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
  - 6. Marble, granite, slate, and other natural stones.
  - 7. Floors, unless specifically indicated.
  - 8. Ceramic and other tiles.
  - 9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
  - 10. Glass.
  - 11. Acoustical materials, unless specifically indicated.
  - 12. Concealed pipes, ducts, and conduits.
  - 13. Telecommunications cables: Protect cabling from direct painting or over-spray. Cables which have been painted are void of the manufacturer's warranty and will be replaced at this contractor's expense.

**1.02 RELATED REQUIREMENTS**

- A. Section 09 96 00 - High-Performance Coatings: Thermal Insulative Coatings.
- B. Section 09 99 90 - Color Schedule.

**1.03 DEFINITIONS**

- A. Comply with ASTM D16 for interpretation of terms used in this section.

**1.04 REFERENCE STANDARDS**

- A. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2024.
- B. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).
- C. SSPC-SP 2 - Hand Tool Cleaning; 2024.
- D. SSPC-SP 3 - Power Tool Cleaning; 2024.

### **1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
  - 2. Cross-reference to specified paint system products to be used in project; include description of each system.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
  - 1. Where sheen is specified, submit samples in only that sheen.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Maintenance Data: Submit data including care and cleaning instructions, touch-up procedures, and repair of painted and finished surfaces.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Paint and Finish Materials: 1 gal of each color; from the same product run, store where directed.
  - 3. Label each container with color in addition to the manufacturer's label.

### **1.06 QUALITY ASSURANCE**

- A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.
- B. Pre-Painting Conference: Prior to the start of painting and after approval of required shop drawings and samples, the General Contractor shall arrange a Pre-painting Conference at the project site at a pre-arranged time approved by the Architect/Engineer. The conference shall include in attendance the painting subcontractor and his/her jobsite foreperson. The contractor shall record discussions and agreements that are made which are not specifically addressed in the Contract Documents, and shall furnish a copy to all involved participants.

### **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

### **1.08 FIELD CONDITIONS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 fc measured mid-height at substrate surface.
- F. Sequencing: Frames and doors shall be given their first coat of paint and stain/varnish before glass is installed.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
  - 1. Base Manufacturer: Sherwin-Williams.
  - 2. Behr Paint Company: [www.behr.com/#sle](http://www.behr.com/#sle).
  - 3. Benjamin Moore: [www.benjaminmoore.com/#sle](http://www.benjaminmoore.com/#sle).
  - 4. Diamond Vogel Paints: [www.diamondvogel.com/#sle](http://www.diamondvogel.com/#sle).
  - 5. Pittsburgh Paints: [www.pittsburghpaintsco.com/#sle](http://www.pittsburghpaintsco.com/#sle).
  - 6. Sherwin-Williams Company: [www.sherwin-williams.com/#sle](http://www.sherwin-williams.com/#sle).
  - 7. Tnemec: [www.tnemec.com/#sle](http://www.tnemec.com/#sle).
- C. Primer Sealers: Same manufacturer as top coats.
- D. Substitutions: See Section 01 60 00 - Product Requirements.

### **2.02 PAINTS AND FINISHES - GENERAL**

- A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
  - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
  - 2. Supply each paint material in quantity required to complete entire project's work from a single production run.
  - 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Flammability: Comply with applicable code for surface burning characteristics.

### **2.03 PAINT SYSTEMS - INTERIOR**

- A. Ferrous Metal Epoxy Paint, Unprimer, 3 Coats:
  - 1. Two coats of primer.
    - a. Products:
      - 1) Sherwin Williams, Macropoxy 646-100 Polyamide Epoxy.
  - 2. Semi-gloss: One finish coat
    - a. Products:
      - 1) Sherwin Williams, Acrolon 100 WB Urethane.
- B. Concrete and Concrete Masonry Units (CMU) Epoxy Paint, 4 Coats:
  - 1. One coat of primer.
    - a. Products:
      - 1) Sherwin Williams, Kem Cati-Coat Epoxy Block Filler.
  - 2. One coat of intermediate primer.
    - a. Products:
      - 1) Sherwin Williams, Macropoxy 646-100 Polyamide Epoxy.
  - 3. Eg-Shel : Two finish coats.
    - a. Products:
      - 1) Sherwin Williams, Acrolon 100 WB Urethane.
- C. Existing Gypsum Board, Plaster, Concrete, and Concrete Masonry (Previously painted), 2 Coats:
  - 1. Eg-Shel: Two finish coats.
    - a. Products:
      - 1) Sherwin Williams, ProMar 200 Zero VOC Interior Latex.
      - 2) Pittsburgh Paints, Speedhide Zero VOC Interior Latex.
- D. Existing Concrete Masonry (CMU) Epoxy Paint, (Previously painted), 3 Coats:

1. One coat of intermediate primer.
  - a. Products:
    - 1) Sherwin Williams, Macropoxy 646-100 Polyamide Epoxy.
2. Eg-Shel: Two finish coats.
  - a. Products:
    - 1) Sherwin Williams, Acrolon 100 WB Urethane.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Do not begin application of paints and finishes until substrates have been adequately prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- E. 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 or repair existing paints or finishes that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. After application of first coat, putty nail holes, cracks, etc., with putty of a color to match that of the finish. Bring putty flush to the adjoining surface. Sandpaper smooth when dried.
- H. Masonry:
  1. Remove efflorescence and chalk. Do not coat surfaces if moisture content, alkalinity of surfaces, or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
  2. Prepare surface as recommended by top coat manufacturer.
  3. Clean surfaces with pressurized water. Use pressure range of 600 to 1,500 psi at 6 to 12 inches. Allow to dry.
- I. Galvanized Surfaces:
  1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
  2. Prepare surface according to SSPC-SP 2.

#### **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. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
- D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

- F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- H. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

#### **3.04 FIELD QUALITY CONTROL**

- A. First Coat Inspection: When a coat of material has been applied, the Painting Subcontractor shall inform the Architect/Engineer so that the work may be inspected and approved. Credit for succeeding coats will not be given unless the preceding coat has been so examined and approved.

#### **3.05 CLEANING**

- A. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces.
- B. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

#### **3.06 PROTECTION**

- A. Protect work of other trades whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
- B. Protect adjacent work, building finishes and surfaces of manufactured casework or similar items with masking tape, drop cloths or other suitable coverings. Manufactured casework, millwork, cabinetwork, food service equipment and similar items shall not be utilized for any construction related purpose or utilized as work surface, scaffolding, plank supports or in any way walked upon.
- C. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
- D. Protect finishes until completion of project.
- E. Touch-up damaged finishes after Substantial Completion.

#### **END OF SECTION**

**SECTION 09 96 00  
HIGH-PERFORMANCE COATINGS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. High performance thermal insulative coatings.
- B. Surface preparation.

**1.02 RELATED REQUIREMENTS**

- A. Section 05 50 00 - Metal Fabrications.

**1.03 REFERENCE STANDARDS**

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.
- B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

**1.04 SYSTEM DESCRIPTION**

- A. The liquid applied thermal break acrylic material shall be applied at the required thickness specified by the manufacturer in order to mitigate thermal bridging.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
  - 2. MPI product number (e.g. MPI #47).
  - 3. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
  - 4. Manufacturer's installation instructions.
  - 5. Performance Documentation: Submit published design listings for insulation value ratings and product thickness. Include evidence that the liquid applied thermal break testing was sponsored by the manufacturer and that the material tested was produced at the manufacturers facility under the supervision of technical personnel.
- C. Maintenance Data: Include cleaning procedures and repair and patching techniques.

**1.06 MOCK-UPS**

- A. Provide mock-up , 2 feet long by 2 feet wide, illustrating coating, color, and surface sheen for each specified coating. Provide on representative substrate for each different thickness and finish of required for the work.
- B. Locate where directed.
- C. Mock-up may remain as part of the work.

**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## **1.08 FIELD CONDITIONS**

- A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.
- C. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.
- D. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.
- E. Restrict traffic from area where coating is being applied or is curing.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Provide high performance coating products from the same manufacturer.
  - 1. Sherwin-Williams Company; Heat Flex Hi-Temp 3500: [www.protective.sherwin-williams.com/industries/#sle](http://www.protective.sherwin-williams.com/industries/#sle).

### **2.02 HIGH-PERFORMANCE COATINGS**

- A. Provide coating systems that meet the following minimum performance criteria, unless more stringent criteria are specified:
  - 1. Surface Burning Characteristics: Class A, when tested in accordance with ASTM E84.

### **2.03 TOP COAT MATERIALS**

- A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
- B. Thermal Insulative Coating: Multi-purpose, single component water-based, acrylic, spray applied insulative coating containing an engineered composite of ceramic and silica microspheres to optimize thermal insulative properties.
  - 1. Number of Coats: Per manufacturer's recommendation to achieve desired thermal break.
- C. Color: Manufacturer's standard.

### **2.04 ACCESSORY MATERIALS**

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Do not begin application of coatings until substrates have been properly prepared.
- C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.
- D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### **3.02 PREPARATION**

- A. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.
- B. Clean surfaces of loose foreign matter.

- C. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.
- D. Remove finish hardware, fixture covers, and accessories and store.

### **3.03 COATING APPLICATION**

- A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified.
- B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

### **3.04 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.

### **3.05 PROTECTION**

- A. Protect finished work from damage.

**END OF SECTION**

**SECTION 09 99 90  
COLOR SCHEDULE**

**PART 1 GENERAL**

**1.01 DESCRIPTION OF WORK**

- A. This section covers color selections of paint and other building finishes and components which are specified in other Sections. Color is considered of prime importance for all aspects of this Project. Obtain colors for items not specifically noted herein from applicable Sections or Architect.
- B. Colors selected are those of the brand specified. Colors of items proposed as substitutes shall match those specified subject to approval of Architect.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Materials to be used and installation thereof are specified in other Sections of this Specification.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 INTERIOR COLOR SCHEDULE**

- A. Tile Work (Section 09 30 00)
  - 1. Ceramic Tile
    - a. CT-1, color: Daltile - Classic, Arctic White 0190, 4"x4" (F.V. matches existing).
  - 2. Grout
    - a. GRT-1, color: Laticrete - Bright White 44 (used with CT-1 ).
- B. Painting and Coating (Section 09 90 00)
  - 1. Paint Color
    - a. P-1, color: Sherwin Williams - To match existing wall color in classrooms (typical walls).

**END OF SECTION**

**DIVISION 10 – NOT USED**

**DIVISION 11 – NOT INCLUDED**

## **DIVISION 12 – FURNISHINGS**

**SECTION 12 21 16  
VERTICAL LOUVER BLINDS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Vertical louver blinds at all windows.

**1.02 REFERENCE STANDARDS**

- A. WCMA A100.1 - Standard for Safety of Window Covering Products; 2022.
- B. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2023, with Errata.

**1.03 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Certification: Provide certification that product complies with WCMA A100.1.
- D. Shop Drawings: Indicate headrail location, headrail attachment, and operation direction.
- E. Selection Samples: For vanes, color chips or material samples representing manufacturer's full range of available colors and patterns.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Blind Assemblies: One.
  - 3. Extra Vanes: 20 of each type and size.

**1.04 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. If blinds are delivered early and stored at the project, deliver in unopened containers; handle and store in such a manner to protect them from damage.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Vertical Louver Blinds:
  - 1. Basis of Design:
    - a. Springs Window Fashions, SWF Contract; ; G-71 Super-Vue Vertical Blinds [www.swfcontract.com](http://www.swfcontract.com)
    - b. Or approved equivalent by Hunter Douglas Architectural
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.

**2.02 BLINDS AND BLIND COMPONENTS**

- A. Vertical Louver Blinds: Horizontally traveling, vertical vane louver units with tracks, pivot and traversing mechanisms, and accessories:
  - 1. Vanes: Fabric in-fill PVC vanes of the size indicated.
  - 2. Operation: Manual.
  - 3. Direction of Travel: Draw back to right.
  - 4. Mounting: Inside (between jambs).
  - 5. Cord Operation: Braided nylon, continuous loop with restraining device; comply with WCMA A100.1.

- B. Tracks: Channel tracks as required for type of operation, extruded aluminum with clear anodized finish, with end caps.
  - 1. Vane Rotation: Chain driven direct rotation by activating tilt gear within end cap assembly in turn actuating tilt rod and worm-and-spur gears in carrier trucks.
  - 2. Operating Components: Internally mounted heavy-duty extruded aluminum tilt rod, vane carriers, and other components required for proper performance and designed for smooth, quiet, trouble free operation.
  - 3. Pivot Mechanism: Geared for synchronous 180 degrees rotation of vanes and type of operation indicated.
  - 4. Vane Carriers: Metal carriers with ball-bearing wheels or thermoplastic trucks, equipped with linkages or other devices to ensure positive spacing of vanes.
  - 5. Tilt Chain: Nickel plated brass beaded ball chain, minimum 1/8 inch diameter; locate at drawback side of units as indicated.
- C. Fabric Vanes: Integrally colored, extruded PVC vanes with fabric infill; flat, 3-1/2 inches (80mm) wide.
  - 1. Fabric: Manufacturer's standard flame resistant fabric.
  - 2. Flammability: Comply with NFPA 701.
  - 3. PVC Color: As selected by Architect from manufacturer's full range of colors.
  - 4. PVC Texture: Smooth.
  - 5. Fabric Color and Texture: As selected by Architect from manufacturer's full range of colors.
- D. Brackets and Mounting Hardware: As recommended by manufacturer for the mounting configuration and span indicated; provide manufacturer's standard L- bracket with clip for outside mounting and clip only for inside mounting.

## **2.03 FABRICATION**

- A. Field measure finished openings prior to ordering or fabrication.
- B. Fabricate blinds to fit openings within specified tolerances.
  - 1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch space between bottom of vanes and finish floor.
  - 2. Horizontal Dimensions - Inside Mounting: Fill openings from jamb to jamb.
- C. Dimensional Tolerances: Fabricate blinds to within plus/minus 1/8 inch of intended dimensions.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Do not start installation before openings are finished and all finishes have been completed; do not install until painting is completed.
- B. Field measure finished openings prior to ordering or fabrication.

### **3.02 PREPARATION**

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Coordinate the work with window installation and placement of concealed blocking to support blinds.

### **3.03 INSTALLATION**

- A. Install in accordance with manufacturer's instructions using mounting style as indicated.
- B. Installation Tolerances:
  - 1. Inside Mounting: Maximum space between vane and jamb when closed of 1/16 inch.
  - 2. Maximum Offset From Level: 1/16 inch.
- C. Adjust blinds for smooth operation.
- D. Replace blinds that exceed specified dimensional tolerances at no extra cost to Owner.

**3.04 CLEANING**

- A. Clean installed work to like-new condition.

**3.05 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**

**DIVISIONS 13 AND 14 – NOT USED**

**DIVISIONS 21 THROUGH 27 – NOT USED**

## **DIVISION 28 – ELECTRONIC SAFETY AND SECURITY**

**SECTION 28 11 00  
SECURITY CABLING**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS**

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

**1.02 SUMMARY**

- A. Section Includes: Hardware, labor, and services to provide cabling installation for systems including, but not limited to:
  - 1. Furnish and install access control and intrusion detection cabling
  - 2. Testing of all security cables installed
  - 3. Cabling identification and administration
- B. Terminations to access control and intrusion detection is NOT to be included in this scope of work.

**1.03 DEFINITIONS**

- A. EMI: Electromagnetic interference
- B. IDC: Insulation displacement connector
- C. LAN: Local area network
- D. UTP: Unshielded twisted pair
- E. TR: Telecommunications Room
- F. ER: Equipment Room
- G. EF: Entrance Facility

**1.04 SUBMITTALS**

- A. Shop Drawings: Include dimensioned plan and elevation views of components. Show access and workspace requirements.
  - 1. Cabling type including manufacturer, material, and ratings.
  - 2. Cable numbering scheme explanation. Coordinate identification requirements with Owner and Owner's Security Systems Provider.
  - 3. Floor plans with security termination points labeled.
- B. Installers Qualifications: Project on-site foreman shall hold BICSI Technician, or NJATC Telecommunications Technician, designation. All installers shall hold at least BICSI Installer Level 1 designation or be currently enrolled in the NJATC program. Proof of alternate training program or designation may be considered as adequate, upon engineer approval.
  - 1. Proof of credentials shall be provided as part of the submittal process.

**PART 2 - PRODUCTS**

**2.01 PATHWAYS**

- A. General Requirements: Comply with TIA/EIA-569-B.
- B. Types of pathways:
  - 1. Conduit and Boxes: Provided by Electrical
  - 2. Non-Continuous Cable Support:
    - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include, but are not limited to, the following:
      - 1) Panduit Corp (or equal)
    - b. NRTL labeled for support of UTP cabling, designed to prevent degradation of cable performance and pinch points that could damage cable.
    - c. Lacing bars, spools, and D-rings should only be used in the EFs, TRs and ERs.

- d. J-hooks and or adjustable cable supports (also called slings) shall be used in any ceiling space where cable tray is not specified.

## **2.02 PRODUCT LIST**

- A. See plans and schedules for cabling information. All cabling shall be plenum rated.

## **PART 3 - EXECUTION**

### **3.01 COORDINATION**

- A. Coordinate work in this section with Owner's Security Vendor.

### **3.02 WIRING METHODS**

- A. Wiring Method: Install cables in raceways except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces where unenclosed wiring method may be used.
- B. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.
- C. Wiring within Enclosures: Bundle, lace, and train cables to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

### **3.03 INSTALLATION OF PATHWAYS**

- A. Coordinate installation of pathways with other trades.
- B. Provide separate cabling support for security cabling systems. Cabling for security systems shall not be combined with structured cable systems, paging systems, etc.

### **3.04 INSTALLATION OF CABLES**

- A. Install cables parallel to structural members.
- B. Open-Cable Installation:
  - 1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
  - 2. Suspend cable not in a wireways or pathway a minimum of 8 inches above ceilings by cable supports not more than 5' 0" apart.
  - 3. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.
- C. Group connecting hardware for cables into separate logical fields.
- D. Provide sufficient slack loop at each device location to accommodate device terminations and installation.

### **3.05 FIELD QUALITY CONTROL**

- A. Perform tests and inspections. Test all cabling for continuity.
- B. Provide cable identification chart to 281000 contractor. Provide mechanical labeling at both ends of cables.
- C. Tests and Inspections:
  - 1. Visually inspect cable jacket materials for NRTL certification markings.
  - 2. Visually confirm marking of outlets, cover plates and outlet/connectors.
  - 3. Visually inspect cable placement, cable termination and labeling of all components.

**END OF SECTION**

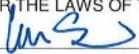
**SEALS PAGE**

**OWNER:**

- A. Lewis Central Community School District  
4121 Harry Langdon Blvd.  
Council Bluffs, Iowa 51503  
Phone: (402) 453-2468

**ARCHITECT:**

- A. BCDM Architects  
1015 North 98th Street, Suite 300  
Omaha, Nebraska 68114-2334  
Phone: 402-391-2211
- B. I, Greg Stieren, am the Coordinating Professional and Architect for the Titan Hill Exterior Envelope dated November 7, 2025.

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>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 REGISTERED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.</p> <p>SIGN &amp; DATE: <u> 11/7/2025</u></p> <p>PRINTED NAME: GREGORY S. STIEREN</p> <p>LICENSE NUMBER: 07744</p> <p>MY LICENSE RENEWAL DATE IS JUNE 30: 2027</p> <p>PAGES/ SHEETS/ DIVISIONS COVERED BY THIS SEAL:</p> |
|                                                                                     | <p>DIVISIONS 00, 01, 02, 04, 05, 06, 07, 08, 09</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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**STRUCTURAL ENGINEER:**

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|                                                                                   |                                                                                                                    | 11/7/25 |
|                                                                                   | (signature)                                                                                                                                                                                         | (date)  |
|                                                                                   | Printed or typed name <b>BRIAN KLARE</b>                                                                                                                                                            |         |
|                                                                                   | License number <u>P17265</u>                                                                                                                                                                        |         |
|                                                                                   | My license renewal date is December 31, <u>2025</u>                                                                                                                                                 |         |
| Pages or sheets covered by this seal: <u>SPECIFICATIONS</u>                       |                                                                                                                                                                                                     |         |
| <u>SECTIONS: 033000 &amp; 055000</u>                                              |                                                                                                                                                                                                     |         |
| <u> </u>                                                                          |                                                                                                                                                                                                     |         |

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|                                                                                     | JEFFREY R. HEMJE                                                                                                                                                                                    | (date)    |
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**END OF SECTION**