Rising to excellence in every pursuit

FARMINGTON MUNICIPAL SCHOOLS

CULTURAL HOGAN

Technical Specifications

100% Issue for Permit
June 12, 2026

Prepared by:

Short Elliott Hendrickson, Inc.

SEH
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TABLE OF CONTENTS

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

00 0101	PROJECT TITLE PAGE
00 0107	SEALS PAGE
00 1113	LEGAL NOTICE INVITATION TO BID
00 1116	INVITATION TO BID
00 2113	INSTRUCTIONS TO BIDDERS PART-A
00 2114	INSTRUCTIONS TO BIDDERS PART-B
00 4113	BID FORM LUMB SUM PRICE OR UNIT PRICE
00 4317	AGENTS AFFIDAVIT BID BOND
00 4334	SUBCONTRACTOR QUALIFICATION STATEMENT
00 4336	COMBINED SUBCONTRACTO LISTING AND ASSIGNMENT OF ANTITRUST CLAIMS
00 4513	PREQUALIFICATION
00 6113	PERFORMANCE BOND
00 6114	LABOR AND MATERIAL PAYMENT BOND
00 6129	AGENTS AFFIDAVIT CONSTRUCTION CONTRACT BONDS
00 6131	BOND REVIEW FORM CONSTRUCTION CONTRACT BONDS
00 6216	CERTIFICATE OF INSURANCE
00 6361	MODIFICATION CHANGE REQUEST WORKSHEET
00 6363	CHANGE ORDER
00 7300	SUPPLEMENTARY CONDITIONS

DIVISION 01 - GENERAL REQUIREMENTS

01 1000	SUMMARY
01 3100	PROJECT MANANGEMENT AND COORDINATION
01 3301	SUBMITTAL TRANSMITTAL FORM
01 5000	TEMPORARY FACILIIES AND CONTROLS
01 5001	PROJECT SIGN
01 6300	PRODUCT SUBSTITUTION PROCEDURES
01 6301	PRIOR APPROVAL SUBSTITUTION
01 6302	CONTRACTOR SUBSTITUTION REQUEST FORM
01 7000	EXECUTION REQUIREMENTS
01 7419	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 7700	CLOSEOUT PROCEDURES
01 7800	CLOSEOUT SUBMITTALS
01 7900	DEMENSTRATION AND TRAINING

DIVISION 03 - CONCRETE

03 3000	CAST-IN-PLACE CONCRETE

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

06 1000	ROUGH CARPENTRY
06 1219	STRUCTURAL INSULATED PANELS
06 2000	FINISH CARPENTRY

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 2100	THERMAL INSULATION
07 2500	WEATHER BARRIERS

07 4113 **METAL ROOF PANELS**
07 4213 **METAL WALL PANELS**
07 6200 **SHEET METAL FLASHING AND TRIM**
07 9200 **JOINT SEALANTS**
DIVISION 08 - OPENINGS
08 1613 **FIBERGLASS DOORS**
08 5413 **FIBERGLASS WINDOWS**
DIVISION 09 - FINISHES
09 9000 **PAINTING AND COATING - SHERWIN-WILLIAMS**
DIVISION 10 - SPECIALTIES
10 4400 **FIRE PROTECTION SPECIALTIES**
DIVISION 26 - ELECTRICAL
26 0519 **LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES**
26 0526 **GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**
26 0529 **HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**
26 0533.13 **CONDUIT FOR ELECTRICAL SYSTEMS**
26 0533.16 **BOXES FOR ELECTRICAL SYSTEMS**
26 0553 **IDENTIFICATION FOR ELECTRICAL SYSTEMS**
26 0923 **LIGHTING CONTROL DEVICES**
26 2416 **PANELBOARDS**
26 2726 **WIRING DEVICES**
26 5100 **INTERIOR LIGHTING**
DIVISION 28 - ELECTRONIC SAFETY AND SECURITY
28 4600 **FIRE DETECTION AND ALARM**

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I hereby certify that this technical submission was prepared by me or under my direct supervision and responsible charge in accordance with the rules and regulations governing **Architects** practicing in the State of New Mexico. I am a duly registered Professional in the State of New Mexico.

Discipline: **ARCHITECT**

Name: Allison A. Miller

Registration No.: 006042

Expiration: **12/31/2026**



06-12-2026

Signature

****

****



I hereby certify that this technical submission was prepared by me or under my direct supervision and responsible charge in accordance with the rules and regulations governing **Engineers** practicing in the State of New Mexico. I am a duly registered Professional in the State of New Mexico.

Discipline: **Electrical**

Name: **Joshua David Sopata**

Registration No.: 26697

Expiration: **12/31/2027**

Signature

****

****



I hereby certify that this technical submission was prepared by me or under my direct supervision and responsible charge in accordance with the rules and regulations governing **Engineers** practicing in the State of New Mexico. I am a duly registered Professional in the State of New Mexico.

Discipline: **Structural Sections 03 3000, 061000, 06 1219**

Name: Stephen Kaye

Registration No. 23676

Expiration: 12/31/2026

Signature

****

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I hereby certify that this technical submission was prepared by me or under my direct supervision and responsible charge in accordance with the rules and regulations governing **Engineers** practicing in the State of New Mexico. I am a duly registered Professional in the State of New Mexico.

Discipline: **Electrical**

Name: **Joshua David Sopata**

Registration No.: 26697

Expiration: **12/31/2027**

Signature

****

00 1113
LEGAL NOTICE
INVITATION TO BID

BID NO: IBT 2027-01

The Board of Education, ***Farmington Municipal Schools***, is requesting competitive sealed bids for the construction of a ***Cultural Hogan at Tibbetts Middle School.***

Project bid/contract documents may be obtained from the location(s) listed in the complete Invitation to Bid (ITB) which may be reviewed at https://www.farmingtonschools.us/page/rfp NM E-Procurement/Bidding System or by contacting the District.

A Mandatory Pre-Bid Conference will be held on ***Monday, July 13th at 2:00 pm local time, at 3401 E. 30th Street, Suite A, Farmington, NM*** .

Bids will be received no later than ***August 4, 2026 at 2:00 pm local time.***
Sealed bids must be delivered to:

Farmington Municipal Schools
3401E 30th Suite A
Farmington, NM 87402
Phone No: 505-324-9840

The Farmington Municipal Schools Board of Education reserves the right to reject any and all bids and/or cancel this ITB in its entirety.

PUBLISH DATE: July 2, 2026

00 1116
INVITATION TO BID
CONSTRUCTION CONTRACT

BID NUMBER: ITB 2027

Sealed bid opening date:
AUGUST 4th, 2026 at 2:00 pm MDT
FARMINGTON MUNICIPAL SCHOOL

PROJECT: FARMINGTON MUNICIPAL SCHOOLS CULTURAL HOGAN

DISTRICT PROJECT NO.:

PSFA PROJECT NO.: N/A

PSFA FUNDING: [ ] YES [X] NO

DESIGN PROFESSIONAL OF RECORD:
Allison A. Miller, AIA

BID OPENING ADDRESS:
FARMINGTON MUNICIPAL SCHOOLS
3401 E. 30th STREET
SUITE A
FARMINGTON, NM 87402
Telephone: (505) 324-9840 EXT. 1518
Fax: (844) 833-2819

OWNER:
Farmington Municipal Schools
3401 E 30th Suite A
Farmington, NM 87402
(505) (324-9840)

DATE: 07-02-2026

Contact Name:
Lisa Evans - Chief Procurement Officer
(505) 324-9840 Ext 1518 levans@fms.k12.nm.us

IMPORTANT: BIDS MUST BE SUBMITTED IN A SEALED ENVELOPE WITH THE BID NUMBER AND OPENING DATE CLEARLY INDICATED ON THE BOTTOM LEFT HAND SIDE OF THE FRONT OF THE ENVELOPE.

SEALED BIDS WILL BE RECEIVED AT THE ABOVE SPECIFIED DATE, LOCAL TIME AND ADDRESS THEN PUBLICLY OPENED AT THE ABOVE SPECIFIED ADDRESS AND READ ALOUD. BIDS NOT RECEIVED BY THE ABOVE SPECIFIED DATE, LOCAL TIME AND AT THE LISTED ADDRESS PRIOR TO BID TIME, WILL NOT BE OPENED OR CONSIDERED. DELIVERY IS SOLELY THE RESPONSIBILITY OF THE BIDDER.

THIS BID IS SUBJECT TO THE REQUIREMENTS OF THE BIDDING DOCUMENTS AS DEFINED IN THE "INSTRUCTIONS TO BIDDERS," SECTION 00100.

THE BID PROPOSAL FORM MUST BE ACCOMPANIED BY A SURETY BOND, SUBCONTRACTOR LISTING FORM, AND DOCUMENTS SPECIFIED IN THE "INSTRUCTIONS TO BIDDERS."

IF PUBLIC SCHOOL CAPITAL OUTLAY COUNCIL – PUBLIC SCHOOL FACILITIES AUTHORITY (PSFA) HAS FUNDED THIS PROJECT IN WHOLE OR IN PART, OWNER, REFERRED TO THROUGHOUT THE CONTRACT DOCUMENTS, TO BE BOTH THE SCHOOL DISTRICT AND THE PSFA AS IF SINGULAR IN NUMBER

This mailing contains three pages

Bidding Documents may be obtained at the office of the Design Professional of Record upon payment of $ ____for each complete set. CHECKS SHOULD BE MADE PAYABLE TO "OWNER" as listed on page 1 of this Invitation to Bid. Incomplete sets will not be issued. The successful Bidder will receive refund of his deposit, and any unsuccessful Bidder who returns the Bidding Documents in good and complete condition within fifteen (15) days of the Bid Opening will also receive refund of this deposit. No deposits will be returned after the fifteen-day period.

BIDDING DOCUMENTS MAY BE REVIEWED AT THE FOLLOWING LOCATIONS:

1. Design Professional's location as listed on page 1 of this Invitation to Bid or as determined by Design Professional.
2. Owner's location as listed on page 1 of this Invitation to Bid or as determined by Owner
3. Builder's News and Plan Room
   3435 Princeton Drive NE
   Albuquerque, New Mexico 87107
   (505) 884-1752
4. Construction Reporter
   1609 Second Street NW
   Albuquerque, New Mexico 87102
   (505) 243-9793
5. Dodge Reports
   1615 University Boulevard NE
   Albuquerque, New Mexico 87102
   (505) 243-2817

Bids shall be presented in the form of a total Base Bid proposal under a Lump Sum Contract plus any additive or deductive alternates that are selected by the Owner. A bid must be submitted on all bid items and alternates; segregated bids will not be accepted. Plans and specifications are available from the Design Professional of record.

NOTE: Base Bid price shall not include state gross receipts or local options taxes. Taxes will be included in the Contracted Amount at prevailing rates as a separate item to be paid by Owner.

In submitting this bid, each Bidder must satisfy all terms and conditions of the Bidding Documents. All work covered by this Invitation to Bid shall be in accordance with applicable state laws and, if bid amount is $60,000 or more, is subject to the minimum wage rate determination issued by the office of the Labor Commissioner for this project. If the bid amount of the contractor or any subcontractor exceeds $50,000, the contractor and/or subcontractor must comply with the registration requirements pursuant to the Public Works Minimum Wage Act.

Bid Security, if bid greater than $25,000, in the form of a surety bond executed by a surety company authorized to do business in the State of New Mexico in the amount of **5%** of the total bid, or the equivalent in cash by means of a cashier's check or in a form satisfactory to the Owner, must accompany each bid in accordance with the Instructions to Bidders.

A 100% Performance Bond and a 100% Payment and Materials Bond executed by a surety company authorized to do business in the State of New Mexico shall be required from the successful Bidder prior to award of contract.

A completed Subcontractor Listing Form must accompany each bid.

Each subcontractor shall provide a performance and payment bond on a public works building project if the subcontractor's contract (to the Contractor) for work to be performed on a project is one hundred twenty-five thousand dollars ($125,000) or more. Failure of a Subcontractor to provide required bond shall not subject the Owner to any increase in cost due to approved substitution of Subcontractor.

The Bidding Documents contain a time for completion of the work and further impose liquidated damages for failure to complete the work within that time period.

No Bidder may withdraw his bid for **45 days** after the actual date of the opening thereof.

The Owner intends to award this Project to the lowest responsible Bidder. The Owner reserves the right to reject any and all bids, to waive technical irregularities, and to award the contract to the Bidder whose bid it deems to be in the best interest of the Owner.

Attention of the Bidder is particularly directed to the current requirements as to Resident Contractor's Preference per Section 13-4-3 NMSA 1978. The provisions of Sections 13-4-1 through 13-4-4 NMSA 1978 are not applicable to projects receiving Federal aid or when the expenditure of Federal funds designated for a specific contract is involved.

Requests for approval of substitutions for "or equal" material or equipment, if allowed by the contract documents, must includes a detailed itemized comparison of the proposed substitution with the specified product and be submitted at least 10 days prior to the bid date in accordance with Paragraph 3.3 of the Instructions to Bidders.

A **pre bid meeting** is scheduled approximately 15 days, but, not less than 10 days, prior to the bid date at:

LOCATION:
Farmington Municipal School
3401E 30th Suite A
Farmington, NM 87402

On:
DATE:_____ TIME: _____

END OF INVITATION TO BID

00 2113

INSTRUCTIONS TO BIDDERS - PART A

1.0 DEFINITIONS AND TERMS

1.1 Terms used in these Bidding Documents which are defined in the Instructions to Bidders and in the Conditions of the Contract for Construction (General, Supplementary, and Other Conditions) have the meanings assigned to them in those documents.

A. ADDENDUM: A written or graphic instrument issued prior to the opening of Bids which clarifies, corrects, or changes the Bidding Documents or Contract Documents. Plural: addenda.

B. ALTERNATE BID: If requested by the Bidding Documents, the ~~A~~amount to be added to the Base Bid if the corresponding change in the project scope, materials, and/or methods of construction is awarded by the Owner.

C. BASE BID: Amount stated in the Bid as the sum for which the Bidder offers to perform the work, excluding alternate Bids.

D. BID: The offer of the bidder submitted on the prescribed form setting forth the prices for the work to be performed in conformance with the Bidding Documents.

E. BID LOT: A major item of work for which a separate quotation or proposal is requested.

F. BIDDER: One who submits a Bid directly to the Owner, as distinct from a subcontractor who submits a bid to a contractor.

G. BIDDING DOCUMENTS: The Bidding Requirements and the Contract Documents.

H. BID FORM: A form which includes a specific space in which the bid price shall be inserted and which the Bidder shall sign and submit along with all other necessary submissions. A Bidder may submit a reasonable facsimile of the Bid Form. ~~.~~ Bids received by facsimile or in electronic format will not be accepted.

I. BIDDING REQUIREMENTS: Notice of Invitation to Bid, Prebid Information, Instructions to Bidders, Information Available for Bidders, the Bid Form, Supplements to the Bid Form, and portions of Addenda relating to any of these.

J. DAY: Day shall mean calendar day unless defined otherwise.

K. INVITATION FOR BID: All documents including those attached or incorporated by reference or utilized for soliciting sealed bids.

L. RESPONSIBLE BIDDER: A Bidder who is properly licensed in accordance with the Construction Industries Licensing Act and submits a Responsive Bid and who has furnished, when required, information and data to prove that his financial resources, production or service facilities, personnel, service reputation, and experience are adequate to make satisfactory delivery of the services, construction, or items of tangible personal property described in the Invitation for Bid.

M. RESPONSIVE BID: A bid which conforms in all material respects to the requirements set forth in the Invitation for Bid.

N. SUCCESSFUL BIDDER: The lowest Responsible Bidder to whom the Owner, on the basis of the Owner's evaluation, makes an award. A Successful Bidder does not become the contractor until an agreement with the Owner is signed.

2.0 EXAMINATION OF BIDDING DOCUMENTS AND SITE

2.1 Before submitting a Bid, each Bidder must, in accordance with the General Conditions with special attention to Article's 1 and 3.:

A. Examine the Bidding Documents thoroughly;

B. Visit the site to familiarize himself with local conditions that may in any manner affect~~s~~ cost, progress, or performance;

C. Familiarize himself with Federal, State, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the Work; and

D. Study and carefully correlate the Bidder's observations with the Bidding Documents.

2.2 On request, the Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.

2.3 The lands upon which the Work is to be performed, rights-of-way for access thereto, and other lands designated for use by the Contractor in performing the work are identified in the Bidding Documents.

2.4 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Section and that the Bidding Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

3.0 BIDDING DOCUMENTS

3.1 COPIES OF BIDDING DOCUMENTS

3.1.1 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Invitation may be obtained from the Design Professional (unless another issuing office is designated in the Invitation for Bid). The deposit will be refunded to Bidders who submit a bona-fide bid and return the bidding Documents in good and complete condition within fifteen (15) calendar days after opening of Bids.

3.1.2 Complete sets of Bidding Documents shall be used in preparing bids; neither the Owner nor the Design Professional assumes responsibility for errors or misinterpretations resulting from the use of incomplete or partial Bidding Documents.

3.1.3 The Owner and Design Professional, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3.2 INTERPRETATIONS

3.2.1 All questions about the meaning or intent of the Bidding Documents shall be submitted to the Design Professional in writing. Replies will be issued by Addenda and mailed or delivered to all parties recorded by the Design Professional as having received the Bidding Documents. **Questions received less than seven (7) days prior to the date for opening of Bids will not be formally answered**. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

3.2.2 Bidders and Subcontractors shall promptly notify the Design Professional of any ambiguity, inconsistency, or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.

3.3 SUBSTITUTE MATERIAL AND EQUIPMENT

The contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or **"or-equal"** item of material or equipment may be furnished or used by the contractor if acceptable to the Design Professional, application for such acceptance will not be considered by the Design Professional unless submitted to the Design Professional with a detailed itemized comparison of the proposed substitution against the specified product at least **ten (10) days prior to the date for opening Bids**. Any product with a 5 (five) year or greater extended warranty must be submitted no less than **forty-five (45) days prior to the opening of Bids, along with the same itemized comparison, to be considered by the Design Professional.** Any allowance of substitutions will be published to all prospective Bidders via addendum. The procedure for submittal of any such application by the Contractor and consideration by the Design Professional is set forth in the Contract Documents.

3.4 ADDENDA

3.4.1 Addenda will be mailed or delivered to all who are known by the Design Professional to have received a complete set of Bidding Documents.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 **Addenda will be issued no later than four (4) days prior to the date for receipt of Bids**, except an addendum withdrawing the request for bids or one which includes postponement of the date for receipt of Bids.

4.0 BIDDING PROCEDURES

4.1 FORM AND STYLE OF BIDS

4.1.1 Bids shall be submitted on forms identical to the form included with the Bidding Documents.

4.1.2 All blanks on the Bid Form shall be filled in by typewriter or manually in ink.

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and, in case of discrepancy between the two, the amount written in words shall govern.

4.1.4 Any interlineation, alteration, or erasure must be initialed by the signer of the bid.

4.1.5 All requested Additive Alternate Bids shall be bid. If no change in the Base Bid is required, enter "No Change." Deductive Alternates shall not be used.

4.1.6 Where there are two or more major items of work (identified as "Bid Lots") for which separate quotations are requested, the Bidder may, at his discretion, submit quotations for any or all items, unless otherwise specified. Additionally, the Bidder may submit a lump sum price for all lots for which the Bidder has submitted separate quotations.

4.1.7 Each copy of the bid shall include the complete name of the Bidder and a statement that the Bidder is a sole proprietor, a partnership, a corporation, or some other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the State of incorporation and have the applicable New Mexico Certificate of Incorporation number or Certificate of Authority number. The Bid shall include the current contractor's license number and type, Department of Workforce Solutions Minimum Wage Act registration number (DWS#), and the current Contractor's preference number. A bid submitted by an agent shall have a current Power of Attorney attached certifying the agent's authority to bind the Bidder.

4.1.8 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

4.1.9 The address to which communications regarding the Bid are to be directed must be shown.

4.1.10 The Project Name and Number, as well as the Invitation to Bid Number, shall be clearly shown on the outside of the envelope in which the sealed Bid is submitted.

4.2 BID SECURITY

4.2.1 Bid security in an amount equal to at least five percent (5%) of the amount of the Bid shall be a bond provided by a surety company authorized to do business in this State, or the equivalent in cash, a cashier's check, or otherwise supplied in a form satisfactory to the Owner (Section 13-1-146, NMSA 1978) and approved in writing by the Owner in advance. All General Contractor, or Primary Contractor, or Construction Manager at Risk Bonds shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, United States Treasury Department.

4.2.2 The bid security shall be in the amount of five percent (5%) of the highest Bid amount submitted, unless otherwise stipulated, pledging that the Bidder will enter into a Contract with the Owner on the terms stated herein and will furnish bonds covering the faithful performance of the Contract and payment of all obligations arising there under. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until:

- **A.** the Contract has been executed and bonds have been furnished,
- **B.** the specified time has elapsed so that Bids may be withdrawn, or
- **C.** all Bids have been rejected.

4.2.4 When the Bidding Documents require bid security, noncompliance by the Bidder requires that the Bid be rejected (13-1-147A, NMSA 1978).

4.2.5 If a Bidder is permitted to withdraw his Bid before award, no action shall take place against the Bidder or the bid security (13-1-147B, NMSA 1978).

4.2.6 The Owner may reduce bid security requirements authorized by the Procurement Code (13-1-28 to 13-1-199, NMSA 1978) to encourage procurement from small businesses. Reduction, if any, and the manner thereof will be stipulated in Paragraph 7. Reduction of the amount of bid security, if any, shall in no way reduce requirements for Performance, Payment, or other Bonds referenced in the Bidding Documents.

4.3 PREBID CONFERENCE

4.3.1 The Design Professional of Record shall conduct a **Prebid Conference** approximately **fifteen (15), but not less than ten (10) days prior to the bid opening** date stated in the Invitation to Bid.

4.3.2 The Design Professional of Record and his consultants, as applicable, shall be represented. Prospective Bidders, Prospective Subcontractors, and Prospective Vendors are encouraged to attend and should be prepared to ask questions regarding substitutions and to request clarification of the Bidding Documents. The failure of a Bidder, Subcontractor, or Vendor to attend shall be interpreted to mean that the Bidding Documents are clear and acceptable to all non-participants at the Prebid Conference. Such clarity and acceptability shall be presumed with respect to all Bidders.

4.3.3 Questions and requests for clarification presented in written form will receive written response, and if warranted, issued as Addenda. No verbal response shall be binding.

4.4 RESIDENT OR VETERAN CONTRACTOR'S PREFERENCE

4.4.1 When Bids are received from nonresident contractors and resident or veteran contractors and the lowest responsible Bid is from a nonresident contractor, the contract shall be awarded to the resident or veteran contractor whose Bid is nearest to the bid price of the otherwise low nonresident contractor if the Bid price of the resident or veteran contractor is made lower than the Bid price of

the nonresident contractor when multiplied by the appropriate factor as established by the NM Taxation and Revenue Department.

4.4.2 No contractor shall be treated as a resident or veteran contractor in the awarding of public works contracts by the Owner unless the contractor has qualified with the NM Taxation & Revenue Department as a resident or veteran contractor pursuant to this section by making application to the NM Taxation & Revenue Department and receiving a certification number. Previous certification as a resident or veteran contractor by the NM General Services Department is valid until January 1, 2012. For convenience, and without warranty that the process is current, the procedure for application and certification is as follows:

A. The contractor seeking to qualify as a resident or veteran contractor shall complete the application form and submit it to the NM Taxation & Revenue Department) prior to the submission of a Bid on which the contractor desires to be given a preference (see Pages 00000-2 thru 00000-6);

B. The NM Taxation & Revenue Department shall examine the application and, if necessary, may seek additional information or proof so as to be assured that the Prospective Contractor is indeed entitled to certification as a resident or veteran contractor pursuant to Section 13-1-22, NMSA 1978. If the application is in proper form, the NM Taxation & Revenue Department shall issue the contractor a distinctive certification number, which is valid for three years from the date of issuance and which, when used on Bids and other purchasing documents for State agencies or local public bodies, entitles the contractor to treatment as a resident or veteran contractor under Subparagraph 4.4.1 of this section; and

C. The certification number issued pursuant to Subparagraph B of this section may be revoked by the NM Taxation & Revenue Department by making a determination that the contractor no longer meets the requirements of a resident or veteran contractor as defined in Section 13-1-22, NMSA 1978.

4.5 SUBCONTRACTORS

4.5.1 The bidder shall list the Subcontractors he proposes to use for all trades or items on the Subcontractor Listing Form attached to the Bidding Documents. This requirement does not apply to second tier subcontractors, material suppliers, or subcontractors whose contract is for an amount no greater than the listing trhreshold described by Subsection A of 13-4-34 below. Requirements for Subcontactors pursuant to Chapter 18, Laws of 1988, 2nd Session; are as follows:

AN ACT
RELATING TO CONSTRUCTION INDUSTRIES; ENACTING THE SUBCONTRACTOR FAIR PRACTICES ACT.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

13-4-31 SHORT TITLE
Section 1 through 12 of this act may be cited as the "Subcontractors Fair Practices Act".

13-4-32 LEGISLATIVE FINDINGS
The legislature finds that the practices of bid shopping and bid peddling in connection with the construction, alteration and repair of public works projects often result in poor quality of material and workmanship to the detriment of the public, deprive the public of the full benefits of fair competition among contractors and subcontractors and lead to insolvencies and loss of wages to employees.

13-4-33 DEFINITIONS

As used in the Subcontractors Fair Practices Act:

A. "contractor" means the prime contractor on a public works construction project who contracts directly with the using agency;

B. "subcontractor" means a contractor who contracts directly with the contractor;

C. "listing threshold" means the dollar amount, stipulated in the bidding documents, above which subcontractors must be listed;

D. "notice" means information, advice or a written warning intended to apprise a contractor, subcontractor or using agency of some proceeding in which the contractor's, subcontractor's or using agency's interests are involved or to inform him of some fact that is his right to know. Notice may be sent to a contractor, subcontractor or using agency by certified or registered mail and shall be deemed to be completed upon date of mailing; and

E. "using agency" means any state agency or local public body requiring services or construction.

(F.) (added for clarity from 13-4-13.1) "listed subcontractor" means a subcontractor who is currently registered with the labor and industrial commission.

13-4-34 LISTING OF SUBCONTRACTORS; REQUIREMENTS

A. Any using agency taking bids for any public works construction project shall provide in the bidding documents prepared for that project a listing threshold which shall be five thousand dollars ($5,000) or one-half of one percent of the architect's or engineer's estimate of the total project cost, not including alternates, whichever is greater. If the bidding documents do not include a listing threshold, then the using agency shall supply the listing threshold. If the listing threshold has not been included, the bid opening shall be postponed until the using agency has complied with this section. Any contractor or subcontractor interested in bidding may apply to the district court in the county in which the project will be located for an injunction preventing the bid opening until the using agency has complied with this section. Any person submitting a bid shall in his bid set forth:

(1) the name and the city or county of the place of business of each subcontractor under subcontract to the contractor who will perform work or labor or render service to the contractor in or about the construction of the public works construction project in an amount in excess of the listing threshold; and

(2) the category of the work that will be done by each subcontractor. The contractor shall list only one subcontractor for each category as defined by the contractor in his bid.

B. A bid submitted by a contractor who fails to comply with the provisions of Subsection A of this section is a non-responsive bid which shall not be accepted by a using agency.

13-4-35 EXEMPTION

With the exclusion of that portion of work covering street lighting and traffic signals, the Subcontractors Fair Practices Act shall not apply to contracts for the construction, improvement or repair of streets or highways, including bridges, underground utilities within easements including but not limited to water lines, sewer lines and storm sewer lines.

13-4-35.1 APPLICATION OF ACT

The Subcontractors Fair Practices Act shall not apply to any transaction occurring after the contractor and the listed subcontractor have executed a subcontract unless subsequent action on the subcontract relates to subcontractor listing requirements.

13-4-36 SUBSTITUTION OF SUBCONTRACTOR

A. No contractor whose bid is accepted shall substitute any person as subcontractor in place of the subcontractor listed in the original bid, except that the using agency shall consent to the substitution of another person as a subcontractor:

(1) when the subcontractor listed in the bid, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract, when such written contract, based upon the general

terms, conditions, plans and specifications for the project involved and the terms of such subcontractor's written bid, is presented to him by the contractor;

(2) when the subcontractor listed in the original bid becomes bankrupt or insolvent prior to execution of a subcontract;

(3) when the using agency refuses to approve the subcontractor listed in the original bid, provided such approval has been reserved in the bidding documents;

(4) when the subcontractor listed in the original bid fails or refuses to perform his subcontract;

(5) when the contractor demonstrates to the using agency or its duly authorized officer that the name of the subcontractor was listed as the result of an inadvertent clerical error;

(6) when a bid alternate accepted by the using agency causes the listed subcontractor's bid not to be low;

(7) when the contractor can substantiate to the using agency that a listed subcontractor's bid is incomplete;

(8) when the listed subcontractor fails or refuses to meet the bond requirements of the contractor; and,

(9) when it is determined that the listed subcontractor does not have a proper license to perform the work and the contractor has submitted the name of the subcontractor along with proof that the subcontractor bid work for which he was not licensed by the Construction Industries Division of the Regulation and Licensing Department.

(10) when it determined by the using agency, the prime contractor or the director of the labor and industrial division of the labor department that a listed subcontractor is not a registered subcontractor on the date bids are unconditionally accepted for consideration.

B. Prior to approval of the contractor's request for substitution of a subcontractor, the using agency shall give notice in writing to the listed subcontractor of the contractor's request to substitute and of the reasons for the request. The notice shall be served by certified or registered mail to the last known address of the subcontractor. The listed subcontractor who has been so notified has five (5) working days within which to submit written objections to the substitution to the using agency. Failure to file written objections shall constitute the listed subcontractor's consent to the substitution. If written objections are filed, the using agency shall give at least five (5) working days' notice in writing to the listed subcontractor of a hearing by the using agency on the contractor's request for substitution.

C. No contractor whose bid is accepted shall permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the original bid without the consent of the using agency.

D. No contractor whose bid is accepted, other than in the performance of change orders causing changes or deviations from the original contract, shall sublet or subcontract any portion of the work in excess of the listing threshold as to which his original bid did not designate a subcontractor unless:

(1) the contractor fails to receive a bid for a category of work. Under such circumstances, the contractor may subcontract. The contractor shall designate on the listing form that no bid was received; or

(2) the contractor fails to receive more than one bid for a category of work. Under such circumstances, the contractor may subcontract. The contractor shall state on the listing form that only one subcontractor's bid was received, together with the name of the subcontractor. This designation shall not occur more than one time on the subcontractor list.

13-4-37 BOND REQUIREMENTS (This requirement to be modified by Invitation to Bid – Section 00 1116- Page 3

A. It is the responsibility of each subcontractor submitting a bid to a contractor to be prepared to submit a faithful performance and payment bond if so requested by the contractor.

B. In the event any subcontractor submitting a bid to a contractor does not, upon the request of the contractor and at the expense of the contractor at the established charge or premium therefore,

furnish to the contractor a bond issued by a corporate surety authorized to do business in New Mexico in accordance with the New Mexico Insurance Code (59A-1-1 to 59A-1-18, NMSA 1978) and listed in the United States treasury department circular 570 wherein the contractor is named the obligee, guaranteeing prompt and faithful performance of the subcontract and the payment of all claims for labor and materials furnished or used in and about the work to be done and performed under the subcontract, the contractor may reject the bid and make a substitution of another subcontractor subject to the provisions of Section 13-4-36, NMSA 1978. Such bond may be required at the expense of the subcontractor only if the contractor in his written or published request for subcontract bids:

(1) specifies that the expense for the bond shall be borne by the subcontractor; and

(2) clearly specifies the amount and requirements of the bond.

13-4-38. FAILURE TO SPECIFY SUBCONTRACTOR

If a contractor fails to list a subcontractor in excess of the listing threshold and he does not state that no bid was received or that only one bid was received, he represents that he is fully qualified to perform that portion of the work himself and that he shall perform that portion of the work himself. If after the award of the contract the contractor subcontracts any portion of the work, except as provided in the Subcontractors Fair Practices Act, the contractor shall be guilty of violation of the Subcontractors Fair Practices Act and subject to the penalties provided in Section 13-4-41 NMSA 1978.

13-4-39. INADVERTENT CLERICAL ERROR

A. The contractor, as a condition to assert a claim of inadvertent clerical error in the listing of a subcontractor, shall within four working days after the time of the prime bid opening by the using agency, give written notice to the using agency and to both the subcontractor he claims to have listed in error and the subcontractor who had bid to the contractor prior to bid opening.

B. Any listed subcontractor who has been notified by the contractor in accordance with the provisions of this section as to an inadvertent clerical error shall be allowed twelve working days from the time of the prime bid opening within which to submit to the using agency and to the contractor written objection to the contractor's claim of inadvertent clerical error. Failure of the listed subcontractor to file written notice within the twelve working days shall be primary evidence of his agreement that an inadvertent clerical error was made.

C. The using agency shall, in the absence of an objection to the contrary by the listed subcontractor in the original bid, consent to the substitution of the intended subcontractor if:

(1) the contractor, the listed subcontractor listed in error and the intended subcontractor each submit an affidavit to the using agency, along with such additional evidence as the parties may wish to submit, that an inadvertent clerical error was in fact made, provided that the affidavits from each of the three parties are filed within twelve working days from the time of the prime bid opening; or

(2) affidavits are filed by both the contractor and the intended subcontractor within the specified time but the subcontractor whom the contractor claims to have listed in error does not submit, within twelve working days from the time of prime bid opening, to the using agency and to the contractor written objection to the contractor's claim of inadvertent clerical error as provided in this section.

D. If affidavits are filed by both the contractor and the intended subcontractor but the listed subcontractor has, within twelve working days from the time of the prime bid opening, submitted to the using agency and to the contractor written objection to the contractor's claim of inadvertent clerical error, the using agency shall investigate the claims of the parties and hold a hearing to determine the validity of the claims, within thirty days after the receipt of the contractor's written objection. Any determination made shall be based on facts contained in the affidavits submitted by all three parties and supported by testimony under oath and subject to cross-examination. The using agency may, on its motion or that of any other party, admit testimony of other contractors, any bid

registries or depositories or any other party in possession of facts that may have a bearing on the decision of the using agency.

13-4-40. EMERGENCY SUBCONTRACTING

Subcontracting any portion of the work in excess of the listing threshold as to which no subcontractor was designated in the original bid shall be permitted only in the case of public emergency or necessity and then only upon a written finding by the using agency setting forth the facts constituting the emergency or necessity.

13-4-41. PENALTIES

A. When a contractor violates any provision of the Subcontractors Fair Practices Act except Section 13-4-34 NMSA 1978, the using agency shall:

(1) in the case of a contractor who substitutes another subcontractor in violation of Section 13-4-36 NMSA 1978, for the subcontractor originally included in the bid, assess the contractor a penalty in an amount equal to the greater of ten percent of the amount bid by the listed subcontractor or the difference between the amount bid by the listed subcontractor and the amount bid by the substituted subcontractor;

(2) in the case of a contractor substituting a listed subcontractor for another subcontractor, and the substituted subcontractor knowingly participated in a violation of Section 13-4-36 NMSA 1978, assess the substituted subcontractor a penalty in an amount equal to the greater of ten percent of the amount bid by the listed subcontractor and the difference between the amount bid by the listed subcontractor and the substituted subcontractor; or

(3) in the case of a contractor who fails to list a subcontractor in excess of the listing threshold as defined in Section 13-4-38 NMSA 1978, assess the contractor a penalty of eight percent of the amount of the subcontract issued for the first violation and thirty percent of the amount of the subcontract issued for any violation thereafter, on any one project.

B. Penalties assessed pursuant to the provisions of this section shall be deposited into the fund from which the contract was awarded.

C. In a proceeding under this section, the contractor shall be entitled to a hearing after notice.

D. A violation of the provisions of the Subcontractors Fair Practices Act constitutes grounds for disciplinary action against a contractor or a subcontractor, pursuant to regulations of the construction industries division of the regulation and licensing department.

E. A contractor or a subcontractor who attempts to circumvent the provisions of the Subcontractors Fair Practices Act shall be subject to the penalties established pursuant to this section.

F. Any listed subcontractor removed in violation of the Subcontractors Fair Practices Act may bring an action in the district court for damages, injunctive or other relief.

13-4-42. COVERAGE OF HOME RULE MUNICIPALITIES

Any home rule municipality or H class county chartered under the provisions of Article 10, Section 6 of the constitution of New Mexico is expressly denied authority to legislate regulation of the subject matter covered in the Subcontractors Fair Practices Act that conflicts with the provisions of that act.

13-4-43. DISPUTE RESOLUTION

Once the using agency has determined the existence of a valid claim under the provisions of the Subcontractors Fair Practices Act, the using agency or agent of the using agency may:

A. hold a public hearing for the purpose of providing an informal resolution of the dispute by preparing a "form of dispute" which shall be available to all parties. The form shall state concisely, in numbered paragraphs, the matter at issue or dispute which the complainant expects to be determined. The agent or the using agency shall evaluate the issues presented by both sides of the dispute and render a decision within ten days after the hearing, and provide the parties with a written copy of the decision by certified mail, return receipt requested; or

B. refer the matter in dispute to be resolved through arbitration.

4.5.2 The Bidder shall not list himself as the supplier or as the Subcontractor for any trade unless he has previously performed work of this type or can prove to the Design Professional and the Owner's satisfaction that he actually has, or will obtain, fully adequate ability to perform the work with his own forces.

4.5.3 Omission or non-compliance with the intent of the Subcontractor Listing (Section 00430) will be grounds for considering a bid as non-responsive.

4.5.4 Prior to the award of the Contract, the Design Professional will notify the Bidder in writing if either the Owner or the Design Professional, after due investigation and written findings of fact, has reasonable and substantial objection to any person or organization on such list. If the Owner or Design Professional has reasonable and substantial objection to any person or organization on such list and refuses in writing to accept such person or organization, the Bidder may, at his option:

A. withdraw his Bid, or,

B. submit an acceptable substitute Subcontractor.

In the event of withdrawal under this paragraph, bid security will not be forfeited.

4.5.5 The Successful Bidder shall, within ten (10) days of Notice of Award of the Contract for the Work, submit to the Design Professional all of the requirements of Subparagraph 6.1.

4.5.6 The Successful Bidder will be required to establish to the satisfaction of the Design Professional and the Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the work described in the Bidding Documents.

4.5.7 Persons and organizations proposed by the Bidder and to whom the Owner and the Design Professional have made no reasonable objection under the provisions of Paragraph 4.5.6 must be used on the work for which they were proposed and shall not be changed except with the written consent of the Owner and the Design Professional. In an effort to gain consent, provide, if possible, a written request from the person or organization wishing to be replaced by the Bidder explaining the need for the replacement.

4.5.8 No Successful Bidder shall be required to employ any Subcontractor, other person, or organization against whom he has reasonable objection.

4.6 SUBMISSION OF BIDS

4.6.1 Bid, bid security, Subcontractors Listing Form, and other required documents listed in the Bidding Documents shall be submitted in an opaque sealed envelope marked in accordance with Subparagraph 4.6.2 below.

4.6.2 The Bid envelope shall be addressed as required by Section 00_2114 – Instructions to Bidders – Part B.

4.6.3 Bids received after the date and time for receipt of bids will be returned unopened.

4.6.4 The Bidder shall assume full responsibility for timely delivery of bids to the Owner, including those Bids submitted by mail or otherwise. Bids hand delivered to the Bid Opening Address shall be received beginning one hour prior to the bid. Bids will be clocked in at the time received, which must be prior to the time specified. Bids will then be held for public opening.

4.6.5 Oral, telephonic, or telegraphic bids are invalid and will not receive consideration.

4.7 CORRECTION OR WITHDRAWAL OF BIDS

4.7.1 A bid containing a mistake discovered before Bid Opening may be withdrawn by a bidder prior to the time set for Bid Opening by delivering verbal, written or telegraphic notice to the location designated in the Invitation for Bid as the place where bids are to be received.

4.7.2 Bid security, if required, shall be in an amount sufficient for the bid in conformance with Section 4.2.

4.7.3 Withdrawn Bids may be resubmitted up to the time and date designated for the receipt of Bids, provided they are then fully in conformance with the Bidding Documents.

4.7.4 After Bid Opening time, no modifications in bid prices or other provisions of bids shall be permitted.

4.7.5 After Bid Opening, a low Bidder alleging a material mistake of fact which makes his Bid non-responsive may be permitted to withdraw his Bid if the:

A. mistake is clearly evident on the face of the Bid Document; or

B. Bidder submits evidence which clearly and convincingly demonstrates that a mistake was made.

Any decision by the Owner to permit or deny the withdrawal of a Bid on the basis of a mistake contained therein shall be supported by a written determination setting forth the grounds for the decision. If withdrawal is permitted, bid security will not be forfeited.

4.8 NOTICE OF CONTRACT REQUIREMENTS BINDING ON BIDDER

4.8.1 In submitting this bid, the Bidder represents that he has familiarized himself with the nature and extent of the following requirements and of the Conditions of the Construction Contract (General, Supplementary, Project and Other Conditions):

4.9 REJECTION OR CANCELLATION OF BIDS

An Invitation for Bid may be canceled, or any or all Bids may be rejected in whole or in part, when it is in the best interest of the Owner. A determination containing the reasons therefore shall be made part of the Project file. Bid security for rejected Bids shall be returned to the Bidder.

4.10 CONSIDERATION OF BIDS

4.10.1 RECEIPT, OPENING, AND RECORDING

Bids received on time will be opened publicly and will be read aloud, and an abstract of the amounts of the Base Bids and Alternates or bid items, if any, will be made available to the Bidders. Each Bid shall be open to public inspection (13-1-107, NMSA 1978).

4.10.2 BID EVALUATION AND AWARD

4.10.2.1 The Owner shall have the right to waive technical irregularities in the form of the Bid of the low Bidder which do not alter the price, quality, or quantity of the services, construction, or items of tangible personal property bid (13-1-132, NMSA 1978).

4.10.2.2 It is the intent of the Owner to award a contract to the lowest responsible bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. The unreasonable failure of a Bidder to promptly supply information in connection with an inquiry with respect to responsibility is grounds for a determination that the Bidder is not a responsible Bidder (13-1-133, NMSA 1978). See Section 6 as to Post-Bid Information that may be required of a Contractor as to qualifications.

4.10.2.3 If the Base Bid is within the amount of funds available to finance the construction, contract award will be made to the responsible Bidder submitting the low Base Bid; except that, if sufficient funds are available to fund alternates, the Owner may award the contract to the responsible Bidder submitting the low combined Bid within the amount of funds available (Base Bid plus or minus alternates. If

the award is based on alternates, the Owner shall accept them in the order in which they are listed on the Bid Form.

4.10.2.4 Discrepancies in the Bid Form between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

4.10.2.5 Conditional Bids or Bids with additional terms will not be accepted.

4.11 NOTICE OF AWARD

A written Notice of Award shall be issued by the Owner after review and approval of the bid and related documents by the Owner with reasonable promptness (13-1-100 and 13-1-108, NMSA 1978).

4.12 CANCELLATION OF AWARD

When in the best interest of the public, the Owner may cancel the award of any contract at any time before the execution of said contract by all parties without any liability against the Owner.

5.0 PROTESTS

5.1 Any bidder, offerer, or contractor who is aggrieved in connection with this procurement (Bid) may protest to the Owner's Central Purchasing Agent and the Owner in accordance with the requirements of General Services Department Rule 93-601. The protest should be made in writing within twenty-four (24) hours after the facts or occurrences giving rise thereto, but in no case later than fifteen (15) calendar days after the facts or occurrences giving rise thereto (13-1-172, NMSA 1978).

5.2 In the event of a timely protest under Subparagraph 4.10.1 (13-1-172, NMSA 1978 of the Procurement Code), the Owner's Central Purchasing Agent and the Owner shall not proceed further with the procurement unless the Owner's Purchasing Agent or the Owner makes a determination that the award of contract is necessary to protect substantial interests of the Owner (13-1-173, NMSA 1978).

5.3 The Owner's Central Purchasing Agent or his designee shall have the authority to take any action reasonably necessary to resolve a protest of an aggrieved bidder, offerer, or contractor concerning a procurement.

5.4 The Owner's Central Purchasing Agent or his designee shall promptly issue a determination relating to the protest. The determination shall:

A. state the reasons for the action taken; and

B. inform the protestant of the right to judicial review of the determination pursuant to Section 13-1-183, NMSA 1978 of the Procurement Code (13-1-175, NMSA 1978).

5.5 A copy of the determination issued under Section 13-1-175, NMSA 1978 of the Procurement Code shall immediately be mailed to the protestant and other bidders or offerers involved in the procurement (13-1-176, NMSA 1978).

6.0 POST-BID INFORMATION

6.1 SUBMITTALS TO DESIGN PROFESSIONAL

Within ten (10) days of Notice of Award and prior to construction, the following shall be submitted to the Design Professional:

A. the Contractor required bonds and Certificates of Insurance;

B. for the Owner's consideration for approval, a resume and Statement of Qualification of proposed Superintendent(s) and assistants until acceptable individuals are selected in accordance with Subparagraph 3.9.2 of the General Conditions to the Construction Contract;

C. signed Subcontractors List including contract amount of each, evidence of required bonds, costs of each bond, and beneficiary of each bond; evidence of DOL registration, evidence of CID licensure;

D. Assignment of Antitrust Claims (required for the Contractor, all Subcontractors, and all Suppliers);

E. Certificate of Insurance;

F. State W-9;

G. evidence of other bonds or documents as specified in the Bidding Documents; and

H. Schedule of Values and required supporting data in accordance with Paragraph 9.2 of the General Conditions to the Construction Contract.

6.2 RETURN OF BID SECURITY

All Bid Security in the form of checks, except those of the two lowest Bidders, will be returned immediately following the opening and checking of the Bids. The retained bid security of the unsuccessful of the two lowest bidders, if in the form of a check, will be returned within fifteen (15) days following the award of contract. The retained bid security of the Successful Bidder, if in the form of a check, will be returned after a satisfactory contract bond has been furnished and the Contract has been executed. Bid Securities in the form of Bid Bonds will be returned only upon the request of the unsuccessful Bidder, but will be released by the Purchasing Agent for the District after the Notice of Award is sent by the Owner.

6.3 EXECUTION AND APPROVAL OF CONTRACT

The Contract shall be signed by the Successful Bidder and returned, together with both the Contract Bonds and Certificate of Insurance, within fifteen (15) days after the date of the Notice of Award. If the Contract is not executed by the Owner within forty-five (45) days following receipt from the Bidder of the signed Contract with Bonds and Certificate, the Bidder shall have the right to withdraw his proposal without penalty unless the Bidder has previously agreed to extend the date for acceptance by the Owner. No Contract shall be effective until it has been fully executed by all of the parties thereto.

6.4 NOTICE TO PROCEED

The Owner will issue a written Notice to Proceed to the Contractor stipulating the date from which Contract Time will be charged and the date Contract Time is to expire, subject to valid modifications of the Contract authorized by Change Order.

6.5 FAILURE TO EXECUTE CONTRACT

Failure to return the signed Contract with acceptable Contract Bonds and Certificate of Insurance within fifteen (15) days after the date of the Notice of Award shall be just cause for the cancellation of the award and the forfeiture of the Bid Security, which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible Bidder, or the Work may be re-advertised and constructed under contract or otherwise, as the Owner may decide.

6.6 CONTRACTOR'S QUALIFICATIONS STATEMENT

Bidders to whom award of a contract is under consideration shall submit, upon request, information and data to prove that their financial resources, production or service facilities, and service reputation and experience are adequate to make satisfactory delivery of the services, construction, or items of personal property described in the Bidding Documents (13-1-82, NMSA 1978). The Contractor shall always submit the requirements of Subparagraph 3.9.2 of the General Conditions to the Construction Contract and also in accordance with Paragraph 6.1-B above.

7.0 OTHER INSTRUCTIONS TO BIDDERS

7.1 The bid will be awarded in accordance with Subparagraph 4.10.2.3. The Owner may accept from the apparent low bidder prior to the Award, a reduction to the bid cost or time and, may discuss with the apparent low bidder for potential deductive modifications to the Work prior to the Award however, the Award shall be made on the un-modified Construction Documents with alternates accepted in accordance with this Paragraph 7.0.

7.2 If the lowest responsible bid has otherwise qualified, and if there is no change in the original project scope, terms or conditions, the lowest bidder may negotiate with the purchaser for a lower total bid in order to avoid rejection of all bids for the reason that the lowest bid was up to ten percent higher than budgeted project funds. Such negotiation shall not be allowed if the lowest bid was more than ten percent over budgeted project funds.

00 2114
INSTRUCTIONS TO BIDDERS – PART B

1.0 BID ENVELOPE

The Bid envelope shall be addressed at the front center of the envelope to:

FARMINGTON MUNICIPAL SCHOOLS
LISA EVANS
3401E 30TH SUITE A
FARMINGTON, NM 87402

Also on the front of the envelope the Bidder shall mark: the name and address of the Bidder shall in the upper left corner; the name of project, Invitation to Bid Number, date of opening and, time of opening in the lower left corner; and, **"SEALED BIDS ENCLOSED"** in the lower right corner or otherwise on the face thereof.

-END OF SECTION-

00 4113
BID FORM (Lump Sum or Unit Price)

BIDDER'S Name and Address:	ITB NO.: ITB 2027-01
Telephone: Fax: Federal Tax ID #: New Mexico Tax ID #: CID License #	PROJECT NAME: Farmington Municipal Schools Cultural Hogan PROJECT NO.: LOCATION: TIBBETTS MIDDLE SCHOOL 3500 TWIN PEAKS BLVD. FARMINGTON, NM 87401

This Bid is submitted to Owner:

Farmington Municipal Schools
3401 E 30th Suite A
Farmington, NM 87402
Phone (505) (324-9840)

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the Owner in the form included in the Bidding Documents to perform and furnish all Work as specified or indicated in the Bidding Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

2. The Bidder accepts all of the terms and conditions of the Invitation for Bid and Instructions to Bidders, including without limitation those dealing with the disposition of bid security and other Bidding Documents. This Bid will remain subject to acceptance for forty-five (45) days after the day of Bid opening. The Bidder shall sign and submit the Agreement between Owner and Contractor (hereinafter called Agreement) with the Bonds and other documents required by the Bidding Requirements within fifteen (15) days after the date of the Owner's Notice of Award.

3. The Contractor shall include the following cash allowances in his Bid:

A.	for	(page	of Specs)	$
B.	for	(page	of Specs)	$
C.	for	(page	of Specs)	$
D.	for	(page	of Specs)	$
E.	for	(page	of Specs)	$

4. In submitting this Bid, the Bidder represents, as more fully set forth in the Agreement, that:

A. the Bidder has examined copies of all the Bidding Documents and of the following Addenda (receipt of all of which is hereby acknowledged):

No._____ Title:_____ Date: _____

No._____ Title:_____ Date: _____

No._____ Title:_____ Date: _____

No._____ Title:_____ Date: _____

No._____ Title:_____ Date: _____

No._____ Title:_____ Date: _____

B. the Bidder has familiarized himself with the nature and extent of the Bidding Documents, Work, site, locality, and all local conditions, laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of the Work;

C. the Bidder has carefully studied all reports and drawings of subsurface conditions which are identified in the Information Available to Bidders and accepts the determination set forth in the Information Available to Bidders of the extent of the technical data contained in such reports and drawings upon which the Bidder is entitled to rely;

D. the Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Bidding Documents;

E. the Bidder has given the Design Professional written notice of all conflicts, errors, and discrepancies that he has discovered in the Bidding Documents, and the written resolution thereof by the Design Professional is acceptable to the Bidder;

F. this Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; the Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; the Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and the Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over the Owner;

G. the Bidder acknowledges that he has attended any mandatory pre-bid conference scheduled by the Owner or the Design Professional pertaining to this project;

H. the Bidder agrees to show clearly on the envelope in which the Bid is submitted the Project Name and Number, and Invitation to Bid Number; and,

I. the Bidder will complete the Work for the following price(s) **(<u>do not</u> include any gross receipts tax in the price(s)).**

5. Bids shall be presented in the form of a total Base Bid proposal under a Lump Sum Contract plus additive alternates that are selected by the Owner. A bid must be submitted on all bid items and alternates; segregated bids will not be selected by the Owner.

(Design Professional to strike out subsection not applicable.)

A. LUMP SUM PRICE (please use typewriter or print legibly in ink) Base Bid (use words):

_____

_____

_____

_____

_____

($)

Alternate 1 (add)(deduct)

($)

Alternate 2 (add)(deduct)

_____

_____

($)

Alternate 3 (add)(deduct)

_____

_____

($)

Alternate 4 (add)(deduct)

_____

_____

($)

All specific cash allowances are included in the price(s) set forth above.

B. UNIT PRICE

_____

_____

($)

If the required quantities of the items listed below are increased or decreased by Change Order, the adjustment unit prices set forth below shall apply to such increased or decreased quantities:

ITEM
UNIT PRICE (in words)

_____

_____

($)

6. The Bidder agrees that:

A. The Work to be performed under this Contract shall be commenced not later than ten (10) consecutive days after the date of written Notice to Proceed, and that Substantial Completion shall be achieved not later than days after the date of written Notice to Proceed, except as hereafter extended by valid written Change Order by the Owner.

B. Should the Contractor neglect, refuse, or otherwise fail to complete the Work within the time specified, the Contractor agrees to pay to the Owner in partial consideration for the award of this Contract the amount of _____Dollars ($) per consecutive day, not as a penalty, but as liquidated damages for such breach of the Contract.

C. The above prices shall include all labor, materials, removal, overhead, profit, insurance, taxes **(not including gross receipts tax),** etc., to cover the finished work of the several kinds called for. Changes shall be processed in accordance with the Contract Documents.

D. It is understood that the Owner reserves the right to reject any or all Bids and to waive any technical irregularities in the bidding.

7. The following documents are attached to and made a condition of this Bid:
- **A.** Bid Security with Agent's Affidavit;
- **B.** Subcontractors Listing; and,
- **C.** Other (list):

8. The terms used in this Bid and the Bidding and Contract Documents which are defined in the Conditions of the Construction Contract (General, Supplementary, and Other Conditions), included as part of the Bidding Documents, have the meanings assigned to them in those Conditions.

9. The Bidder is a(n):

A. INDIVIDUAL;

By: _____
(Individual's Signature)

Doing business as: _____

Business address: _____

_____

_____

Telephone: (____) _____

FAX: (____) _____

B. PARTNERSHIP:

By: _____

(Firm Name)

_____

(General Partner's Signature)

Business address: _____

_____

_____

Telephone: (____) _____

FAX: (____) _____

C. CORPORATION:

Corporation Name: _____

State of Incorporation: _____

By _____ Title: _____

(Print Name of Person Authorized to Sign)

* _____

Signature of Authorized Person

If a New Mexico Corporation: _____

NM Certificate of Incorporation Number

If a Foreign Corporation: _____

NM Certificate of Authority Number

Attest (Secretary): _____

Business address _____

_____

_____

Telephone: (____) _____

FAX: (____) _____

CORPORATE SEAL HERE

or,

D. JOINT VENTURE:

By _____
(Name)
Address: _____
_____
_____

Telephone: (____) _____

FAX: (____) _____

By _____
(Name)
Address: _____
_____
_____

Telephone: (____) _____

FAX: (____) _____

By _____
(Name)
Address: _____
_____
_____

Telephone: (____) _____

FAX: (____) _____

Each Joint Venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated in the appropriate category.

BIDDER MUST FILL IN THE FOLLOWING (if none, write none)

NM License Number _____ License Classification: _____

Dept. of Workforce Solutions Minimum Wage Act Registration Number (DWS#)
_____

Resident Contractor's Preference Number: _____

OR

Veteran Contractor's Preference Number: _____

Please attach a copy of your valid preference certificate to the Bid Form.

00 4317
AGENT'S AFFIDAVIT

THIS FORM MUST BE USED BY SURETY

(To be filled in by Agent)

STATE OF_____)
) ss.
COUNTY OF_____)

_____, being first duly sworn, deposes and says that

he /she is the duly appointed agent for and is licensed in the State of New Mexico.

Deponent further states that a certain bond was given to indemnify the State of New Mexico in connection with the construction of

dated the day of , 20__, executed by Contractor, as principal, and , as surety, signed by this Deponent; and Deponent further states that said bond was written, signed, and delivered by him/her; that the premium on the same has been or will be collected by him/her; and that the full commission thereon has been or will be retained by him/her.

Subscribed and sworn to before me, a notary public in and for the County of, , this _____day of _____, 20__.

Notary Public

My Commission Expires:

AGENT'S ADDRESS:

Telephone

00 4334

ATTACH TO LETTER OF SUBMITTAL
In the Technical Proposal

SUBCONTRACTOR
QUALIFICATIONS QUESTIONNAIRE

THRESHOLD: $50,000 OR 5% OF ESTIMATE WHICHEVER IS GREATER

DP/AE ESTIMATE OF TOTAL PROJECT COST: $_____

QAULIFICATION THRESHOLD FOR THIS PROJECT: $_____

1. The using agency has the right and requires that the contractor provide subcontractor qualifications from the subcontractors listed below regardless of the value of the subcontract.
2. Also, Per NMAC 1.4.8.12 D. (2): Subcontractor qualification questionnaires shall be required for all subcontractors identified in the Technical Proposal pursuant to the subcontractor listing requirements 1.4.8.13 NMAC, where the value of the subcontract is fifty thousand ($50,000) or five percent (5%) whichever is greater.

This Subcontractor Questionnaire Listing Form shall be included in the Technical Proposal, in **TAB 2A .** **Note:** Either submit this form or an entire package of all Subcontractor Qualification Statements at time of proposal submission.

Reminder: The General Contractor ***may*** be given 24 hours from the date and time of the submission of the Request for Proposal, to produce __1__ copies of the Subcontractor Qualifications Questionnaires listed below to the Procurement Manager.

SUBCONTRACTOR	ENTITY NAME
Mechanical	
Electrical	
Plumbing	
Roofing	

00 4336
COMBINED LIST OF SUBCONTRACTORS
and
ASSIGNMENT OF ANTITRUST CLAIMS
by
CONTRACTOR, SUBCONTRACTORS, SUBSUBCONTRACTORS, and SUPPLIERS

EXAMPLE TRADES AND SUPPLIERS: SITE WORK, CONCRETE, MASONRY, FRAMING, LUMBER, STEEL, STEEL FABRICATION, ROOFING, EXTERIOR INSULATION AND FINISH, DRYWALL, DOORS, GLASS AND GLAZING, PLASTER, PAINTING, CARPET, RESILIENT, CONVEYING SYSTEMS, HVAC, CONTROLS, PLUMBING, SHEET METAL, ELECTRICAL

1. Subcontractor Listing shall be included with Bid as a condition of the Bid and be fully complete with regards to all Subcontractors providing services valued at $5,000.00 or more, or one-half of one percent of the architect's or engineer's estimate of the total project cost, not including alternates, whichever is greater pursuant to Section 13-4-34, NMSA 1978.

Listing Threshold for this Project: $ 5,000

a. Subcontractor Listing shall be expanded after Bid by apparent low bidder if Awarded, and before Contract, to include major Suppliers and, each entity listed shall be signed by individual empowered to obligate Supplier, Subcontractor, or Subsubcontractor.

b. Subcontractor Listing shall also be expanded after Bid by apparent low bidder if Awarded, and before Contract, to include the Department of Workforce Solutions labor enforcement fund registration number. See the Department of Workforce Solutions web site at www.dws.state.nm.us under "Public Works" for registration form, listings and information.

c. See Instructions to Bidders, Section 00 2113 Paragraph 4.5, Subcontractors, for rules regarding changes in this list after bidding.

2.

PROJECT NAME: Farmington Municipal Schools Cultural Hogan

INVITATION TO BID NUMBER: IBT 2027-01

The undersigned agrees that any and all claims which the firm may have or may inure to it for overcharges resulting from antitrust violations as to goods, services, and materials purchased in connection with the above-referenced project are hereby assigned to the Owner, but only to the extent that such overcharges are passed on to the Owner. It is agreed that the firm retains all rights to any such antitrust claims to the extent of any overcharges not passed on to the District, including the right to any treble damages attributable thereto.

INVITATION TO BID NUMBER:
IBT 2027-01

Sealed bid opening date:
__(DATE & TIME)_____
(NAME) SCHOOL DISTRICT

Subcontractor Listing

*Signature not required until after Bid but before Award

TYPE OF WORK	ENTITY NAME	CITY & STATE	Labor enforcement fund registration # (if over $60,000)	SIGNATURE *
SITE WORK				
CONCRETE				
MASONRY				
FRAMING				
STEEL ERECTION				
ROOFING				
INSULATION				
DRYWALL				
GLAZING				
PLASTER				
FLOORING				
PAINTING				
FURNISHINGS				
LANDSCAPE				
ELEVATOR				
HVAC				
CONTROLS				
PLUMBING				
ELECTRICAL				
SPECIAL SYST.				

TYPE OF WORK	ENTITY NAME	CITY & STATE	Labor enforcement fund registration # (if over $60,000)	SIGNATURE *

00 4513
PREQUALIFICATION

GENERAL

The Contractor represents to the Owner that the Contractor:

1. is financially solvent, able to pay debts, and has sufficient working capital to complete the Work;

2. is able to furnish the plant, tools, materials, supplies, equipment, skilled labor and sufficient experience and competence required to complete the Work equal to or exceeding industry standards;

3. shall, prior to bid, be properly licensed according to the requirements of the Construction Industries Licensing Act, Chapter 60, Article 13 NMSA 1978 and ensures to the Owner that such license shall remain in effect for the duration of the Work and warranty periods that the Contractor is authorized and properly licensed to do business in the State of New Mexico and in the locale where the Work is located;

4. execution of the agreement and performance thereof is within the Contractor's duly authorized powers; and

5. or assigns have visited the site of Work and has become familiar with the conditions under which the Work is to be performed, obtained all available information and have correlated observations and acquired information with the requirements of the Contract Documents including conditions:

a) bearing upon access to the site, accommodations required, transportation, disposal, handling and storage;

b) affecting availability of labor, materials, equipment, water, electricity, utilities and roads;

c) such as weather, river stages, flooding;

d) related to the apparent form and nature of the Work site, including the surface and sub-surface conditions; and,

e) that in general would be deemed by a prudent contractor to be material to the Work as to assess risk, contingencies and other circumstances;

6. has completed prior contracts with diligent and continuous effort and has been responsive to post-occupancy corrections.

PREQUALIFICATION FORMS

Not required.

DEBARRED OR SUSPENDED CONTRACTORS

A business (contractor, subcontractor, or supplier) that has either been debarred or suspended pursuant to the requirements of Sections 13-1-177 through 13-1-180 and 13-4-11 through 13-4-17, NMSA 1978 as amended, shall not be permitted to do business with the State and shall not be considered for award of contract during the period for which it is debarred or suspended.

SAMPLE

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A312

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT
Date:
Amount:
Description (Name and Location):

BOND
Date (Not earlier than Construction Contract Date):
Amount:
Modifications to this Bond: ☐ None ☐ See Page 3

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:

(Any additional signatures appear on page 3)

(FOR INFORMATION ONLY—Name, Address and Telephone)
AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

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PERFORMANCE BOND **00 6113 - 1**

SAMPLE

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation avail-

SAMPLE

able to sureties as a defense in the jurisdiction of the suit shall be applicable.

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and Title:		Name and Title:	
Address:		Address:	

SAMPLE

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A312

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT
Date:
Amount:
Description (Name and Location):

BOND
Date (Not earlier than Construction Contract Date):
Amount:
Modifications to this Bond: ☐ None ☐ See Page 6

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:

(Any additional signatures appear on page 6)

(FOR INFORMATION ONLY—Name, Address and Telephone)
AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

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A312-1984 4

SAMPLE

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this

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A312-1984 5

SAMPLE

Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and Title:		Name and Title:	
Address:		Address:	

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A312-1984 6

APPROVED MODIFICATIONS PAGE

Modification No.1:

Paragraph 6 of this Payment Bond is deleted in its entirety and replaced with the following provision: Within 45 days (1) after the claimant has satisfied the conditions of Paragraph 4 and (2) after the Surety has received at its home office all supporting documentation it requested to substantiate the amount of the claim, the Surety shall pay or arrange for payment of any undisputed amounts. Failure of the Surety to satisfy the above requirements shall not be deemed a forfeiture or waiver of the Surety's or the Contractor's defenses under this Bond or their right to dispute such claim. However in such event the claimant may bring suit against the Surety as provided under this Bond.

00 6129

AGENT'S AFFIDAVIT

THIS FORM MUST BE USED BY SURETY

(To be filled in by Agent)

STATE OF_____)
) ss.
COUNTY OF_____)

_____, being first duly sworn, deposes and says that he /

she is the duly appointed agent for and is
licensed in the State of New Mexico.

Deponent further states that a certain bond was given to indemnify the State of New Mexico in connection with the construction of

dated the day of , 20__, executed by Contractor, as principal, and , as surety, signed by this Deponent; and Deponent further states that said bond was written, signed, and delivered by him/her; that the premium on the same has been or will be collected by him/her; and that the full commission thereon has been or will be retained by him/her.

Subscribed and sworn to before me, a notary public in and for the County of, , this _____day of _____, 20__.

Notary Public

My Commission Expires:

AGENT'S ADDRESS:

Telephone

00 6131
BOND REVIEW FORM CONSTRUCTION CONTRACT BONDS

Instructions:

1. **Contractor shall attach pre-signed or un-signed form to Performance Bond and Labor and Material Bond and submit to Design Professional with Post-Bid submittals (see Section 00 2113 - Instructions to Bidders).**
2. **District shall review Surety for acceptability and, if approved, sign form prior to approval of Contract.**
3. **After review and approval of bonds, District shall include signed form with approved Contract in transmittal to PSFA.**

REVIEW AND APPROVAL:

This Bond has been executed by a Surety named in the current list of "companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, United States Treasury Department.

APPROVED:

By:_____ Date: _____
Owner's Representative or Governing Authority

SAMPLE

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) MM/DD/YYYY

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Broker's Name & Address	PHONE (A/C. No. Ext): (123) 123-4567	FAX (A/C. No.): (123) 123-4567
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Insured's Name & Address	INSURER A: [List Insurance Provider(s)]	XXXXX
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES CERTIFICATE NUMBER: 0123456789123 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY / PRO-JECT / LOC OTHER:	X	X	XXXXXXXXXXXX	MM/DD/YYYY	MM/DD/YYYY	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $xxx,xxx $xx,xxx $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY	X	X	XXXXXXXXXXXX	MM/DD/YYYY	MM/DD/YYYY	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
A	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED / RETENTION			XXXXXXXXXXXX	MM/DD/YYYY	MM/DD/YYYY	EACH OCCURRENCE AGGREGATE	$5,000,000 $5,000,000
B C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		XXXXXXXXXXXX	MM/DD/YYYY	MM/DD/YYYY	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	$X,XXX,XXX $X,XXX,XXX $X,XXX,XXX
C	[List other insurance(s) here. DO NOT check ADDL INSR & SUBR WVD for Professional Liability]			XXXXXXXXXXXX	MM/DD/YYYY	MM/DD/YYYY		

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

[PSFA Project number XXX-XXX & project location and address]

[Additionally Insured - NM Public School Facilities Authority, 1312 Basehart Road, SE, Suite 200, Albuquerque, NM 87106]

CERTIFICATE HOLDER	CANCELLATION
Certificate Holder Name Address City, State & Zip	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Signature Required

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006361
MODIFICATION CHANGE REQUEST WORKSHEET

MICHELLE LUJAN GRISHAM
GOVERNOR

JOE GUILLEN
PSCOC CHAIR

MARCOS B. TRUJILLO
PSFA EXECUTIVE DIRECTOR

STATE OF NEW MEXICO

School District

In Collaboration With

PUBLIC SCHOOL CAPITAL OUTLAY COUNCIL (PSCOC)

PUBLIC SCHOOL FACILITIES AUTHORITY (PSFA)

00 6361	MODIFICATION CHANGE REQUEST (MCR) WORKSHEET

MCR No.: **DATE:**

PROJECT:

DESCRIPTION OF PROPOSED WORK:

NOTE: Fill out a separate worksheet for each Subcontractor (SUB) on this MCR. The General Contractor (GC) shall use this same form to summarize the total of all SUB proposals while adding GC costs. Attach all worksheets and breakdowns to summary sheet for each MCR.

	SUB'S COSTS (ATTACH SUB'S SHEET AND COST BREAKDOWNS):*		
1	Total of SUB's material (*attach itemized breakdown*):	$	-
2	Total of SUB's labor cost including fringe benefits and labor burden (*attach itemized breakdown*):	$	-
3	Other directly attributable costs allowed (*attach itemized breakdown*):	$	-
4	**Subtotal (sum of Items 1, 2, 3):**	**$**	**-**
5	SUB's Overhead and Profit (O&P) (*see Table 7.2.5.4*):	$	-
6	SUB's Bond (*attach itemized breakdown*):	$	-
7	SUB's Insurance (*attach itemized breakdown*):	$	-
8	Permits paid by subcontractor (*attach itemized breakdown*):	$	-
9	**SUB's Total Costs (sum of Items 4, 5, 6, 7, 8):**	**$**	**-**

	GC'S COSTS (ATTACH WORKSHEETS)*		
10	GC's material (*attach itemized breakdown*):	$	-
11	GC's labor cost including fringe benefits and labor burden (*attach itemized breakdown*):	$	-
12	GC's other directly attributable costs allowed (*attach itemized breakdown*):	$	-
13	Directly attributable field supervision (*attach itemized breakdown*):	$	-
14	**Subtotal (sum of Items 10, 11, 12, 13):**	**$**	**-**
15	GC's O&P on SUB (0% of Item 4):	$	-
16	GC's O&P on work by GC's own forces (0% of Item 14):	$	-
17	**Subtotal (sum of Items 14, 15, and 16):**	**$**	**-**
18	Permits paid by GC (*attach itemized breakdown*):	$	-
19	Insurance (*attach itemized breakdown*):	$	-
20	Bond (*attach itemized breakdown*):	$	-

21	**MCR Subtotal (sum of Items 9, 17, 18, 19, 20):**	**$**	**-**
22	**Gross Receipts Tax (0.0000% of Item 21):**	$	-
23	**GC's Total Cost (sum of Items 21 and 22):**	**$**	**-**

*** Allowable costs and percentages shall not exceed those indicated in Article 7.2.5. 5/29/24**

7.2.5.4. Profit Mark-up for Contractor Allowable Costs and Fees

Subtotal before applying Overhead and Profit	Under $2,000	$2,000 - $10,000	$10,001 - $50,000	$50,001 or more
Contractor: For Work Performed by Own Forces	18%	16%	14%	12%
Contractor: For Subcontracted Work	11%	9%	6%	5%
For Work Performed by 1st Tier Subcontractor	18%	15%	12%	9%
For Work Performed by 2nd Tier Subcontractor	10%	8%	5%	4%
Maximum Total Aggregate of Subcontractors regardless of the number of subcontractor tiers	29%	24%	18%	14%

7.2.5.5. Profit Mark-up for Subcontractor Allowable Costs and Fees

Subtotal before applying Overhead and Profit	Under $2,000	$2,000 - $10,000	$10,001 - $50,000	$50,001 or more
Subcontractor Pass-through mark-up, 1st tier to 2nd tier.	Not to exceed 4% of the subtotal amount, prior to applying subcontractor allowed mark-up.	Not to exceed 3% of the subtotal amount, prior to applying subcontractor allowed mark-up.	Not to exceed 2% of the subtotal amount prior to applying subcontractor allowed mark-up.	Not to exceed 1% of the subtotal amount prior to applying subcontractor allowed mark-up for the first $100,000 above $100,000 negotiated percentage.

STATE OF NEW MEXICO

School District

In Collaboration With

PUBLIC SCHOOL CAPITAL OUTLAY COUNCIL (PSCOC)

PUBLIC SCHOOL FACILITIES AUTHORITY (PSFA)

MICHELLE LUJAN GRISHAM
GOVERNOR

JOE GUILLEN
PSCOC CHAIR

MARCOS B. TRUJILLO
PSFA EXECUTIVE DIRECTOR

00 6363 **CHANGE ORDER (CO) WORKSHEET**

CO No.: **DATE:**

PROJECT:

CONTRACTOR:

DESIGN PROF.:

PSFA PO # _____ **DISTRICT PO #** _____

Distribution to:
District Representative
Design Professional of Record
PSFA Regional Manager
PSFA Contracts Administrator
Contractor
Other:

NOT VALID UNTIL SIGNED BY THE OWNER(S).

Signature of the Contrator indicates agreement herewith, including any adjustment in the Contract Sum or Contract Time.

The Contract Time will be _____ by _____

The date of Substantial Completion as of the date of this Change Order therefore is _____

Otherwise Parties agree by checking here: ☐

that at the time of this Change Order, there is no agreement on adjustment to the Contract Time related to MCR(s).

(List MCR's by their number or write all in this Change Order). The Contractor, without prejudice and without waiving any rights to such claim for adjustment to Contract Time in relation to these MCR(s), agrees to postpone claim in accordance with Paragraph 7.3 of the General Conditions.

MCR #	SHORT DESCRIPTION	STATE SHARE TO ALLOWABLE FUNDING	DISTRICT SHARE TO ALLOWABLE FUNDING	DISTRICT SHARE ABOVE ALLOWABLE FUNDING	DISTRICT TOTAL	TOTAL AMOUNT
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
		$ -	$ -	$ -	$ -	$ -
	TOTAL:	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

The original Contract Sum was:	
Net change by previously authorized Change Orders:	
The Contract Sum prior to this Change Order was:	$ -
The Contract Sum will be _____ by this Change Order in the amount of:	**$ -**
The new Contract Sum including this Change Order will be:	$ -

y:

Name of District Representative
School District

Date:

By:

Name of Signatory (Design Professional)
0

Date:

By:

Name of Signatory (General Contractor)
0

Date:

Reviewed By: _____
Name of Regional Project Manager
PSFA REGIONAL MANAGER

Date: _____

Approved By: _____
Name of PSFA Deputy Director/Designee
PSFA DEPUTY DIRECTOR/DESIGNEE

Date: _____

00 7300
SUPPLEMENTARY CONDITIONS

LABOR RELATIONS DIVISION **WWW.DWS.STATE.NM.US**

401 Broadway NE
Albuquerque, NM 87102
Phone: 505-841-4400
Fax: 505-841-4424

226 South Alameda Blvd Las Cruces, NM 88005 Phone: 575-524-6195
Fax: 575-524-6194

Wage Decision Approval Summary

1) Project Title: Tibbetts MS-Hogan
Requested Date: 06/08/2026
Approved Date: 06/09/2026
Approved Wage Decision Number: SJ-26-2108-B

Wage Decision Expiration Date: 10/07/2026

2) Physical Location of Jobsite for Project:
Job Site Address: 3500 Twin Peaks Blvd
Job Site City: Farmington
Job Site County: San Juan

3) Contracting Agency Name (Department or Bureau): Farmington Municipal Schools
Contracting Agency Contact's Name: Lisa Eaker
Contracting Agency Contact's Phone: (505) 324-9840 Ext. 1506

4) Estimated Contract Award Date: 08/15/2026

5) Estimated total project cost: $300,000.00
a. Are any federal funds involved?: Yes - $300,000.00
b. Does this project involve a building?: Yes - Construct an educational hogan on the Tibbetts MS property
c. Is this part of a larger plan for construction on or appurtenant to the property that is subject to this project?: No
d. Are there any other Public Works Wage Decisions related to this project?: No
e. What is the ultimate purpose or functional use of the construction once it is completed?: Educational Facility

6) Classifications of Construction:

Classification Type and Cost Total	Description
General Building (B) **Cost:** $300,000.00	Construction of educational hogan involving trades of sitework concrete electrical roofing and carpentry

TYPE "B" – GENERAL BUILDING

Effective January 1, 2026

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Cement Mason	26.26	11.61	0.60
Millwright/pile driver	51.77	22.13	0.60
Plasterer	27.16	9.59	0.60
Plumber/Pipefitter	39.92	16.85	0.60
Sprinkler Fitter	39.94	28.08	0.60
Asbestos Workers/Heat and Frost Insulators			
Asbestos Workers/Heat and Frost insulators	39.23	12.16	0.60
Asbestos Workers/Heat and Frost insulators: Los Alamos County	41.36	12.16	0.60
Boilermaker/Blacksmith			
Boilermaker/blacksmith	35.88	32.28	0.60
Boilermaker/blacksmith: San Juan County	36.83	31.88	0.60
Bricklayer/Block Layer/Stonemason			
Bricklayer/Block layer/Stonemason	33.41	12.04	0.60
Bricklayer/Block layer/Stonemason Curry, DeBaca, Quay and Roosevelt counties	23.10	8.98	0.60
Bricklayer/Block layer/Stonemason Dona Ana, Otero, Eddie and Lea counties	26.42	8.98	0.60
Carpenter			
Carpenter/Lather	32.12	14.28	0.60
Carpenter: Los Alamos County	38.56	14.70	0.60
Electricians-Outside Classifications: Zone 1			
Ground man	28.54	13.36	0.60
Equipment Operator	40.94	17.73	0.60

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Lineman or technician	51.71	21.43	0.60
Cable Splicer	52.98	21.75	0.60
Electricians-Outside Classification: Zone 2			
Ground man	28.54	13.36	0.60
Equipment Operator	40.94	17.73	0.60
Lineman or technician	51.71	21.43	0.60
Cable Splicer	52.98	21.75	0.60
Electricians-Outside Classifications: Los Alamos County			
Ground man	29.35	13.38	0.60
Equipment Operator	42.12	17.76	0.60
Lineman	53.07	21.77	0.60
Journeyman Technician	49.55	20.89	0.60
Cable Splicer	58.28	23.07	0.60
Electricians-Inside Classifications: Zone 1			
Wireman/low voltage technician	42.30	13.42	0.60
Cable Splicer	46.53	13.55	0.60
Electricians-Inside Classification: Zone 2			
Wireman/low voltage technician	46.11	13.53	0.60
Cable Splicer	50.34	13.67	0.60
Electricians-Inside Classification: Zone 3			
Wireman/low voltage technician	48.65	13.60	0.60
Cable Splicer	52.88	13.74	0.60
Electricians-Inside Classification: Zone 4			
Wireman/low voltage technician	53.30	13.75	0.60
Cable Splicer	57.53	13.87	0.60

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Electricians-Inside Classification: Doña Ana, Hidalgo, Luna and Otero Counties			
Wireman/low voltage technician	40.00	9.92	0.60
Cable splicer	40.00	9.92	0.60
Electricians-Inside Classification: Los Alamos County			
Wireman/low voltage technician	48.65	16.04	0.60
Cable Splicer	52.88	16.38	0.60
Elevator Constructor			
Elevator Constructor	53.27	40.89	0.60
Elevator Constructor Helper	37.30	40.89	0.60
Glazier			
Glazier/Fabricator	22.75	7.70	0.60
Glazier: Los Alamos County	22.75	7.70	0.60
Ironworker			
Ironworker Journeyman	29.45	19.51	0.60
Probationary Ironworker	23.56	19.51	0.60
Painter			
Painter	21.00	5.75	0.60
Painter: Los Alamos County	35.85	12.82	0.60
Paper Hanger			
Paper Hanger	21.00	5.75	0.60
Paper Hanger: Los Alamos County	36.85	12.82	0.60
Drywall Finisher/Taper	31.60	9.58	0.60
Drywall Finisher/Taper: Los Alamos County	35.85	12.82	0.60

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Roofer			
Roofer Journeyman	31.20	9.36	0.60
Roofer Helper	18.72	9.36	0.60
Sheet Metal Worker			
Zone 1	40.74	19.29	0.60
Zone 2 – Industrial	41.74	19.29	0.60
Zone 3 – Los Alamos County	42.74	19.29	0.60
Soft Floor Layer			
Soft Floor Layer	21.52	9.40	0.60
Soft Floor Layer: Los Alamos County	35.87	12.92	0.60
Tile Setter			
Tile Setter	24.46	8.81	0.60
Tile Setter Finisher	16.53	8.81	0.60
Laborers			
Group I- Unskilled	22.37	8.48	0.60
Group II – Semi-skilled	23.37	8.48	0.60
Group III- Skilled	23.37	8.48	0.60
Group IV - Specialty	25.62	8.48	0.60
Operators			
Group I	26.61	8.22	0.60
Group II	29.07	8.22	0.60
Group III	29.61	8.22	0.60
Group IV	30.11	8.22	0.60

Base Rate | Fringe Rate | Apprenticeship

Group V	30.33	8.22	0.60
Group VI	30.57	8.22	0.60
Group VII	30.68	8.22	0.60
Group VIII	34.14	8.22	0.60
Group IX	36.89	8.22	0.60
Group X	40.77	8.22	0.60

Truck Drivers

Group I-VII	16.65	8.27	0.60
Group VIII	16.71	8.27	0.60
Group IX	18.65	8.27	0.60

NOTE: All contractors are required to pay SUBSISTENCE, ZONE, AND INCENTIVE PAY according to the particular trade. More information available at https://www.dws.state.nm.us/public-works.

For more information about the Subsistence, Zone, and Incentive Pay rates, or to file a wage claim, contact the New Mexico Department of Workforce Solutions Labor Relations Division at (505) 841-4400 or visit us online at www.dws.state.nm.us.

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Work sequence.

2. Contractor use of site.

B. Related documents and sections:

1. Document 00 7200 - General Conditions of the Contract

a. [Article 2]: Basic responsibilities and rights of Owner.

b. [Article 3]: Basic responsibilities of Contractor.

c. [Article 6]: Owner's right to award separate contracts.

2. Section 01 2300 - Alternates: Alternates which [decrease or] increase scope of Project.

1.2 CONTRACTOR USE OF SITE

A. Existing building and site will be occupied during construction. Cooperate with Owner to minimize conflict and to facilitate Owner's operations during regular and after-hours use.

B. Contractor will have restricted use of site to allow Owner to conduct normal operations.

3. Access to site by trucks, equipment, and automobiles: Limited to route and entrances designated in Section 01 5000 - Temporary Facilities and Controls. Schedule construction traffic and material deliveries to site during time periods coordinated in advance with Owner.

2. On-site construction vehicle and equipment traffic shall be limited to pathways, areas and time periods approved in advance by Owner to ensure safe site conditions. Special care shall be taken during change of class periods, student

arrival/departure times and around playgrounds, bus zones and established student pathways. The Contractor shall strictly maintain close communication with designated school representative(s) on matters of on-site construction traffic scheduling and promptly inform them in advance of any significant changes to related pre-authorized arrangements. Do not proceed with altered arrangements prior to designated school representative(s) approval.

3. Parking:–Contractor and workforce may use Owner-designated portions of existing parking lots.

4. Unless otherwise agreed to in advance by Owner, construction shall be performed only during these time periods:

   Monday through Sunday 7:00 am to 6:00 pm

5. Construction activities shall be limited to areas of actual construction. Unless otherwise agreed to in advance by Owner, restrict workmen from entering adjacent restricted areas.

6. Existing student and staff toilet rooms are off-limits to Contractor unless they are not available for use by the school due to the approved schedule of work.

C. Contractor shall make arrangements with Owner to secure any keys necessary for access to existing building and site areas so that the work can be performed. The Contractor assumes sole responsibility for the security and use of school keys obtained from the Owner and shall not reproduce them nor lend them out during the progress of the work.

1.4 CONTRACTOR'S PERSONNEL JOBSITE RESTRICTIONS

A. Contractor shall enforce the following requirements on his entire workforce throughout the progress of the Work:

4. All personnel on site, directly or indirectly in the employ of Contractor, are restricted from any interaction with any Owner, Owner's staff, students, or other members of the public while on, or adjacent to Owner's property except through jobsite meetings conducted by the Design Professional and the Owner or as otherwise determined by the Owner.

2. Contractor's personnel shall remain in their designated work areas. Communications with any non-project related persons on or near the site shall be through Project Superintendent.

3. No firearms or other types of weapons, of any sort are allowed on site. If member of the Contractor's workforce is found to be in possession of a firearm, of any kind, they

will be directed to leave immediately and will not be allowed to return. This includes firearms found in company or private vehicles, tool boxes, or brought on site in any other manner;

4. Smoking is prohibited on any occupied school campus. Smoking shall be limited to designated areas on a new, or un-occupied, site, if allowed in advance by Owner.

5. There shall be no use, possession, sale, and distribution of alcohol, drugs, or other controlled substances on its premises. The Contractor shall also prohibit the presence of an individual with such substances in their body from the workplace.

6. Any employee who is found in violation of requirements of these restrictions, or of any others within the Contract Documents, or who refuses to permit inspection shall be barred from the Project site at the discretion of the Owner in accordance with Subparagraph 13.8.4.1 of the General Conditions.

7. Comply with Owner's procedures for individual visual identification of Contractor's workforce on school site and in occupied areas. If identification badges are required make sure that they are worn at all times on site during the work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

01 3100
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. General requirements for coordination of Work.

2. Field engineering.

3. Requirements for participation in and administration of:

   a. Pre-construction conference.

   b. Progress meetings.

   c. Pre-installation conferences.

4. Progress schedule.

5. [ ]

B. Related documents and sections:

1. Document 00 0700 – General Conditions

   a. Paragraph 3.10 – Contractor's Schedules, Logs, Meetings, and Reports

2. Document 00 2113 - Instructions to Bidders: Pre-Bid Conference.

3. Section 01 1000 - Summary: Work by others.

4. Section 01 4000 – Quality Requirements: Coordination with Owner's project roof observer.

5. Section 01 1500 – Temporary Facilities and Controls

1.2 SUBMITTALS

A. Provide in accordance with Section 01 3300 - Submittal Procedures:

1. Site mobilization plan (See Section 01 1500 and Paragraph 3.13 in Document 00 0700 – General Conditions)..

a. Submit for Owner's approval prior to start of Work.

b. Update as necessary during progress of Work to adjust for changed conditions and as approved by Owner.

2. Coordination drawings:

b. Provide where coordination is critical for installation of components fabricated off site and where space is limited and maximum utilization of space is required.

c. Show relationship and integration of components and construction entities, required installation sequence, dimensions, and tolerances.

B. Staff assignment list and emergency contact information:

1. Prior to Pre-Construction Conference, provide to Design Professional a list of Contractor's principal staff assignments for Project. Indicate names, duties and responsibilities, addresses, emergency contact information and telephone numbers. Include resume of proposed Project Superintendent showing prior experience as superintendent on projects of similar size and scope. Naming more than one Project Superintendent to be in charge depending which is present at the site will not be acceptable. Design Professional shall be informed in writing prior to any proposed change in Project Superintendent during the progress of the Work. See also Paragraph 3.9 of the General Conditions.

2. Distribute contact information and post in field office coordination.

1.3 GENERAL COORDINATION REQUIREMENTS (See Article 3 in General Conditions).

A. Scheduling: Coordinate scheduling, submittals and work of various specification sections to ensure efficient and orderly sequence of installation of interdependent construction elements. Ensure that work of one specification section is not installed in such a manner as to limit, preclude, or restrict work of another section.

B. Coordinate completion and clean up of work of separate specification sections in preparation for final inspection specified in Section 01 7700 - Closeout Procedures.

C. After acceptance of Work, coordinate access to facility for required maintenance, monitoring, adjusting, and correcting deficiencies to manner to minimize disruption of Owner's activities.

D. Coordinate with Owner regarding work of Owner's forces and separate contractors. Ensure coordination of such work with Project Schedule.

1.4 FIELD ENGINEERING

A. Existing control datum for field engineering is indicated on Drawings.

B. Locate or establish survey control and reference points prior to starting site construction. Protect points during construction and record locations with horizontal and vertical data on Project Record Documents in accordance with Section 01 7800 - Closeout Submittals.

C. Prior to start of construction, verify location of control points and layout information on Drawings relative to property, setback, and easement lines.

D. Provide competent field engineering services. Establish elevations, lines, and levels utilizing recognized engineering survey practices. Periodically verify layouts.

E. Promptly replace dislocated control and reference points based on original survey control.

1.5 PROJECT COMMUNICATIONS SYSTEM (CIMS)

A. Utilize PSFA – CIMS for project communications. Refer to Document 00 7200 – General Conditions. Subparagraph 4.2.4.3.

B. Arrange with Owner as necessary to obtain PSFA - CIMS training for Contractor's principal staff on Project.

1.6 PRE-CONSTRUCTION CONFERENCE

A. Conference will be held after execution of the Agreement and prior to issuance of Notice To Proceed. Time and location will be coordinated with Owner and Design Professional. Meet at the site or other location convenient to all parties.

B. Attendance: Owner, school principal or other designated school representative, Design Professional, consultants, Contractor, and major subcontractors and suppliers.

C. Agenda:

1. Distribution of Contract Documents.

2. Designation and description of roles of responsible personnel representing Owner, Contractor, and Design Professional.

3. Status of permits and Notice to Proceed.

4. Site mobilization plan, use of premises by Contractor and Owner, Owner's

occupancy requirements, work hours, regular school schedule and special school schedule considerations.

5. Construction schedule, work sequence, and delivery priorities.

6. Weekly job meeting schedule.

7. Owner's right to salvage.

8. Presentation and discussion of site mobilization plan specified in Section 01 50 00 - Temporary Facilities and Controls.

9. Construction facilities, controls, and temporary utilities.

10. Procedures for processing submittals, applications for payment, substitution requests, field decisions and communications, and contract modifications.

11. PSFA - CIMS

12. Wage rates.

13. Security, Contractor's use of keys, safety, first aid, and housekeeping.

14. Behavior of work force on school site.

15. Procedures for spotting of utility lines [by Owner's forces].

16. Procedures for maintaining project record documents.

17. Requirements for start up of equipment.

18. Testing and inspection procedures.

19. Introduce Owner's separate contractors and consultants, [including PAC and roofing observer].

20. Inspection and acceptance of equipment put into service during construction.

21. Contract closeout procedures.

22. Emergency contact information.

23. Other pertinent items.

1.7 PROGRESS MEETINGS

A. Refer to Document 00 7200 General Conditions – Paragraph 3.10 for requirements.

.

B. Progress Meetings shall include review of Owner's separate contractor issues including the PAC Design Issues Log and Installation Issues Log with actions required, those individuals assigned for resolution, and expected resolution date.

1.8 PRE-INSTALLATION CONFERENCES

A. When required by an individual specification section, convene a pre-installation conference at site.

B. Require attendance of entities directly concerned with item of work.

C. Notify Design Professional 4 days in advance of meeting.

D. Prepare agenda and preside at conference. Record minutes, and distribute copies within 3 days to participants and Design Professional.

E. At meeting, review conditions of installation, preparation and installation procedures, and coordination with related work.

1.9 PROGRESS SCHEDULE

A. See Paragraph 3.10 in the General Conditions for requirements.

1. Indicate complete sequence of roofing activity in compliance with roofing production rates required by Contract.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Verify utility requirements and characteristics of equipment are compatible with facility utilities. Coordinate work of various specification sections having interdependent requirements for installing, connecting to, and placing in service such equipment.

PART 3 - EXECUTION

3.1 COORDINATION WITH INSTALLED CONSTRUCTION

A. Cutting and patching of installed construction shall be accomplished in accordance with Section 01 7000 - Execution Requirements.

END OF SECTION

01 3301
SUBMITTAL TRANSMITTAL FORM

The undersigned, as Contractor for the above project, submits the following and certifies that submittal has been reviewed and it conforms with requirements of Contract Documents except as noted.

SUBMITTAL NUMBER:_____ _____RESUBMITTAL: YES NO

DATE:_____NUMBER OF COPIES SUBMITTED: _____

DESCRIPTION:_____

ASSOCIATED SPECIFICATION SECTION NO:_____

REFERENCED DRAWING SHEET NO:_____

NAME OF SUBCONTRACTOR/SUPPLIER:_____

_____

SUBMITTED
BY:_____DATE:_____

SIGNATURE: _____

- *

DATE RECEIVED BY DESIGN PROFESSIONAL:_____

DISTRIBUTED TO:
OWNER CIVIL LANDSCAPE STRUCTURAL MECHANICAL ELECTRICAL
OTHER: _____
* *

ACTION:	No exceptions taken	[ ]
	Make corrections noted	[ ]
	Revise and resubmit	[ ]
	Rejected	[ ]

COMMENTS:

_____

Submittal review corrections and comments by Design Professional do not relieve Contractor from compliance with Contract Documents. Review is only for general conformance with design concept and general compliance with information given in Contract Documents. Contractor is responsible for verifying dimensions, selecting fabrication processes and techniques of construction, coordination with other trades, and performing work in safe and satisfactory manner.

REVIEWED BY:_____DATE:_____

____

SIGNATURE: _____

01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Site mobilization plan.

2. Temporary services: Electrical, lighting, heating, ventilating, water, telephone, and facsimile.

3. Fencing, barriers, and other temporary controls.

4. Temporary erosion and sediment controls including NPDES-SWPPP requirements.

5. Construction facilities: Temporary buildings, sanitary facilities, access, and parking.

6. Protection of Work and existing facilities.

7. Project sign.

8. Bulletin board.

B. Related documents and sections:

1. Document 00 7200 - General Conditions:

a. Paragraph 3.13: Contractor's use of site..

b. Paragraph 3.15: Contractor's responsibility for cleaning.

c. Article 10: Safety precautions and programs.

2. Section 01 3100: Project Management and Coordination

2. Section 01 7000 - Execution Requirements: Progress cleaning.

1.2 REFERENCES

A. NFPA 10 - Standard for Portable Fire Extinguishers.

B. NFPA 241 - Safeguarding Building Construction, Alterations, and Demolition Operations.

1.3 SITE MOBILIZATION PLAN

A. Coordinate locations for temporary facilities with Design Professional and Owner.

B. Based upon information indicated on Drawings, prepare site mobilization plan in accordance with requirements for site logistics plan in Subparagraph 3.13.14 in Document 00 7200 General Conditions.

C. Present 3 copies of plan at Pre-Construction Conference in accordance with Section 01 3100 - Project Management and Coordination.

D. Prior to mobilization, revise and resubmit to Design Professional site mobilization plan incorporating final revisions made at Pre-Construction Conference and approved by Design Professional and Owner.

1.4 TEMPORARY ELECTRICITY

A. Connect to existing power source at site. [Do not disrupt Owner's need for continuous service.] Provide service disconnect and overcurrent protection. Provide temporary feeder as required. [Owner will pay cost of electricity used. Exercise measures to conserve power.] [Provide separate metering and reimburse Owner for cost of energy used.]

B. Provide power outlets for construction operations with branch wiring, distribution boxes, and flexible power cords as required.

C. Permanent convenience receptacles may be utilized during construction.

1.5 TEMPORARY LIGHTING

A. Provide lighting for construction operations in accordance with Paragraph 3.13 in the General Conditions. Lighting levels shall be appropriate for type and difficulty of work. Use these minimums as guidelines:

B. After dark, provide security lighting for interior and exterior work and storage areas.

C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

D. Maintain lighting and provide routine repairs.

E. Permanent building lighting may be utilized during construction. Document existing lighting system conditions at start of Work and submit report to Design Professional

for approval before Work begins. Re-lamp, replace, or repair existing fixtures at end of job to return lighting to conditions documented prior to commencement of Work.

1.6 TEMPORARY HEATING AND VENTILATING

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gases.

B. Provide temporary fan units to maintain clean air for construction operations.

C. Maintain minimum ambient temperature of 50 degrees F in interior areas where construction is in progress.

1.7 TEMPORARY WATER SERVICE

A. Provide, maintain, and pay for suitable quality water service required for construction operations.

B. Connect to existing water source at site for construction operations. Provide separate metering and reimburse Owner for cost of water used.

1.8 COMMUNICATIONS

A. Provide, maintain, and pay for telephone service to field office. School telephones will not be available to Contractor’s workforce unless for an emergency.

B. Provide, maintain, and pay for facsimile service to field office.

1.9 FENCING

A. Provide temporary fencing around new building and materials storage site. Completely separate construction from existing facilities, student pathways a nd related exterior areas.

B. Type: Panelized 6 foot high commercial grade chain link fence. Equip with vehicular and pedestrian gates with locks.

1.10 BARRIERS AND PROTECTION

A. Security: Provide to protect Work from unauthorized entry, vandalism, and theft. Coordinate with Owner's security program and personnel.

B. Barriers: Provide to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from construction operations.

1.11 PROTECTION OF EXISTING AND INSTALLED WORK

A. Protect installed Work. Control activity in immediate work area.

B. Provide temporary and removable protection for installed products.

C. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, and movement of heavy objects with durable sheet materials.

D. Prohibit traffic and storage on roof surfaces and landscaped areas.

1.12 TEMPORARY FIRE PROTECTION

A. Install and maintain temporary fire protection components. Establish and follow procedures to protect against fire losses. Comply with NFPA 241.

B. Fire extinguishers: Provide hand carried, portable, UL rated fire extinguishers of type and size recommended by NFPA 10 for building exposure conditions. Place in accessible, convenient locations in clear view with a minimum of one extinguisher per floor.

C. Access: Maintain unobstructed access to fire hydrants, water supply, fire extinguishers, stairways, and access routes for fighting fires.

D. Heating devices: Exercise care and monitor use of temporary heaters to minimize fire risk.

E. Store combustible materials in fire-safe containers.

F. Volatile products: Do not store paints, varnishes, paint removers, solvents, adhesives, cleaning rags, and other volatile products in building. Take precautionary measures to prevent fire hazards and spontaneous combustion.

G. Cutting and welding: Approve in advance use of open flame cutting, welding, and soldering equipment. Ensure that safe conditions exist before granting approval.

1.13 TEMPORARY EROSION AND SEDIMENT CONTROLS

A. Prevent temporary collection of sediment on sidewalks, parking lots, streets and driveways. Clean such surfaces promptly if such conditions exist due to the Work.

B. National Pollution Discharge Elimination System (NPDES) permit and procedures for preparing a Storm Water Pollution Prevention Plan (SWPPP).

1. Contractor shall determine whether Project requires an EPA NPDES storm water discharge permit in conformance with all regulations governing the disturbance of construction site areas.

2. If storm water discharge permit is required, then both Contractor and Owner shall be designated as separate permittees and the Contractor shall do the following:

    a. Prepare a Storm Water Pollution Prevention Plan (SWPPP) document as necessary to ensure compliance with any and all NPDES construction storm water permitting plan requirements.

    b. Prepare and submit all EPA documentation and forms required of Contractor for permit.

    c. Assist Owner with preparation and submittal of all EPA documentation and forms specifically required of Owner for permit. Provide all required project-related information to Owner as necessary.

    d. At Final Completion of Project, Contractor shall complete and submit documentation to EPA as required and to Design Professional as part of Project Closeout documentation package. See Section 01 78 00 of Specifications.

3. If a storm water discharge permit is not required, then the Contractor shall submit to the Design Professional and Owner prior to mobilization a signed statement containing specific written justification why such permit is not required on the Project.

4. The Contractor shall manage the discharge of storm water from the site in accordance with NPDES permit and the provisions of the SWPPP. The Contractor shall be responsible for installing and maintaining any necessary storm water control measures in accordance with control device manufacturer's recommendations and the provisions of the SWPPP. The Contractor shall monitor the suitability of the designated control measures and management practices to achieve the storm water quality provisions of the NPDES permit, and shall make any necessary changes to the controls and practices in order to meet the permit requirements. The Contractor shall be responsible for updating the SWPPP and maintaining all records related to the SWPPP. A copy of the approved SWPPP shall be kept on the jobsite at all times. Contractor shall be liable for all fines and construction delays resulting from any governmental agency enforcement action due to failure by the Contractor to satisfy the above requirements.

5. Contractor is responsible for payment of all applicable fees and permits related to SWPPP approval process and for full cost of control measures for the Project.

1.14 ACCESS

A. Refer to Drawings for location of acceptable access routes and site entrances. Protect existing curbs and walks traversed by construction vehicles from damage.

B. Identify access to Contractor's work and office area with appropriate signs so that delivery personnel and others may contact Contractor. School office shall not be used as destination for Contractor's deliveries.

C. Prevent unauthorized personnel from accessing school building or site through Contractor's work area.

1.15 FIELD FACILITIES

A. [Provide and maintain a weathertight, fully equipped field office.] [Provide work station for use of Design Professional during field inspections.]

B. Provide space for project meetings with table and chairs to accommodate 6 persons.

C. Provide and maintain storage sheds and other facilities as required.

D. Arrange for parking for work force in manner approved by Owner. [Do not limit Owner's requirements for parking.]

1.16 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required sanitary facilities for work force.

B. Existing toilet facilities shall not be used by work force.

1.17 DRINKING WATER

A. Provide independent source of drinking water for workforce. School drinking fountains shall not be routinely available for Contractor's use.

1.18 BULLETIN BOARD

A. Furnish and maintain bulletin board adjacent to field office. Display the following throughout construction period:

1. State wage rates.
2. Safety requirements.
3. Official notices and announcements.

1.19 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary above grade and buried utilities, equipment, facilities, and excess materials prior to final inspection.

B. Clean and repair damage caused by installation of temporary facilities.

END OF SECTION

01 6300
PRODUCT SUBSTITUTION PROCEDURES

******* The Design Professional shall include the following requirements as noted and complete this section with information for the specific project in coordination with PSFA Section 00 7200 - General Conditions*******

*******Design Professional shall comply with Section 13-1-164 NMSA 1978 of the Procurement Code and related provisions when designating that no substitutions are allowed on specified products.*******

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for product options and substitution procedures.

B. Related documents and sections:

1. Section 00 7200 General Conditions:

a. Paragraph 3.4 – Labor and Materials
b. [ ]

1.2 SUBSTITUTIONS

A. During bidding, Design Professional will consider written requests from qualified bidders, subcontractors, and manufacturers for substitutions.

2. Submit separate request for each substitution with Form 01 6301 - Prior Approval Substitution Request Form. Copy of form follows this Section.

3. Submit substitution request in accordance with procedures and time limitations stated in Document 00 2113 - Instructions to Bidders.

4. Substitutions approved during bidding will be listed in Addenda.

B. After Contract award:

1. After signing of Agreement Between Owner and Contractor, Design Professional will consider written requests for substitutions in accordance with Subparagraph 3.4.2 of the General Conditions.

2. Submit separate request for each substitution with Form 01 6302 - Contractor Substitution Request Form. Copy of form follows this Section. Provide data documenting need for substitution and substantiating compliance of proposed product with Contract Documents. Include proposed changes to contract amount and time if substitution is accepted.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION - FORMS FOLLOW

01 6301
PRIOR APPROVAL SUBSTITUTION REQUEST FORM

The undersigned, qualified bidder, subcontractor, manufacturer, or supplier requests that the following product be accepted for use in the Project

PRODUCT: _____

MODEL NO.: _____

MANUFACTURER: _____

ADDRESS: _____

The above product would be used in lieu of

PRODUCT: _____

specified in

SECTION: _____

PARAGRAPH: _____

Attached are the following circled items:

1. Product description including specifications, performance and test data, and applicable reference standards.
2. Drawings.
3. Photographs.
4. Samples.
5. Tabulated comparison with specified product.
6. For items requiring color selections, full range of manufacturer's color samples.
7. Other: _____

_____

_____

_____

_____

The undersigned certifies that the following statements are correct. Explanations for all items which are **not** true are attached.

1. Proposed substitution has been thoroughly investigated and function, appearance, and quality meet or exceed that of specified product. TRUE FALSE

2. Same warranty will be provided for substitution as for specified product. TRUE FALSE

3. **No** aspect of Project will require re-design. TRUE FALSE

4. Use of substitution will **not** adversely affect:

   a. Dimensions shown on Drawings. TRUE FALSE

   b. Construction schedule and date of completion. TRUE FALSE

   c. Work of other trades. TRUE FALSE

5. Maintenance service and replacement parts for proposed substitution will be readily available in [Las Cruces] [El Paso] [Roswell] [Albuquerque] [Southern New Mexico] [Northern New Mexico] [_____] area. TRUE FALSE

6. Proposed substitution does **not** contain asbestos in any form. TRUE FALSE

Submitted By:

COMPANY:_____
ADDRESS: _____

TELEPHONE NUMBER: _____

NAME OF PERSON SUBMITTING REQUEST: _____

TITLE: _____

DATE: _____

END OF SECTION

01 6302
CONTRACTOR SUBSTITUTION REQUEST FORM

The undersigned, as Contractor for the above Project, requests that the following product be accepted for use in the Project

PRODUCT: _____

MODEL NO.: _____

MANUFACTURER: _____

ADDRESS: _____

The above product would be used in lieu of

PRODUCT: _____

specified in

SECTION: _____

PARAGRAPH: _____

Reason for substitution request: _____

_____

Attached are the following circled items:

1. Product description including specifications, performance and test data, and applicable reference standards.
2. Drawings.
3. Photographs.
4. Samples.
5. Tabulated comparison with specified product.
6. For items requiring color selections, full range of manufacturer's color samples.
7. Documentation of reason for request.
8. Cost data for comparing proposed substitution with specified product.

9. Other: _____

The undersigned certifies that the following statements are correct. Explanations for all items which are **not** true are attached.

1. Proposed substitution has been thoroughly investigated and function, appearance, and quality meet or exceed that of specified product. TRUE FALSE

2. Same warranty will be provided for substitution as for specified product. TRUE FALSE

3. **No** aspect of Project will require re-design. TRUE FALSE

4. Use of substitution will **not** adversely affect:

   a. Dimensions shown on Drawings. TRUE FALSE

   b. Construction schedule and date of completion. TRUE FALSE

   c. Work of other trades. TRUE FALSE

5. Maintenance service and replacement parts for proposed substitution will be readily available in [Las Cruces] [El Paso] [Roswell] [Albuquerque] [Southern New Mexico] [Northern New Mexico] [_____] area. TRUE FALSE

6. Proposed substitution does **not** contain asbestos in any form. TRUE FALSE

7. All changes to Contract Sum related to use of proposed substitution are included in price listed below. Contractor waives claims for additional costs related to acceptance of substitution which may subsequently become apparent. TRUE FALSE

8. Costs of modifying project design caused by use of proposed substitution which subsequently become apparent will be paid for by Contractor. TRUE FALSE

If substitution request is accepted:

Contract Sum will be [decreased] [increased] by $ _____

Contract Time will be [decreased] [increased] by _____ calendar days.

Submitted By:

CONTRACTOR: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

NAME OF PERSON SUBMITTING REQUEST: _____

TITLE: _____

DATE: _____

END OF SECTION

01 7000
EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Basic requirements for examination, preparation and installation.

2. Requirements and limitations for cutting and patching incidental to work, including excavation and backfilling, and as required making several parts fit together.

3. Progress cleaning.

B. Related documents and sections:

1. General Conditions:

a. Paragraph 3.13: Contractor's responsibilities regarding use of the site..

b. Paragraph 3.14: Contractor's responsibilities regarding cutting and patching operations.

c. Article 12: Uncovering and correction of work.

2. Section 01 5000 - Temporary Facilities and Controls: Temporary barriers and enclosures.

3. Section 01 7700 - Closeout Procedures: Final cleaning.

[4. Section 02 4120 - Selective Demolition: Minor demolition required to accommodate new construction and renovation.]

[3. Section 07 9000 - Joint Protection: Sealing of conduits, piping, and other items penetrating structure.]

1.2 LOCATION OF UNDERGROUND UTILITIES

A. The Contractor shall arrange for all spotting of lines by utility companies in advance of any excavation work.

B. The Contractor shall arrange for spotting of lines by Owner's forces in advance of any excavation work on the school site. Procedures for arranging for line spots and obtaining clearance prior to excavation shall be strictly adhered to. Owner's procedures are as follows:

1. [_____]

2. [_____]

3. [_____]

PART 2 - PRODUCTS

2.1 MATERIALS

A. Patching and replacement materials: Those used for original installation.

B. Product substitutions: For any proposed change in patching materials, submit request for substitution in accordance with Section 01 6300 - Product Substitution Procedures.

PART 3 - EXECUTION

3.1 ROOF PENETRATIONS

A. New roofing:

1. Coordinate, locate and schedule roof penetrations prior to installation of new roof system.

2. Coordinate roof penetrations such that installation does not void roof warranty.

END OF SECTION

SECTION 01 7700
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Closeout procedures.

2. Final cleaning.

3. Final inspection.

4. Inspection held immediately prior to end of one year correction period.

B. Related documents and sections:

1. Document 00 7200 - General Conditions of the Contract,

   a. Paragraph 9.8: Substantial Completion.

   b. Paragraph 9.9: Partial occupancy.

   c. Paragraph 9.10: Closeout Requirements

   d. Paragraph 9.11: Final completion and final payment.

   e. Subparagraph 12.2.2.1: One year correction period for Contractor to correct defective work.
   f. Paragraph 3.13: Use of site.

2. Section 01 7000 - Execution Requirements: Progress cleaning.

3. Section 01 7500 – Starting and Adjusting: Starting and adjusting items of equipment and complete systems.

4. Section 01 7800 - Closeout Submittals: Submittal of project record documents, operation and maintenance manuals, warranties, certificates of inspection, extra materials, and keys.

5. Section 01 7900 – Demonstration and Training: Demonstrations and training for Owner's personnel.

1.2 SUBSTANTIAL COMPLETION PROCEDURES

A. Prior to or in conjunction with submission of Contractor's request for Substantial Completion, submit the items specified in Section 01 7800 - Closeout Procedures:

B. Comply with Document 00 7200 - General Conditions of the Contract, Paragraph 9.8 for issuance of Certificate of Substantial Completion.

1.3 FINAL COMPLETION PROCEDURES

A. Follow procedures as outlined in Article 9 of the General Conditions.

1.4 FINAL CLEANING

A. Execute final cleaning prior to final inspection by methods and with materials and equipment suitable for commercial/institutional building maintenance. See Paragraph 3.13 – General Conditions.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 7800
CLOSEOUT SUBMITTALS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes procedures for preparing and submitting closeout submittals:

1. Project Record Documents.
2. Operation and maintenance manuals and data.
3. Warranties.
4. Insurance information.
5. Certificates of inspection and compliance.
6. Maintenance tools.
7. Extra materials.
8. Keys.
9. [_____]

B. Related documents and sections:

1. Document 00 7200 - General Conditions of the Contract:
    a. Paragraph 3.5: Contractor's warranty that Work is of good quality and free from defects and conforms to Contract Documents.
    b. Subparagraph 9.9.1: Commencement of warranties and correction period.
    c. Subparagraph 9.10.1: Closeout requirements
    d. Paragraph 9.11: Affidavits and Certificates required before Final Payment
    e. Subparagraph 12.2.2.1: One year correction period for Contractor to correct defective work.

2. Section 01 3300 - Submittal Procedures: Submittal of shop drawings, product data, samples, installation instruction, reports and other submittals during construction prior to closeout.

3 Section 01 7500 – Starting and Adjusting: Starting and adjusting items of equipment and complete systems.

4 Section 01 7500 – Starting and Adjusting: Starting and adjusting items of equipment and complete systems.

5 Section 01 7700 – Closeout Procedures: Requirements for achieving Substantial Completion and Final Completion.

6 Section 01 7801 – Equipment Inventory and Roofing Data Collection: Requirements for completing equipment inventory and roofing data submittals.

7 Section 01 9310 – 3-Year Extended Service & Maintenance: Directory of service personnel and contact information for Owner's reference; and fully-executed copy of 3-year extended warranty.

1.2 OPERATION AND MAINTENANCE DATA

A. Provide operation and maintenance data for:

1. Electrical equipment, systems, and controls specified in Division 26, 27, and 28.

2. Other equipment and systems for which operation and maintenance data is requested in individual specification sections.

B. Provide written sequence of operations for each automated building system, including those related to the following:

1. Life safety system(s).

2. Electrical system(s).

3. Mechanical system(s).

4. Other automated building systems and components.

C. Submission:

1. Submit data to Design Professional in one or more binders.

2. Submit for review one draft copy 30 days prior to need date or as otherwise specified. This copy will be returned after review with Design Professional's comments. Revise content as required.

3. Once approved, submit copies of final operation and maintenance manuals as follows:

   c. Tow (2) hard copy(ies) and one electronic disk(s) of entire manual to District.

   b. One (1) electronic disk of entire manual to PSFA.

4. All manuals shall be submitted prior to or in conjunction with Contractor's request for Substantial Completion and prior to demonstration and training session.

D. Contents:

1. Appropriate design criteria.

2. Equipment parts list.

3. Equipment inventory data (on Owner-provided electronic forms) and parts lists.

4. Roofing data (on Owner-provided electronic forms).

5. Operating instructions.

6. Maintenance instruction for equipment and finishes.

7. Shop drawings and product data.

8. Written sequence of operations for each automated building system [including those related to the following:]

   a. Life safety system(s).
   b. Electrical system(s).

9. Copies of warranties.

10. Directory listings

11. Other material and information as indicated in individual specification sections and as necessary for operation and maintenance by Owner's personnel.

E. Form:

1. Hard copies of manuals shall be 8-1/2 x 11 inch text pages bound in three ring expansion binders with a hard durable plastic cover. All documents to be originals unless otherwise noted.

2. Prepare binder covers with printed subject title of manual, title of project, date, and volume number when multiple binders are required. Printing shall be on face and spine.

3. Internally subdivide the binder contents with divider sheets with typed tab titles under reinforced plastic tabs. Place dividers at beginning of each chapter, part, section, and appendix.

4. Provide a table of contents for each volume.

5. Provide directory listing as appropriate with names addresses, and telephone numbers of Design Professional, Contractor, subcontractors, equipment suppliers, and nearest service representatives. Provide emergency 24-hour service contact information for all subcontractors, service contractors and principal vendors.

6. Provide electronic data disk(s) with each manual including all data required to be submitted electronically. Include hard copy with each manual.

1.3 WARRANTIES

A. Provide duplicate notarized copies of special and extended warranties as required by individual specifications sections.

B. Submit warranties to Design Professional prior to or in conjunction with submission of Notice of Substantial Completion.

C. Execute and assemble warranties from subcontractors, suppliers, and manufacturers.

D. Provide Table of Contents and assemble in three ring binder with a hard durable plastic cover. Internally subdivide the binder contents with permanent page dividers, with tab titling clearly typed under reinforced laminated plastic tabs.

E. For items of work delayed beyond date of Substantial Completion, provide updated warranty submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.4 CERTIFICATES OF INSPECTION AND COMPLIANCE

A. For inspections throughout the construction period required by regulatory agencies, obtain and maintain certificates issued to show compliance.

B. Assemble certificates and any formal written evidence of regulatory compliance in three ring binder with table of contents and submit to Design Professional prior to or in conjunction with submission of Notice of Substantial Completion.

C. Certificate of Occupancy: Prior to Substantial Completion, obtain from authorities having jurisdiction Certificate of Occupancy. Submit with Notice for Substantial Completion.

1.5 INSURANCE INFORMATION

A. Submit prior to or in conjunction with submission of Contractor's request for Substantial Completion information regarding insurance including change over requirements and insurance extensions.

1.6 MAINTENANCE TOOLS

A. Provide any hardware and software tools (including software keys) that are proprietary to the mechanical systems and that may be necessary for service during their lifecycle.

B. Tools shall be as provided or recommended by manufacturers of installed equipment and systems. Types and sizes shall be as specifically required for installed products.

C. Tools shall be available and their use demonstrated during training sessions specified in Section 01 75 00 - Starting, Adjusting, and Demonstrating.

D. Prior to, or concurrent with Contractor's request for Substantial Completion, deliver maintenance tools to Owner's representative. Prepare inventory of tools provided and obtain receipt from Owner's representative.

1.7 EXTRA MATERIALS

A. Provide spare parts and maintenance materials in quantities specified in individual

sections.

B. Extra materials shall be produced by the same manufacturer of and compatible with the installed products.

C. Prior to or concurrent with submission of Notice of Substantial Completion deliver extra materials in unopened containers to Owner's representative at designated storage area at project site and place in location as directed. Obtain receipt from Owner's representative.

D. During one year correction period:

1. Extra materials may be used by Contractor to replace expendable and normally worn parts.

2. Extra materials used by Contractor for replacement of defective products shall be replaced at no additional cost to Owner.

1.8 KEYS

A. Prior to or in conjunction with submission of Contractor’s request for Substantial Completion, provide Owner with all keys for:

1. Door hardware locks after re-keying for entry door.

2. Access doors and panels.

3. Electrical panel boards and other equipment.

B. Provide a minimum of two keys for each lock.

C. Clearly label each key as to function and location of lock.

D. Obtain receipt from Owner's representative.

E. Prior to, or in conjunction with Final Completion, return all keys lent out by Owner to Contractor for access to existing spaces, gates, etc. for the Work. Obtain receipt from Owner.

1.9 MISCELLANEOUS SECURITY-RELATED MATERIALS AND COMPONENTS

A. Prior to or in conjunction with Final Completion and in accordance with Article 9.10.1 – General Conditions of the Contract, deliver to Owner and obtain receipt for:

1. All miscellaneous security-related items loaned to Contractor during the progress of the job, including:

    a. Owner-furnished security badges and passes

    b. Owner-furnished construction signs

2. All security software and codes.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 7900
DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes: Training of Owner's designated personnel in operation and maintenance of equipment and systems.

B. Related sections:

1. Section 01 7800 - Closeout Submittals: Operation and maintenance manuals.

1.2 SUBMITTALS

A. Provide in accordance with Section 01 3300 - Submittal Procedures:

1. List of names, resumes, and qualifications of personnel conducting training sessions.

2. Preliminary schedule listing times, dates, and outline showing organization and proposed contents of training sessions for approval by Design Professional and Owner.

3. Copies of training manuals and other materials to be used in training sessions for approval by Design Professional and Owner.

4. Provide Owner additional copy of audio visual material on the same media used in training sessions.

5. (3) Three copies of training manuals for future use in training by Owner.

6. Submit report within 1 week after completion of training that sessions have been satisfactorily completed. Give times, dates, list of persons trained, and summary of instructions.

1.3 QUALITY ASSURANCE

A. Personnel conducting demonstration and training sessions shall be knowledgeable of installation, operation, sequence of operations, and maintenance of specific project equipment and systems. Where appropriate manufacturer's representatives shall conduct training.

PART 2- PRODUCTS

2.1 TRAINING MATERIALS

A. Training manuals: Loose leaf notebook format with agenda and objectives of each lesson.

1. Manuals shall describe function, operation, sequence of operations, and maintenance of various items of equipment and be suitable for personnel with high school education.

2. Manuals shall be suitable for future training of Owner personnel by Owner staff.

3. Manuals shall useful reference for staff maintaining facility.

B. Visual aids: Provide charts, handouts, overhead projector slides, electronic presentations, and other visual aids required to make effective presentation and facilitate training.

1. Equipment needed for showing visual training aids shall be provided by Contractor.

2. Visual aids shall be suitable for use by Owner's staff to train additional personnel in the future.

PART 3 - EXECUTION

2.1 SCHEDULING

A. Schedule demonstration and training sessions after equipment and systems have been completely installed, startup completed, and adjustments made. Single demonstration and training session shall be conducted of all items prior to substantial completion. Schedule with Design Professional to accommodate Owner's representatives.

2.2 DEMONSTRATION AND TRAINING

A. Provide demonstration and training session to emphasize operation, sequence of operations, use, and maintenance of installed items and systems:

1. Mechanical systems (wood burning stove).

2. Electrical systems specified in Division 26, 27 and 28.

3. Other items and systems as designated by Design Professional or requested by Owner.

B. Conduct at project site using actual installed equipment and systems.

C. Owner shall be responsible for designating and notifying personnel to attend and ensuring attendance at scheduled sessions.

D. Have copies of operation and maintenance manuals specified in Section 01 7800 - Closeout Submittals available. Use as training aids. Include training on each of written sequence of operations contained in the Operations & Maintenance Manual.

E. Owner shall have right to record or video tape demonstration and training sessions.

END OF SECTION

SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Floors and slabs on grade.

C. Concrete foundation walls.

D. Concrete reinforcement.

E. Concrete curing.

1.02 REFERENCE STANDARDS

A. ACI CODE-318 - Building Code for Structural Concrete—Code Requirements and Commentary; 2025.

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-305 - Guide to Hot Weather Concreting; 2020.

F. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.

G. ACI PRC-308 - Curing of Concrete—Guide; 2026.

H. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).

I. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials and Commentary; 2010 (Reapproved 2015).

J. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2026.

L. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.

M. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2026.

N. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.

O. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2026.

P. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.

Q. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2025a.

R. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

S. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design.

1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.

D. Test Reports: Submit report for each test or series of tests specified.

1.04 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.

B. Follow recommendations of ACI PRC-305 when concreting during hot weather.

C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

PART 2 PRODUCTS

2.01 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.

2.02 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.

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.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type II - Moderate 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.

2.04 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.

2.05 CURING MATERIALS

A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.

2.06 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.

B. 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.

C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.

D. Normal Weight Concrete:
1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,500 pounds per square inch.
2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.

3. Water-Cement Ratio: Maximum 40 percent by weight.
4. Total Air Content: 5 percent, determined in accordance with ASTM C173/C173M.
5. Maximum Aggregate Size: 5/8 inch.

2.07 MIXING

A. 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

3.01 EXAMINATION

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

3.02 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.

B. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. 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.

3.04 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. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
1. Exposed Concrete Floors: 1/4 inch in 10 feet.
2. Under Seamless Resilient Flooring: 1/4 inch in 10 feet.
3. Under Carpeting: 1/4 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. 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.

3.07 CONCRETE FINISHING

A. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

B. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
1. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.08 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.

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 ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.09 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - 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. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cubic yards or less of each class of concrete placed.

F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

3.10 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.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Exposed timber structural framing.

1.02 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

B. PS 20 - American Softwood Lumber Standard; 2025.

1.03 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. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 EXPOSED DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings.

B. Surfacing: S4S.

C. Moisture Content: S-dry or MC19.

D. Rafter and Small Beam Framing (2 by 6 through 4 by 16):
   1. Species and Grades: As indicated on drawings for various locations.

2.03 ACCESSORIES

A. Metal and Finish of Fasteners:
   1. Untreated Wood: Hot-dip galvanized steel complying with ASTM A153/A153M Class D.

B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.02 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes.

E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.03 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for additional requirements.

END OF SECTION

SECTION 06 1219
STRUCTURAL INSULATED PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural insulated panels for walls and roofs.

1.02 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Fully dimensioned fabrication and installation details for structural insulated panels. Indicate dimensions, materials, connections and arrangement of joints. Include anchorage, size and type of fasteners, and accessories.
   1. Include calculations that indicate compliance with the applicable building code and the structural insulated panel manufacturer's requirements.
   2. Include seal of Professional Engineer registered in the State in which the Project is located on drawings and calculations.

1.03 QUALITY ASSURANCE

A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 STRUCTURAL INSULATED PANELS

A. Structural Insulated Panels: Provide structural insulated panels capable of withstanding design loads including dead load, live load, wind load and seismic load.

B. Structural Insulated Wall and Roof Panel: Cross Laminated Timber construction panel with rigid insulation
   1. Panel Size:.
   1. Overall Thickness: 2 inches, nominal.
   1. Basis of design - Timberage Systems
   2. Span Rating: 24/16, minimum.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine foundations, sills, framing and other surfaces to receive structural insulated panels. Verify conditions suitable for installation. Report unsatisfactory conditions to Architect. Do not proceed with structural insulated panel work until unsatisfactory conditions corrected.

3.02 INSTALLATION

A. Install structural insulated panels in accordance with manufacturer's instructions.
   1. Comply with manufacturer's written recommendation for number, size and placement of fasteners.
   2. Join structural insulated panel edges according to manufacturer's written recommendation.

B. Restrictions:
   1. Do not over cut oriented strand board or plywood face when field-cutting openings.
   2. Do not install electrical chases inside structural insulated panels.
   3. Do not install plumbing inside structural insulated panels without consulting manufacturer and obtaining written recommendations.
   4. Protect structural insulated panel core from solvents and solvent vapors.

C. Prevent damage to structural insulated panels.

D. When s

E. Install structural insulated panels plumb, square and true to line.
F. Seal panel joints with manufacturer's recommended sealant.
G. Repair or replace damaged panels.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Shop finishing.

1.02 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

C. Interior Woodwork Items:

1. Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine; prepare for paint finish.

2.02 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.03 SITE-FINISHING MATERIALS

A. See Sections 099000 - Paintings and Coatings.

2.04 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.03 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 07 2100
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Board insulation and integral vapor retarder at cavity wall construction and perimeter foundation wall.

B. Batt insulation and vapor retarder in exterior wall construction.

C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Installation requirements for board insulation over steep slope roof sheathing or roof structure.

1.03 DEFINITIONS

A. Mineral Fiber Material Composition: Insulation referred to as mineral fiber block, board, and blanket insulation is composed of fibers from mineral based substances such as rock, slag, or glass and processed from the molten state into fibrous form.

1. Based on type of insulation substance, the material will be referred to as a mineral fiber when having a rock or slag base, and glass fiber with a glass or silica sand base, also considered a mineral.
2. Insulation blankets are flexible units consisting of felted, bonded, or unbonded fibers formed into rolls or flat cut pieces referred to as batts; rolls are simply longer versions of batts.
3. For additional information about mineral fiber and the various classification types, refer to the following reference standards; ASTM C553, ASTM C612, ASTM C665, and ASTM C726.

1.04 REFERENCE STANDARDS

A. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications; 2024.

B. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.

C. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2014 (Reapproved 2019).

D. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2024.

E. ASTM C726 - Standard Specification for Mineral Wool Roof Insulation Board; 2024.

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. Insulation at Perimeter of Foundation: Extruded polystyrene (XPS) board.

B. Insulation Inside Prefabricated Wall Panels: Mineral fiber board.

2.02 FOAM BOARD INSULATION MATERIALS

A. Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces.
   1. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
   2. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
   3. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature.
   4. Type and Water Absorption: Type X, 0.3 percent by volume, maximum, by total immersion.

2.03 MINERAL FIBER BOARD INSULATION MATERIALS

A. Mineral Wool Block and Board Thermal Insulation: Complying with ASTM C612.
   1. Facing: None, unfaced.
   2. Flame Spread Index: 25 or less, when tested with facing, if any, in accordance with ASTM E84.
   3. Smoke Developed Index: 50 or less, when tested with facing, if any, in accordance with ASTM E84.
   4. Board Thickness: 1-1/2 inches.
   5. Board Edges: Square.
   6. Products:
      a. CertainTeed Corporation: www.certainteed.com/#sle.
      b. Johns Manville: www.jm.com/#sle.
      c. ROCKWOOL: www.rockwool.com/#sle.

2.04 MINERAL FIBER BLANKET INSULATION MATERIALS

A. Mineral Wool Blanket Thermal Insulation: Flexible or semi-rigid preformed insulation, complying with ASTM C665.
   1. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
   2. Products:
      a. Johns Manville; MinWool Sound Attenuation Fire Batts: www.jm.com/#sle.
      b. Nu-Wool; ECOCELL: https://nuwool.com/#sle.
      c. ROCKWOOL; COMFORTBATT: www.rockwool.com/#sle.
      d. Thermafiber, Inc; SAFB: www.thermafiber.com/#sle.

2.05 ACCESSORIES

A. Flashing Tape: Special reinforced film with high performance adhesive.
   1. Application: Window and door opening flashing tape.
   2. Width: As required for application.
   3. Primer: Tape manufacturer's recommended product.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

A. Install boards horizontally on foundation perimeter.

B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BOARD INSTALLATION AT CAVITY WALLS

A. Install boards horizontally on walls.

B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.04 BATT INSTALLATION

A. Install insulation and vapor retarder in accordance with manufacturer's instructions.

B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.

C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

3.05 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 2500
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water-resistive barriers.

1.02 RELATED REQUIREMENTS

A. Section 07 2100 - Thermal Insulation: Weather barrier installed in conjunction with batt insulation.

1.03 DEFINITIONS

A. Weather Barriers: Materials or assemblies forming water-resistive barriers, air barriers, vapor retarders, or combination of one or more assemblies.

B. Water-Resistive Barriers: Materials or assemblies installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly.

1.04 REFERENCE STANDARDS

A. AATCC Test Method 127 - Test Method for Water Resistance: Hydrostatic Pressure; 2017, with Editorial Revision (2019).

B. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

C. ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies; 2025.

D. ICC-ES AC148 - Acceptance Criteria for Flexible Flashing Materials; 2017, with Editorial Revision (2021).

PART 2 PRODUCTS

2.01 WATER-RESISTIVE BARRIERS

A. Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes.

B. Drainable, Water-Resistive Commercial Barrier Membrane: Nonwoven, polypropylene membrane with fiber-layer drainage plane.
   1. Thickness: 20 mils, 0.02 inch.
   2. Basis Weight: 3.8 oz/sq yd.
   3. Drainage Efficiency: 96.7 percent, when tested in accordance with ASTM E2273.
   4. Hydrostatic Pressure Resistance: Greater than 200 inches, when tested in accordance with AATCC Test Method 127.
   5. Water Vapor Permeance: 10 perms, when tested in accordance with ASTM E96/E96M, Procedure A.

2.02 ACCESSORIES

A. Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer.

B. Flashings and Sealants: As recommended by water-resistive barrier manufacturer for application.

C. Flexible Flashing: Self-adhering or mechanically attached flashing used for wall penetrations in accordance with ICC-ES AC148 requirements.

D. Flashing Tape: Special reinforced film with high-performance adhesive.
   1. Application: Window and door opening flashing tape.
   2. Width: As required for application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions comply with requirements of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's installation instructions.

B. Mechanically Fastened Sheets:
   1. Install sheets in shingle fashion to shed water; align horizontally.
   2. Overlap seams as recommended by manufacturer, 6 inches, minimum.
   3. Overlap at outside and inside corners as recommended by manufacturer, 12 inches, minimum.
   4. Install water-resistive barrier over jamb flashings.
   5. Install head flashings under water-resistive barrier.
   6. At framed openings with frames having nailing flanges, extend sheet into opening and over flanges; at head of opening, seal sheet over flange and flashing.

3.04 PROTECTION

A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

SECTION 07 4113
METAL ROOF PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal roof panel system of preformed steel panels.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Roof sheathing.

B. Section 07 4213 - Metal Wall Panels: Preformed wall panels.

C. Section 07 9200 - Joint Sealants: Sealing joints between metal roof panel system and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2025a.

C. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2025.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

E. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

F. ASTM E1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference; 2025.

G. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Summary of test results, indicating compliance with specified requirements.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Specimen warranty.

C. Shop Drawings: Include layouts of roof panels, details of edge and penetration conditions, spacing and type of connections, flashings, underlayments, and special conditions.
   1. Show work to be field-fabricated or field-assembled.

D. Verification Samples: For each roofing system specified, submit samples of minimum size 12 inches square, representing actual roofing metal, thickness, profile, color, and texture.

E. Test Reports: Indicate compliance of metal roofing system to specified requirements.

F. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section and with at least five years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 7419 - Construction Waste Management and Disposal for packaging waste requirements.

B. Store roofing panels on project site as recommended by manufacturer to minimize damage to panels prior to installation.

1.07 FIELD CONDITIONS

A. Do not install metal roof panels, eave protection membrane or underlayment when surface, ambient air, or wind chill temperatures are below 45 degrees F.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Finish Warranty: Provide 20-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in Owner's name and register with warrantor.

C. Special Warranty: Provide 5-year warranty for weathertightness of roofing system, including agreement to repair or replace metal roof panels that fail to keep out water commencing on the Date of Substantial Completion. Complete forms in Owner's name and register with warrantor.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Architectural Metal Roof Panel Manufacturers:
   1. Drexel Metals Inc; DMC 175S Profile: www.drexmet.com/#sle.
   2. MBCI, a Cornerstone Building Brands Company; LokSeam: www.mbci.com/#sle.
   3. MS Metal Sales, a Cornerstone Building Brands Company; 12" Vertical Standing Seamng : www.metalsales.com/#sle.
   4. Sheffield Metals International; SMI 1.75” SnapLock Standing Seam: www.sheffieldmetals.com/#sle.
   5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Metal Roof Panels: Provide complete roofing assemblies, including roof panels, clips, fasteners, connectors, and miscellaneous accessories, tested for compliance with the following minimum standards:
   1. Structural Design Criteria: Provide panel assemblies designed to safely support design loads at support spacing indicated, with deflection not to exceed L/180 of span length(L) when tested in accordance with ASTM E1592.
   2. Overall: Complete weathertight system tested and approved in accordance with ASTM E1592.
   3. Thermal Movement: Design system to accommodate without deformation anticipated thermal movement over ambient temperature range of 120 degrees F.

2.03 METAL ROOF PANELS

A. Metal Roof Panels: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.

B. Metal Panels: Factory-formed panels with factory-applied finish.
   1. Steel Panels:
      a. Aluminum-zinc alloy-coated steel complying with ASTM A792/A792M; minimum AZ50 coating.
      b. Steel Thickness: Minimum 24 gauge, .0230 inch.

2. Profile: Standing seam, with minimum 1-3/4-inch seam height; concealed fastener system lapped seam in standing seam profile.
3. Texture: Smooth, with intermediate ribs for added stiffness.
4. Width: Maximum panel coverage of 12 inches.

2.04 ATTACHMENT SYSTEM

A. Concealed System: Provide manufacturer's standard stainless steel or nylon-coated aluminum concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

2.05 SECONDARY FRAMING

A. Miscellaneous Secondary Framing: Wood furring/lattice to create ventilation and drainage as recommended by the manufacturer to acheive ventilation requirements.

2.06 FINISHES

A. Fluoropolymer Coil Coating System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, and at least 80 percent of coil coated metal surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss as selected by Architect from manufacturer’s standard line.
   1. Products:
      a. Arkema, Inc; Kynar 500: www.arkema.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.07 ACCESSORIES

A. Miscellaneous Sheet Metal Items: Provide flashings, trim, moldings, closure strips, caps, and equipment curbs of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.

B. Sealants:
   1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
   2. Concealed Sealant: Non-curing butyl sealant or tape sealant.

C. Underlayment: Self-adhering polymer modified asphalt sheet complying with ASTM D1970/D1970M, with strippable release film and top surface of woven polypropylene sheet.
   1. Sheet Thickness: 40 mils, 0.040 inch, minimum.
   2. Low Temperature Flexibility: Comply with ASTM D1970/D1970M.
   3. Water Vapor Permeance: 0.1 perm, maximum, when tested in accordance with ASTM E96/E96M using Desiccant Method (Method A).
   4. Functional Temperature Range: Minus 45 degrees F to 250 degrees F.
   5. Products:
      a. Certainteed Roofing; WinterGuard HT - High Temperature Waterproofing Underlayment: www.certainteed.com/#sle.
      b. Henry, a Carlisle Company; Blueskin PE200HT: www.henry.com/#sle.
      c. Polyglass USA, Inc; Polystick MTS Self-Adhered High Temperature Roof Underlayment: www.polyglass.us/#sle.
      d. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.

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

3.02 PREPARATION

A. Broom clean wood sheathing prior to installation of roofing system.

B. Coordinate roofing work with provisions for roof drainage, flashing, trim, penetrations, and other adjoining work to ensure that completed roof will be free of leaks.

C. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by metal roof panel manufacturer.

D. At locations where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

3.03 INSTALLATION

A. Overall: Install roofing system in accordance with approved shop drawings and metal roof panel manufacturer's instructions and recommendations, as applicable to specific project conditions; securely anchor components of roofing system in place allowing for thermal and structural movement.
   1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
   2. Minimize field cutting of panels. Where field cutting is required, use methods that will not distort panel profiles. Use of torches for field cutting is prohibited.

B. Accessories: Install necessary components that are required for complete roofing assembly, including flashings, trim, moldings, closure strips, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.

C. Roof Panels: Install metal roof panels in accordance with manufacturer's installation instructions, minimizing transverse joints except at junction with penetrations.
   1. Install sealant or sealant tape at end laps and side joints as recommended by metal roof panel manufacturer.

3.04 CLEANING

A. See Section 01 7000 - Execution and Closeout Requirements for additional requirements.

B. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.

3.05 PROTECTION

A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.

B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

END OF SECTION

SECTION 07 4213
METAL WALL PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured metal panels for exterior wall panels, with related flashings and accessory components.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wall panel substrate.

B. Section 07 2500 - Weather Barriers: Weather barrier under wall panels.

1.03 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2025a.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

D. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2025.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data - Wall System: Manufacturer's data sheets on each product to be used, including:
   1. Physical characteristics of components shown on shop drawings.
   2. Storage and handling requirements and recommendations.
   3. Installation instructions and recommendations.

C. Shop Drawings: Indicate dimensions, layout, joints, construction details, support clips, and methods of anchorage.

D. Samples: Submit two samples of wall panel and soffit panel, 12 inches by 12 inches in size illustrating finish color, sheen, and texture.

E. Test Reports: Submit test report verifying compliance with NFPA 285 for previously-tested exterior wall assembly.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in installing products specified in this section with minimum three years of documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.

B. Store prefinished material off the ground and protected from weather; prevent twisting, bending, or abrasion; provide ventilation; slope metal sheets to ensure proper drainage.

C. Prevent contact with materials that may cause discoloration or staining of products.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Finish Warranty: Provide 15-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in Owner's name and register with warrantor.

C. Special Warranty: Provide 2-year warranty covering water tightness and integrity of seals of metal wall panels. Complete forms in Owner's name and register with warrantor.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Wall Panels - Exposed Fasteners:
   1. MS Metal Sales, a Cornerstone Building Brands Company; 7/8 inch Corrugated Panel: www.metalsales.com/#sle.
   2. Taylor Metal Products; Classic 7/8 Corrugated: www.taylormetal.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 METAL WALL PANEL SYSTEM

A. Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.
   1. Provide exterior wall panels.
   2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
   3. Design Pressure: In accordance with applicable codes.
   4. Fire Performance: Tested in accordance with, and complying with acceptance criteria of NFPA 285.
   5. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
   6. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
   7. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
   8. Corners: Factory-fabricated in one continuous piece with minimum 2-inch returns.

B. Exterior Wall Panels:
   1. Profile: Vertical; style as indicated.
   2. Material: Precoated steel sheet, 24 gauge, 0.0276 inch minimum thickness.
   3. Panel Width: Manufacturers standard.
   4. Color: Dark Bronze.

C. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles.

D. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

E. Anchors: Galvanized steel.

2.03 MATERIALS

A. Precoated Steel Sheet: Aluminum-zinc alloy-coated steel sheet, ASTM A792/A792M, Commercial Steel (CS)) or Forming Steel (FS), with AZ50/AZM150 coating; continuous-coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

2.04 FINISHES

A. Fluoropolymer Coil Coating System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, and at least 80 percent of coil coated metal surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss as selected by Architect from manufacturer's standard line.
   1. Products:
      a. Arkema, Inc; Kynar 500: www.arkema.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.05 ACCESSORIES

A. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.

B. Field Touch-up Paint: As recommended by panel manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that building framing members are ready to receive panels.

B. Verify weather barrier, see Section 07 2500, has been installed over wall panel substrate; see Section 05 4000.

3.02 INSTALLATION

A. Install panels on walls in accordance with manufacturer's instructions.

B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint; allow to dry prior to wall panel installation.

3.03 TOLERANCES

A. Offset From True Alignment Between Adjacent Members Abutting or In Line: 1/16 inch, maximum.

B. Variation from Plane or Location As Indicated on Drawings: 1/4 inch, maximum.

3.04 CLEANING

A. Remove site cuttings from finish surfaces.

B. Remove protective material from wall panel surfaces.

C. Clean and wash prefinished surfaces with mild soap and water; rinse with clean water.

3.05 PROTECTION

A. Protect metal wall panels until completion of project.

B. Touch-up, repair, or replace damaged wall panels or accessories before Date of Substantial Completion.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, exterior penetrations, and other items indicated in Schedule.

B. Sealants for joints within sheet metal fabrications.

1.02 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

C. ASTM A755/A755M - Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products; 2018.

D. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement; 2025.

G. ICC (IPC) - International Plumbing Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.03 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch thick base metal.

2.02 PREFINISHED ALUMINUM SHEETS

A. Aluminum Sheet Substrates: ASTM B209/B209M, alloy and temper as recommended by manufacturer for application.

B. High-Performance Organic Coating System: Comply with AAMA 2604 for aluminum preparation, pretreatment, primer and finish coat system; provide thermally cured, 50-percent PVDF or silicone-modified polyester systems; tested for weathering for 5 years with 5 delta units color change maximum.

2.03 PREPAINTED, METALLIC-COATED STEEL SHEETS

A. Comply with ASTM A755/A755M.

B. Metallic-Coated Steel Sheet Substrates:
   1. Zinc-Coated, Galvanized, Steel Sheets: Commercial steel sheets, galvanized by hot-dip process; comply with ASTM A653/A653M; coating designation G90.

C. Substrate Preparation for Prefinishing: Clean and prepare substrate surfaces in accordance with coating manufacturer's recommendations for substrate type and application.

D. Washcoats or Backercoats: Provide washcoats or backercoats in accordance with organic coating manufacturer's recommendations.

E. Primer Coats: Provide basecoat primers in accordance with coating manufacturer's recommendations for substrate type, topcoat, and application.

F. High-Performance Organic Coating System: Provide thermally cured, 50-percent PVDF or silicone-modified polyester systems in accordance with AAMA 2604; tested for weathering for 5 years with 5 delta units maximum of color change.

2.04 GUTTERS AND DOWNSPOUTS

A. Gutters: SMACNA (ASMM) Rectangular profile.

B. Downspouts: Rectangular profile.

C. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 10 years in accordance with ICC (IPC).

D. Accessories: Profiled to suit gutters and downspouts.
   1. Anchorage Devices: In accordance with SMACNA (ASMM) requirements.

E. Seal metal joints.

2.05 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer Type: Zinc chromate.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

E. Asphalt Roof Cement: ASTM D4586/D4586M, Type I, asbestos-free.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 INSTALLATION

A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Secure gutters and downspouts in place with concealed fasteners.

3.03 SCHEDULE

A. Gutters and Downspouts:

B. Counterflashings at Roofing Terminations (over roofing base flashings):

C. Counterflashings at Curb-Mounted Roof Items, including skylights and roof hatches:

END OF SECTION

SECTION 07 9200
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 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 C834 - Standard Specification for Latex Sealants; 2017 (Reapproved 2023).

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.

F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

G. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2019 (Reapproved 2025).

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

I. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2024.

J. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

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

C. Field Quality Control Plan:
   1. Visual inspection of entire length of sealant joints.
   2. Nondestructive field adhesion testing of sealant joints, except interior acrylic latex sealants.
      a. For each different sealant and substrate combination, allow for one test every 12 inches in the first 10 linear feet of joint and one test every 24 inches thereafter.
      b. If any failures occur in the first 10 linear feet, continue testing at 12 inches intervals at no extra cost to Owner.

D. Field Adhesion Test Procedures:
   1. Allow sealants to fully cure as recommended by manufacturer before testing.
   2. Have a copy of the test method document available during tests.
   3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
   4. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.

E. Nondestructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Spot Method.

F. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or another applicable method as recommended by manufacturer.

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. Seal the following joints:
         1) Joints between door frames and window frames and adjacent construction.
         2) In wall and ceiling assemblies, visible gaps at electrical outlets, wiring devices, and piping penetrations.
   3. Do Not Seal:
      a. Intentional weep holes in masonry.
      b. Joints where sealant installation is specified in other sections.

B. Exterior Joints: Use nonsag nonstaining silicone sealant, unless otherwise indicated.
   1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, noncuring.

C. Interior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.
   1. Wall and Ceiling Joints in Nonwet Areas: Acrylic emulsion latex sealant.
   2. Wall and Ceiling Joints in Wet Areas: Nonsag polyurethane sealant for continuous liquid immersion.
   3. Floor Joints in Wet Areas: Self-leveling polyurethane traffic-grade sealant suitable for continuous liquid immersion.
   4. Joints between Tile in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.

D. Interior Wet Areas: Bathrooms, restrooms, kitchens, food service areas, and food processing 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.

B. Colors: To match adjacent construction.

2.03 NONSAG JOINT SEALANTS

A. Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M, A, G, and O; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
   5. Color: Match adjacent finished surfaces.

B. Silicone Sealant: ASTM C920, Grade NS, Uses M, A, G, and O; not expected to withstand continuous water immersion or traffic.

1. Movement Capability: Plus and minus 35 percent, minimum.
2. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
3. Color: Match adjacent finished surfaces.

C. 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.

D. 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 ____ percent, minimum.

E. Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multicomponent; 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.

F. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, nonbleeding, nonsagging; not intended for exterior use.

G. Noncuring Butyl Sealant: Solvent-based, single component, nonsag, nonskinning, nonhardening, nonbleeding; nonvapor permeable; intended for fully concealed applications.

2.04 SELF-LEVELING JOINT SEALANTS

A. Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
1. Movement Capability: Plus and minus 25 percent, minimum.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 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.

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.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for additional requirements.

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Non-Destructive Adhesion Testing: If there are any failures in first 100 linear feet, notify Architect immediately.

D. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

SECTION 08 1613
FIBERGLASS DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiberglass door frames.

B. Door hardware.

1.02 RELATED REQUIREMENTS

A. Section 09 9113 - Exterior Painting: Field painting.

B. Section 09 9123 - Interior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. AAMA 1304 - Voluntary Specification for Determining Forced Entry Resistance of Side-Hinged Door Systems; 2018.

B. ASTM D638 - Standard Test Method for Tensile Properties of Plastics; 2022.

C. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials; 2017.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

E. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

F. 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.

G. 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).

H. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes; 2023.

I. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights; 2023.

J. 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 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide manufacturer's standard details, installation instructions, hardware and anchor recommendations.

C. Selection Samples: Submit two complete sets of color chips, illustrating manufacturer's available finishes, colors, and textures.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum 5 years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified, with minimum 3 years of documented experience.

1.07 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.

1.08 WARRANTY

A. See Section 01 7800 - 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. Pultruded Fiberglass Reinforced Plastic (FRP) Doors:
   1. Special-Lite, Inc; AF-219-1: (#5704 Contemporary - White Maple) www.special-lite.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOOR AND FRAME ASSEMBLIES

A. Door and Frame Assemblies: Factory-fabricated, prepared and machined for hardware.
   1. Operation: Manual.
   2. Screw-Holding Capacity: Tested to 890 pounds, minimum.
   3. 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.
   4. Flammability: Self-extinguishing when tested in accordance with ASTM D635.
   5. Clearance Between Door and Frame: 1/8 inch, maximum.
   6. Clearance Between Bottom of Door and Finished Floor: 3/4 inch, maximum; not less than 1/4 inch clearance to threshold.

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: Manufacturer's standard core material for application indicated.
   4. Construction:
      a. Pultruded as single monolithic fiberglass reinforced plastic (FRP) panel.
   5. Face Sheet Texture: Wood grain.
   6. Door Panel Configuration: As indicated on drawings.
   7. Subframe and Reinforcements: Manufacturer's standard materials.
   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. 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.
3. Reinforcing: Provide manufacturer's standard reinforcing at hinge, strike, and closer locations.

2.04 PERFORMANCE REQUIREMENTS

A. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of side hinged doors.

B. Forced Entry Resistance: Pass in accordance with AAMA 1304 test method.

C. Air Leakage: Maximum 0.1 cfm/sf, when tested in accordance with ASTM E283/E283M at differential pressure of 6.24 psf across assembly.

D. Structural Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.

2.05 HARDWARE

A. Door Hardware: As indicated on drawings (Sheet A111).

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.

C. Protect adjacent work and finish surfaces from damage during installation.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.

B. Install exterior doors in accordance with ASTM E2112.

C. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.

D. Set thresholds in continuous bed of sealant.

E. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

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.

3.06 PROTECTION

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

END OF SECTION

SECTION 08 5413
FIBERGLASS WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Factory fabricated fiberglass windows with operating sash.

B. Glazed by factory.

C. Operating hardware.

D. Insect screens.

1.02 RELATED REQUIREMENTS

A. Section 07 2500 - Weather Barriers: Sealing frames to water-resistive barrier installed on adjacent construction.

B. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights; 2022, with Errata (2023).

B. 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.

C. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights; 2023.

D. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide component dimensions, anchors, fasteners, and glass.

C. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, installation requirements.

D. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
   1. Evidence of AAMA Certification.
   2. Evidence of WDMA Certification.
   3. Evidence of CSA Certification.
   4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

E. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

F. Executed warranty.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with minimum 5 years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified, with minimum 3 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

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

B. Maintain this minimum temperature during and after installation of sealants.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide 10-year manufacturer warranty covering finish, including degradation or failure due to chemical contact. Complete forms in Owner's name and register with manufacturer.

C. Manufacturer Warranty: Provide 5-year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same. Include coverage for degradation of vinyl color finish. Complete form in Owner's name and register with manufacturer.

D. Correct defective Work within a ten year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fiberglass Windows:
   1. Alpen High Performance Products; Zenith Series Windows: www.thinkalpen.com/#sle.
   2. Marvin; Elevate Windows: www.marvin.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 WINDOW UNITS

A. Fiberglass Windows: Hollow, tubular, multilayer-fiber-reinforced pultruded material; factory fabricated; related flashings, anchorage and attachment devices, comply with ENERGY STAR requirements.
   1. Configuration: As indicated on drawings.
   2. Product Type: HS - Horizontal sliding window in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.
   3. Interior Color: Dark Bronze.
   4. Exterior Color: Dark Bronze.
   5. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
   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. Thermal Movement: Design to accommodate thermal movement caused by 100 degrees F temperature change without buckling stress on glass, joint seal failure, damaging loads on structural elements, damaging loads on fasteners, reduction in performance or other detrimental effects.

2.03 PERFORMANCE REQUIREMENTS

A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:
   1. Performance Class (PC): LC.
   2. Performance Grade (PG): Equivalent to or greater than design wind load.

B. Design Pressure (DP): In accordance with applicable codes.

C. Center of Glass Solar Heat Gain Coefficient (SHGC): 0.30; comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.

2.04 COMPONENTS

A. Insect Screen Frame: Rolled aluminum frame of rectangular sections; fit with adjustable hardware; nominal size similar to operable glazed unit.

B. Insect Screens: Woven Fiberglass mesh; 18 x 16 mesh size.
   1. Color: Charcoal.

C. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

2.05 GLASS AND GLAZING MATERIALS

A. Glazing: Insulated double pane, annealed glass, clear, low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions.

2.06 HARDWARE

A. Horizontal Sliding Sash: Extruded PVC interfacing tracks, limit stops in head and sill track.
   1. Sash Lock: Cam lock and keeper.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify wall openings and adjoining water-resistive barrier seal materials are ready to receive work of this section.

3.02 INSTALLATION

A. Install windows in accordance with manufacturer's instructions.

B. Install windows in accordance with ASTM E2112.

C. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

D. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

E. Set sill members and sill flashing in continuous bead of sealant.

F. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

G. Install operating hardware.

3.03 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.04 CLEANING

A. See Section 01 7419 - Construction Waste Management and Disposal for additional requirements.

B. Remove protective material from pre-finished surfaces.

C. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

END OF SECTION

SECTION 09 9000
PAINTING AND COATING - SHERWIN-WILLIAMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Interior painting and coating systems.

C. Exterior painting and coating systems.

D. Scope:
   1. Finish surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
      a. Exterior:
         1) Metal, Miscellaneous: Iron, ornamental iron, structural iron and steel, ferrous metal.
         2) Wood: Panels and trim.
      b. Interior:
         1) Metal: Structural steel columns, joists, trusses, beams, miscellaneous and ornamental iron, structural iron, and ferrous metal.
         2) Wood: Walls, ceilings, doors, and trim.

1.02 RELATED REQUIREMENTS

A. Section 05 5000 - Metal Fabrications: Shop-primed items.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. SCAQMD 1113 - Architectural Coatings; 1977, with Amendment (2016).

C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

D. SSPC-SP 2 - Hand Tool Cleaning; 2024.

E. SSPC-SP 3 - Power Tool Cleaning; 2024.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Product characteristics.
   2. Surface preparation instructions and recommendations.
   3. Primer requirements and finish specification.
   4. Storage and handling requirements and recommendations.
   5. Application methods.
   6. Clean-up information.

C. Samples: Submit three paper draw down samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.

D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

1.05 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.06 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, product name, product code, color designation, VOC content, batch date, environmental handling, surface preparation, application, and use instructions.

C. Paint Materials: Store at a minimum of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.

B. Follow manufacturer's recommended procedures for producing the best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company products indicated; www.sherwin-williams.com/#sle.

2.02 PAINTINGS AND COATINGS

A. General:
   1. Provide factory-mixed coatings unless otherwise indicated.
   2. Do not reduce, thin, or dilute coatings or add materials to coatings unless specifically indicated in manufacturer's instructions.

B. Volatile Organic Compound (VOC) Content:
   1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
      b. SCAQMD 1113 Rule.

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

2.03 PAINT SYSTEMS - EXTERIOR

A. Wood: Panels and Trim.
   1. See exterior elevations for finishes.
      a. Semi-Gloss Finish:
         1) 1st Coat: Sherwin-Williams Latex Wood Primer, B42W8041: www.sherwin-williams.com/#sle.
            (a) 4 mils wet, 1.4 mils dry per coat.
         2) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Acrylic Semi-Gloss, B66-650 Series: www.sherwin-williams.com/#sle.
            (a) 2 to 4 mils dry per coat.

2.04 PAINT SYSTEMS - INTERIOR

A. See Interior Finish Schedule.

B. Metal: Structural steel columns, joists, trusses, beams, miscellaneous and ornamental iron, structural iron, and ferrous metal.
   1. Alkyd Systems, Water Based:
      a. Low Sheen Finish:
         1) 1st Coat: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series: www.sherwin-williams.com/#sle.
            (a) 5 mils wet, 2 mils dry per coat.
         2) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Water Based Alkyd Urethane Enamel Low Sheen, B53-1250 Series: www.sherwin-williams.com/#sle.

(a) 4 to 5 mils wet, 1.4 to 1.7 mils dry per coat.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

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

C. Remove mildew from impervious surfaces by scrubbing with solution of water and bleach. Rinse with clean water and allow surface to dry.

D. Wood: Remove dust, grit, and foreign matter. Scrape, sand, and spot prime knots and pitch streaks. Fill nail and screw holes and imperfections with wood filler and sand smooth.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

3.04 PRIMING

A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to top coat manufacturers.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.06 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 10 4400
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; 2026.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide extinguisher operational features, extinguisher ratings and classifications, and color and finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fire Extinguishers:
   1. Activar Construction Products Group, Inc. - JL Industries; Cosmic Extinguisher - Multipurpose Chemical: www.activarcpg.com/#sle.
   2. Ansul, a Tyco Business; Cleanguard: www.ansul.com/#sle.
   3. Fire-End & Croker Corporation: www.croker.com/#sle.
   4. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
   5. Oval Brand Fire Products; Oval Dry Chemical Fire Extinguisher - Multipurpose ABC: www.ovalfireproducts.com/#sle.

B. Fire Extinguisher Cabinets and Accessories:
   1. Activar Construction Products Group, Inc. - JL Industries; School Series - Surface Mount: www.activarcpg.com/#sle.
   2. Fire-End & Croker Corporation: www.croker.com/#sle.
   3. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
   4. Oval Brand Fire Products: www.ovalfireproducts.com/#sle.
   5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FIRE EXTINGUISHERS

A. General Requirements: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.

B. Multipurpose Dry-Chemical-Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
   1. Class: A:B:C.
   2. Finish: Baked polyester powder coat; Red color.
   3. Temperature Range: Minus 65 to 120 degrees F.

2.03 FIRE EXTINGUISHER CABINETS

A. Cabinet Construction: Non-fire rated.
   1. Formed primed steel sheet; 16-gauge, 0.060-inch thick base metal.

B. Cabinet Configuration: Surface-mounted type.
   1. Size to accommodate accessories.

C. Cabinet Mounting Hardware: Appropriate to cabinet, with predrilled holes for placement of anchors.

D. Fabrication: Weld, fill, and grind components smooth.

E. Finish of Cabinet Exterior Trim and Door: Primed for field paint finish.

1. See Section 09 9123 for field painting.

F. Finish of Cabinet Interior: White colored enamel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify dimensions, tolerances, and interfaces with other work.

B. Verify substrate and site conditions for product installation are in accordance with manufacturer's written instructions.

C. Verify rough openings for cabinet are sized and located in accordance with manufacturer's written instructions.

D. Notify Architect in writing of conditions detrimental to completion of work. Do not proceed with installation until detrimental conditions are corrected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

3.03 MAINTENANCE

A. See Section 01 7000 - Execution and Closeout Requirements for additional requirements.

3.04 MAINTENANCE - SELF-SERVICE FIRE EXTINGUISHERS

A. Inspection Certification Tag: Provide new tag indicating acceptable condition of fire extinguisher, date of inspection, and name of self-service inspector for each inspection.

END OF SECTION

SECTION 26 0519
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Single conductor building wire.

B. Wiring connectors.

C. Electrical tape.

D. Oxide inhibiting compound.

E. Wire pulling lubricant.

F. Cable ties.

G. Firestop sleeves.

1.02 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping.

B. Section 26 0526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

1.03 REFERENCE STANDARDS

A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013 (Reapproved 2024).

B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2023.

C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes; 2010, with Editorial Revision (2020).

D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2020).

E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2024.

F. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

G. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; 2021.

H. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

I. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.

J. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.

K. UL 267 - Outline of Investigation for Wire-Pulling Compounds; Current Edition, Including All Revisions.

L. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.

M. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.

N. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.

O. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.

2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed, classified, and labeled as suitable for the purpose intended.

C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

D. Comply with NEMA WC 70.

E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

G. Conductor Material:
1. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
2. Tinned Copper Conductors: Comply with ASTM B33.

H. Minimum Conductor Size:
1. Branch Circuits: 12 AWG.
   a. Exceptions:
      1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
      2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.

I. Conductor Color Coding:
1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
2. Color Coding Method: Integrally colored insulation.
3. Color Code:
   a. 240/120 V, 1 Phase, 3 Wire System:
      1) Phase A: Black.
      2) Phase B: Red.
      3) Neutral/Grounded: White.

b. Equipment Ground, All Systems: Green.
c. Travelers for 3-Way and 4-Way Switching: Pink.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:
1. Copper Building Wire:
a. Cerro Wire LLC: www.cerrowire.com/#sle.
b. Encore Wire Corporation: www.encorewire.com/#sle.
c. Southwire Company: www.southwire.com/#sle.
d. Substitutions: Approved Equal.

B. Description: Single conductor insulated wire.

C. Conductor Stranding:
1. Feeders and Branch Circuits:
a. Size 10 AWG and Smaller: Solid.
b. Size 8 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation:
1. Copper Building Wire: Type THHN/THWN, THHN/THWN-2, or XHHW-2.

2.04 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Connectors for Grounding and Bonding: Comply with Section 26 0526.

C. Wiring Connectors for Splices and Taps:
1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors.

D. Wiring Connectors for Terminations:
1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
2. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
3. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.

E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

F. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.

G. Compression Connectors: Provide circumferential type or hex type crimp configuration.

2.05 ACCESSORIES

A. Electrical Tape:
1. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.

B. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.

C. Wire Pulling Lubricant:

1. Listed and labeled as complying with UL 267.
2. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
3. Suitable for use at installation temperature.

D. Cable Ties: Material and tensile strength rating suitable for application.

E. Firestop Sleeves: Listed; provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.

D. Verify that field measurements are as indicated.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

A. Circuiting Requirements:
1. Unless dimensioned, circuit routing indicated is diagrammatic.
2. When circuit destination is indicated without specific routing, determine exact routing required.
3. Include circuit lengths required to install connected devices within 10 ft of location indicated.

B. Install products in accordance with manufacturer's instructions.

C. Perform work in accordance with NECA 1 (general workmanship).

D. Installation in Raceway:
1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
2. Pull all conductors and cables together into raceway at same time.
3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

E. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.

F. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.

G. Install conductors with a minimum of 12 inches of slack at each outlet.

H. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

I. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.

J. Make wiring connections using specified wiring connectors.

1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

K. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.

L. Insulate ends of spare conductors using vinyl insulating electrical tape.

M. Install firestopping to preserve fire resistance rating of partitions and other elements.

N. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

END OF SECTION

SECTION 26 0526
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Grounding and bonding requirements.

B. Conductors for grounding and bonding.

C. Connectors for grounding and bonding.

1.02 RELATED REQUIREMENTS

A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.

B. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

C. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittals procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS

A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.

B. Do not use products for applications other than as permitted by NFPA 70 and product listing.

C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.

D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

E. Bonding and Equipment Grounding:

1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.

2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.

2.02 GROUNDING AND BONDING COMPONENTS

A. General Requirements:
   1. Provide products listed, classified, and labeled as suitable for the purpose intended.
   2. Provide products listed and labeled as complying with UL 467 where applicable.

B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 0526:
   1. Use insulated copper conductors unless otherwise indicated.
      a. Exceptions:
         1) Use bare copper conductors where installed underground in direct contact with earth.
         2) Use bare copper conductors where directly encased in concrete (not in raceway).

C. Connectors for Grounding and Bonding:
   1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
   2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
   3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that work likely to damage grounding and bonding system components has been completed.

B. Verify that field measurements are as indicated.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Make grounding and bonding connections using specified connectors.
   1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
   2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
   3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
   4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
   5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

D. Identify grounding and bonding system components in accordance with Section 26 0553.

END OF SECTION

SECTION 26 0529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.02 RELATED REQUIREMENTS

A. Section 26 0533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

B. Section 26 0533.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.

C. Section 26 5100 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.

D. MFMA-4 - Metal Framing Standards Publication; 2004.

E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with actual equipment and components to be installed.
   2. Coordinate work to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at installed locations.
   4. Coordinate arrangement of supports with ductwork, piping, equipment and other potential conflicts.
   5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Comply with the following. Where requirements differ, comply with most stringent.
      a. NFPA 70.
      b. Requirements of authorities having jurisdiction.
   2. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
   3. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
   4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for load to be supported.

Include consideration for vibration, equipment operation, and shock loads where applicable.

5. Do not use products for applications other than as permitted by NFPA 70 and product listing.
6. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
7. Steel Components: Use corrosion-resistant materials suitable for environment where installed.
    a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
    b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
2. Conduit Clamps: Bolted type unless otherwise indicated.

C. Outlet Box Supports: Hangers and brackets suitable for boxes to be supported.

D. Metal Channel/Strut Framing Systems:
1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
2. Comply with MFMA-4.

E. Hanger Rods: Threaded, zinc-plated steel unless otherwise indicated.
1. Minimum Size, Unless Otherwise Indicated or Required:
    a. Equipment Supports: 1/2-inch diameter.
    b. Single Conduit up to 1-inch (27 mm) Trade Size: 1/4-inch diameter.
    c. Single Conduit Larger than 1-inch (27 mm) Trade Size: 3/8-inch diameter.
    d. Trapeze Support for Multiple Conduits: 3/8-inch diameter.
    e. Outlet Boxes: 1/4-inch diameter.
    f. Luminaires: 1/4-inch diameter.

F. Anchors and Fasteners:
1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install hangers and supports in accordance with NECA 1.

C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

D. Unless specifically indicated or approved by Architect, do not provide support from roof deck.

E. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

F. Equipment Support and Attachment:
1. Use metal, fabricated supports or supports assembled from metal channel/strut to support equipment as required.
2. Use metal channel/strut secured to studs to support equipment surface mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.

3. Use metal channel/strut to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

G. Secure fasteners in accordance with manufacturer's recommended torque settings.

H. Remove temporary supports.

END OF SECTION

SECTION 26 0533.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).
B. Stainless steel rigid metal conduit (RMC).
C. Galvanized steel intermediate metal conduit (IMC).
D. Stainless steel intermediate metal conduit (IMC).
E. PVC-coated galvanized steel rigid metal conduit (RMC).
F. Flexible metal conduit (FMC).
G. Galvanized steel electrical metallic tubing (EMT).
H. Stainless steel electrical metallic tubing (EMT).
I. Rigid polyvinyl chloride (PVC) conduit.
J. Reinforced thermosetting resin conduit (RTRC).
K. High-density polyethylene (HDPE) conduit.

1.02 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping.
B. Section 26 0526 - Grounding and Bonding for Electrical Systems.
C. Section 26 0529 - Hangers and Supports for Electrical Systems.

1.03 REFERENCE STANDARDS

A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2020.
B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S); 2020.
C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit; 2018.
D. ASTM F2160 - Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD); 2022a.
E. ASTM F2176 - Standard Specification for Mechanical Couplings Used on Polyethylene Conduit, Duct and Innerduct; 2017.
F. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
G. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2020.
H. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC); 2025.
I. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
J. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Metal Conduit and Intermediate Metal Conduit; 2018.
K. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit; 2020.
L. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing; 2021.
M. NEMA TC 7 - Solid-Wall Coilable and Straight Electrical Polyethylene Conduit; 2021.
N. NEMA TC 14 (SERIES) - Reinforced Thermosetting Resin Conduit and Fittings Series; 2015.
O. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
P. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.

Q. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.

R. UL 6A - Electrical Rigid Metal Conduit-Aluminum, Red Brass, and Stainless Steel; Current Edition, Including All Revisions.

S. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

T. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.

U. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings; Current Edition, Including All Revisions.

V. UL 651A - High Density Polyethylene (HDPE) Conduit; Current Edition, Including All Revisions.

W. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.

X. UL 797A - Electrical Metallic Tubing - Aluminum and Stainless Steel; Current Edition, Including All Revisions.

Y. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

Z. UL 2419 - Outline of Investigation for Electrically Conductive Corrosion Resistant Compounds; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with actual type and quantity of conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate arrangement of conduits with structural members, ductwork, piping, equipment, and other potential conflicts.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment.
   4. Coordinate work to provide roof penetrations that preserve integrity of roofing system and do not void roof warranty.
   5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not begin installation of conductors and cables until installation of conduit between termination points is complete.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittals procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

1.06 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most restrictive requirements. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.

C. Underground:
   1. Under Slab on Grade: Use PVC-coated galvanized steel rigid metal conduit (RMC), rigid PVC conduit, or reinforced thermosetting resin conduit (RTRC).
   2. Exterior, Direct-Buried: Use PVC-coated galvanized steel rigid metal conduit, rigid PVC conduit, reinforced thermosetting resin conduit (RTRC), or high-density polyethylene (HDPE) conduit.

3. Exterior, Embedded Within Concrete: Use rigid PVC conduit, reinforced thermosetting resin conduit (RTRC), or high-density polyethylene (HDPE) conduit.
4. Where rigid polyvinyl chloride (PVC) conduit or high-density polyethylene (HDPE) conduit is provided, transition to galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), galvanized steel electrical metallic tubing (EMT), or schedule 80 rigid PVC conduit where emerging from underground.

D. Concealed Within Hollow Stud Walls: Use galvanized steel electrical metallic tubing (EMT).

E. Interior, Damp or Wet Locations: Use galvanized steel electrical metallic tubing (EMT).

F. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), galvanized steel electrical metallic tubing (EMT), or stainless steel electrical metallic tubing (EMT).

G. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), or stainless steel intermediate metal conduit (IMC).

H. Exposed, Exterior, Not Subject to Severe Physical Damage: Use galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), PVC-coated galvanized steel rigid metal conduit (RMC), galvanized steel electrical metallic tubing (EMT), or stainless steel electrical metallic tubing (EMT).

I. Exposed, Exterior, Subject to Severe Physical Damage: Use galvanized steel rigid metal conduit (RMC) or stainless steel rigid metal conduit (RMC).

J. Flexible Connections to Luminaires: Use flexible metal conduit (FMC).
1. Maximum Length: 6 feet.

2.02 CONDUIT - GENERAL REQUIREMENTS

A. Comply with NFPA 70.

B. Provide conduit, fittings, supports, and accessories required for complete raceway system.

C. Provide products listed, classified, and labeled as suitable for purpose intended.

D. Minimum Conduit Size, Unless Otherwise Indicated:
1. Branch Circuits: 3/4-inch trade size.
2. Flexible Connections to Luminaires: 1/2-inch trade size.

E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
2. Nucor Tubular Products: www.nucortubular.com/#sle.
3. Rymco USA: www.rymcousa.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

C. Fittings:
1. Manufacturers:
a. ABB; T&B: www.electrification.us.abb.com/#sle.
b. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.us/#sle.
c. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
d. Substitutions: Approved Equal.

2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.04 STAINLESS STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
1. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
2. Gibson Stainless & Specialty Inc: www.gibsonstainless.com/#sle.
3. Patriot Industries, a division of Patriot Aluminum Products LLC: www.patriotsas.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type RMC stainless steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6A.

C. Fittings:
1. Manufacturers:
a. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
b. Eaton: www.eaton.com/#sle.
c. Gibson Stainless & Specialty Inc: www.gibsonstainless.com/#sle.
d. Substitutions: Approved Equal.
2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6A.
3. Material: Use stainless steel with corrosion resistance equivalent to conduit.
4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.05 GALVANIZED STEEL INTERMEDIATE METAL CONDUIT (IMC)

A. Manufacturers:
1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
2. Nucor Tubular Products: www.nucortubular.com/#sle.
3. Western Tube, a division of Zekelman Industries: www.westerntube.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.

C. Fittings:
1. Manufacturers:
a. ABB; T&B: www.electrification.us.abb.com/#sle.
b. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.us/#sle.
c. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
d. Substitutions: Approved Equal.
2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 1242.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.06 STAINLESS STEEL INTERMEDIATE METAL CONDUIT (IMC)

A. Manufacturers:
1. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
2. Substitutions: Approved Equal.

B. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.

C. Fittings:
1. Manufacturers:
a. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
b. Eaton: www.eaton.com/#sle.
c. Substitutions: Approved Eq.
2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 1242.

2.07 PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
1. ABB; Ocal: www.electrification.us.abb.com/#sle.
2. Calbond, a division of Atkore International www.calbond.com/#sle
3. Robroy Industries: www.robroy.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit with external polyvinyl chloride (PVC) coating complying with NEMA RN 1 and listed and labeled as complying with UL 6.

C. Exterior Coating: Polyvinyl chloride (PVC), nominal thickness of 40 mil, 0.040 inch.

D. PVC-Coated Boxes and Fittings:
1. Manufacturer: Same as manufacturer of PVC-coated conduit to be installed.
2. Nonhazardous Locations: Use boxes and fittings listed and labeled as complying with UL 514A, UL 514B, or UL 6.
3. Material: Use steel or malleable iron.
4. Exterior Coating: Polyvinyl chloride (PVC), minimum thickness of 40 mil, 0.040 inch.

E. PVC-Coated Supports: Furnish with exterior coating of polyvinyl chloride (PVC), minimum thickness of 15 mil, 0.015 inch.

2.08 FLEXIBLE METAL CONDUIT (FMC)

A. Description: NFPA 70, Type FMC standard-wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems.

B. Fittings:
1. Manufacturers:
a. ABB; T&B: www.electrification.us.abb.com/#sle.
b. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
c. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
d. Substitutions: Approved Equal.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.

2.09 GALVANIZED STEEL ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
2. Nucor Tubular Products: www.nucortubular/#sle.
3. Western Tube, a division of Zekelman Industries: www.westerntube.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type EMT galvanized steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.

C. Fittings:
1. Manufacturers:
a. ABB; T&B: www.electrification.us.abb.com/#sle.
b. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.us/#sle.

c. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
d. Substitutions: Approved Equal.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use compression/gland or set-screw type.
a. Do not use indenter type connectors and couplings.
5. Damp or Wet Locations, Where Permitted: Use fittings listed for use in wet locations.

2.10 STAINLESS STEEL ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
1. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
2. Substitutions: Approved Equal.

B. Description: NFPA 70, Type EMT stainless steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797A.

C. Fittings:
1. Manufacturers:
a. Calbrite, a division of Atkore International: www.calbrite.com/#sle.
b. Substitutions: Approved Equal.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Connectors and Couplings: Use compression/gland or set-screw type.

2.11 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

A. Manufacturers:
1. ABB; Carlon: www.carlon.com/#sle.
2. Heritage Plastics, a division of Atkore International: www.heritageplastics.com/#sle.
3. JM Eagle: www.jmeagle.com/#sle.

B. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.

C. Fittings:
1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.12 REINFORCED THERMOSETTING RESIN CONDUIT (RTRC)

A. Manufacturers:
1. Champion Fiberglass, Inc: www.championfiberglass.com/#sle.
2. FRE Composites: www.frecompositesinc.com/#sle.
3. United Fiberglass of America, Inc: www.unitedfiberglass.com/#sle.
4. Substitutions: Approved Equal.

B. Description: NFPA 70, Type RTRC reinforced thermosetting resin conduit complying with NEMA TC 14 (SERIES).

C. Supports: As recommended by manufacturer.

D. Fittings: Same type and manufacturer as conduit to be connected.

2.13 HIGH-DENSITY POLYETHYLENE (HDPE) CONDUIT

A. Manufacturers:
1. ABB; Carlon: www.electrification.us.abb.com/#sle.
2. Blue Diamond Industries, LLC: www.bdiky.com/#sle.

3. Eastern Wire + Conduit, a division of Atkore International: www.easternwire.com/#sle.
4. Substitutions: Approved Equa.

B. Description: NFPA 70, Type HDPE high-density polyethylene solid-wall conduit complying with ASTM F2160 and NEMA TC 7; list and label as complying with UL 651A; Schedule 40 unless otherwise indicated.

C. Joining Methods: Approved by HDPE conduit manufacturer.

D. Mechanical Fittings: Comply with ASTM F2176; list and label as complying with UL 651A.

2.14 ACCESSORIES

A. Conduit Joint Compound: Corrosion-resistant, electrically conductive compound listed as complying with UL 2419; suitable for use with conduit to be installed.

B. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

C. Epoxy Adhesive for RTRC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

D. Pull Strings: Use nylon or polyester tape with average breaking strength of not less than 1,250 lbf.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive conduits.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install conduit in accordance with NECA 1.

C. Galvanized Steel Rigid Metal Conduit (RMC): Install in accordance with NECA 101.

D. Intermediate Metal Conduit (IMC): Install in accordance with NECA 101.

E. PVC-Coated Galvanized Steel Rigid Metal Conduit (RMC): Install using only tools approved by manufacturer.

F. Rigid Polyvinyl Chloride (PVC) Conduit: Install in accordance with NECA 111.

G. Conduit Routing:
1. Unless dimensioned, conduit routing indicated is diagrammatic.
2. When conduit destination is indicated without specific routing, determine exact routing required.
3. Conceal conduits unless specifically indicated to be exposed.
4. Arrange conduit to maintain adequate headroom, clearances, and access.
5. Arrange conduit to provide no more than equivalent of four 90-degree bends between pull points.
6. Arrange conduit to provide no more than 150 feet between pull points.
7. Route conduits above water and drain piping where possible.
8. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
9. Maintain minimum clearance of 12 inches between conduits and hot surfaces.

H. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 26 0529.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

I. Connections and Terminations:
   1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
   2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
   3. Use suitable adapters where required to transition from one type of conduit to another.
   4. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
   5. Secure joints and connections to provide mechanical strength and electrical continuity.

J. Penetrations:
   1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
   2. Make penetrations perpendicular to surfaces unless otherwise indicated.
   3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
   4. Conceal bends for conduit risers emerging above ground.
   5. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
   6. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty.
   7. Install firestopping to preserve fire resistance rating of partitions and other elements.

K. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment.
   1. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.
   2. Where calculated in accordance with NFPA 70 for reinforced thermosetting resin conduit (RTRC) conduit installed above ground to compensate for thermal expansion and contraction.

L. Conduit Sealing:
   1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
      a. Where conduits enter building from outside.
      b. Where service conduits enter building from underground distribution system.
      c. Where conduits enter building from underground.
      d. Where conduits may transport moisture to contact live parts.
   2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
      a. Where conduits pass from outdoors into conditioned interior spaces.
      b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.

M. Provide pull string in each empty conduit and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.

N. Provide grounding and bonding; see Section 26 0526.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for additional requirements.

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Where coating of PVC-coated galvanized steel rigid metal conduit (RMC) contains cuts or abrasions, repair in accordance with manufacturer's instructions.

D. Correct deficiencies and replace damaged or defective conduits.

3.04 CLEANING

A. Clean interior of conduits to remove moisture and foreign matter.

3.05 PROTECTION

A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 26 0533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.

B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

1.02 RELATED REQUIREMENTS

A. Section 08 3100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.

B. Section 26 0529 - Hangers and Supports for Electrical Systems.

C. Section 26 0533.13 - Conduit for Electrical Systems:
   1. Conduit bodies and other fittings.
   2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.

D. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

E. Section 26 2726 - Wiring Devices:
   1. Wall plates.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

C. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.

E. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; 2013 (Reaffirmed 2020).

F. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports; 2013 (Reaffirmed 2020).

G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

I. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.

J. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.

K. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

L. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.

2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
6. Coordinate the work with other trades to preserve insulation integrity.
7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
8. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for outlet and device boxes, junction and pull boxes, and cabinets and enclosures.

C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 6000 - Product Requirements, for additional provisions.
2. Keys for Lockable Enclosures: Two of each different key.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

PART 2 PRODUCTS

2.01 BOXES

A. General Requirements:
1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use nonmetallic boxes where exposed rigid PVC conduit is used.
4. Use suitable concrete type boxes where flush-mounted in concrete.
5. Use suitable masonry type boxes where flush-mounted in masonry walls.
6. Use raised covers suitable for the type of wall construction and device configuration where required.
7. Use shallow boxes where required by the type of wall construction.
8. Do not use "through-wall" boxes designed for access from both sides of wall.
9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.

11. Nonmetallic Boxes: Comply with NEMA OS 2, and list and label as complying with UL 514C.
12. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
13. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
14. Wall Plates: Comply with Section 26 2726.
15. Manufacturers:
    a. Cooper Crouse-Hinds, a division of Eaton Corporation; _____: www.cooperindustries.com/#sle.
    b. Hubbell Incorporated; Bell Products; _____: www.hubbell-rtb.com/#sle.
    c. Hubbell Incorporated; RACO Products; _____: www.hubbell-rtb.com/#sle.
    d. Substitutions: Approved Equal.

C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
1. Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
2. NEMA EN 10250 Environment Type, Unless Otherwise Indicated:
    a. Indoor Clean, Dry Locations: Type 1, painted steel.
    b. Outdoor Locations: Type 3R, painted steel.
3. Junction and Pull Boxes Larger Than 100 cubic inches:
    a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
4. Cabinets and Hinged-Cover Enclosures, Other Than Junction and Pull Boxes:
    a. Provide lockable hinged covers, all locks keyed alike unless otherwise indicated.
    b. Back Panels: Painted steel, removable.
5. Manufacturers:
    a. Cooper B-Line, a division of Eaton Corporation; _____: www.cooperindustries.com/#sle.
    b. Hoffman, a brand of Pentair Technical Products; _____: www.hoffmanonline.com/#sle.
    c. Hubbell Incorporated; Wiegmann Products; _____: www.hubbell-wiegmann.com/#sle.
    d. Substitutions: Approved Equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive boxes.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

D. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.

E. Box Locations:
1. Locate boxes to be accessible. Provide access panels as required.
2. Unless dimensioned, box locations indicated are approximate.

3. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
4. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
5. Locate junction and pull boxes as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 26 0533.13.

F. Box Supports:
1. Secure and support boxes in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.

G. Install boxes plumb and level.

H. Flush-Mounted Boxes:
1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.

I. Install boxes as required to preserve insulation integrity.

J. Install firestopping to preserve fire resistance rating of partitions and other elements.

K. Close unused box openings.

L. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

M. Provide grounding and bonding in accordance with Section 26 0526.

N. Identify boxes in accordance with Section 26 0553.

3.03 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.04 PROTECTION

A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 26 0553
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.

1.02 FIELD CONDITIONS

A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

PART 2 PRODUCTS

2.01 IDENTIFICATION REQUIREMENTS

A. Identification for Equipment:
   1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
      a. Panelboards:
         1) Identify ampere rating.
         2) Identify voltage and phase.
         3) Identify power source and circuit number. Include location when not within sight of equipment.
         4) Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use identification nameplate.
         5) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.
         6) For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
   2. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
      a. Service equipment.
      b. Panelboards
   3. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.

B. Identification for Conductors and Cables:
   1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 0519.
   2. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
      a. At each source and load connection.
      b. Within boxes when more than one circuit is present.

C. Identification for Boxes:
   1. Use voltage markers to identify highest voltage present.
   2. Use identification labels to identify circuits enclosed.
      a. For exposed boxes in public areas, provide identification on inside face of cover.

D. Identification for Devices:
   1. Wiring Device and Wallplate Finishes: Comply with Section 26 2726.
   2. Use identification label to identify serving branch circuit for all receptacles.

2.02 IDENTIFICATION NAMEPLATES AND LABELS

A. Identification Nameplates:
   1. Materials:
      a. Indoor Clean, Dry Locations: Use plastic nameplates.
      b. Outdoor Locations: Use plastic nameplates suitable for exterior use.
   2. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.

B. Identification Labels:
   1. Manufacturers:
      a. Brady Corporation; _____: www.bradyid.com/#sle.
      b. Brother International Corporation: www.brother-usa.com/#sle.
      c. Panduit Corp: www.panduit.com/#sle.
      d. Substitutions: Approved Equal.
   2. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
   3. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.

C. Format for General Information and Operating Instructions:
   1. Minimum Size: 1 inch by 2.5 inches.
   2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
   3. Text: All capitalized unless otherwise indicated.
   4. Minimum Text Height: 1/4 inch.
   5. Color: Black text on white background unless otherwise indicated.

D. Format for Caution and Warning Messages:
   1. Minimum Size: 2 inches by 4 inches.
   2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
   3. Text: All capitalized unless otherwise indicated.
   4. Minimum Text Height: 1/2 inch.
   5. Color: Black text on yellow background unless otherwise indicated.

E. Format for Receptacle Identification:
   1. Minimum Size: 3/8 inch by 1.5 inches.
   2. Legend: Power source and circuit number or other designation indicated.
   3. Text: All capitalized unless otherwise indicated.
   4. Minimum Text Height: 3/16 inch.
   5. Color: Black text on clear background.

F. Format for Control Device Identification:
   1. Minimum Size: 3/8 inch by 1.5 inches.
   2. Legend: Load controlled or other designation indicated.
   3. Text: All capitalized unless otherwise indicated.
   4. Minimum Text Height: 3/16 inch.
   5. Color: Black text on clear background.

2.03 WIRE AND CABLE MARKERS

A. Manufacturers:
   1. Brady Corporation; _____: www.bradyid.com/#sle.
   2. HellermannTyton; _____: www.hellermanntyton.com/#sle.
   3. Panduit Corp: www.panduit.com/#sle.

B. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.

C. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.

D. Legend: Power source and circuit number or other designation indicated.

E. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
   1. Do not use handwritten text.

F. Minimum Text Height: 1/8 inch.

G. Color: Black text on white background unless otherwise indicated.

2.04 VOLTAGE MARKERS

A. Manufacturers:
   1. Brady Corporation; _____: www.bradyid.com/#sle.
   2. Brimar Industries, Inc: www.brimar.com/#sle.
   3. Seton Identification Products; _____: www.seton.com/#sle.
   4. Substitutions: Approved Equal.

B. Markers for Conduits: Use factory pre-printed self-adhesive vinyl, self-adhesive vinyl cloth, or vinyl snap-around type markers.

C. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.

D. Minimum Size:
   1. Markers for Conduits: As recommended by manufacturer for conduit size to be identified.
   2. Markers for Pull Boxes: 1 1/8 by 4 1/2 inches.
   3. Markers for Junction Boxes: 1/2 by 2 1/4 inches.

E. Legend:
   1. Markers for Voltage Identification: Highest voltage present.

F. Color: Black text on orange background unless otherwise indicated.

2.05 UNDERGROUND WARNING TAPE

A. Manufacturers:
   1. Brady Corporation; _____: www.bradyid.com/#sle.
   2. Brimar Industries, Inc: www.brimar.com/#sle.
   3. Seton Identification Products; _____: www.seton.com/#sle.
   4. Substitutions: Approved Equal.

B. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.

C. Non-detectable Type Tape: 6 inches wide, with minimum thickness of 4 mil.

D. Legend: Type of service, continuously repeated over full length of tape.

2.06 WARNING SIGNS AND LABELS

A. Manufacturers:
   1. Brimar Industries, Inc: www.brimar.com/#sle.
   2. Clarion Safety Systems, LLC; _____: www.clarionsafety.com/#sle.
   3. Insite Solutions, LLC; _____: www.stop-painting.com/#sle.
   4. Substitutions: Approved Equal.

B. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.

C. Warning Signs:
   1. Materials:

a. Indoor Dry, Clean Locations: Use factory pre-printed rigid plastic or self-adhesive vinyl signs.
2. Rigid Signs: Provide four mounting holes at corners for mechanical fasteners.
3. Minimum Size: 7 by 10 inches unless otherwise indicated.

D. Warning Labels:
1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
3. Minimum Size: 2 by 4 inches unless otherwise indicated.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
1. Surface-Mounted Equipment: Enclosure front.
2. Flush-Mounted Equipment: Inside of equipment door.
3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
4. Branch Devices: Adjacent to device.
5. Boxes: Outside face of cover.
6. Conductors and Cables: Legible from the point of access.
7. Devices: Outside face of cover.

C. Install identification products centered, level, and parallel with lines of item being identified.

D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.

E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.

F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.

G. Secure rigid signs using stainless steel screws.

END OF SECTION

SECTION 26 0923
LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Occupancy sensors.

B. Outdoor photo controls.

1.02 RELATED REQUIREMENTS

A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables.

B. Section 26 0529 - Hangers and Supports for Electrical Systems

C. Section 26 0533.16 - Boxes for Electrical Systems.

D. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

E. Section 26 2726 - Wiring Devices: Devices for manual control of lighting, including wall switches, wall dimmers, and fan speed controllers.

F. Section 26 5100 - Interior Lighting.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate placement of lighting control devices with millwork, furniture, equipment and other potential conflicts.
2. Coordinate placement of occupancy sensors with millwork, furniture, equipment and other potential obstructions to motion detection coverage.
3. Coordinate lighting control device product selections with luminaire characteristics; see Section 26 5100 and lighting fixture schedule.
4. Notify Architect of conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include ratings, operating modes or sequence of functions, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.

C. Shop Drawings:

1. Occupancy Sensors: Provide lighting plan indicating location, model number, and orientation of each occupancy sensor and associated system component.
2. Digital Load Controllers: Provide dimensioned plan views indicating locations of system components, required clearances, and field connection locations. Include system interconnection schematic diagrams showing factory and field connections. Include manufacturer product characteristics and application instructions for wired and wireless applications, including start-up and commissioning.

D. Manufacturer's Installation Instructions: Include application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

E. Operation and Maintenance Data: Include detailed information on device programming and setup.

1.06 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Store products in clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.08 FIELD CONDITIONS

1.09 WARRANTY

A. Manufacturer Warranty: Provide manufacturer warranty for defects in material and workmanship for duration below. Complete forms in Owner's name and register with manufacturer.
   1. Occupancy Sensors: 3 years.
   2. Digital Load Controllers: 3 years.

PART 2 PRODUCTS

2.01 LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled as suitable for purpose intended.

B. Unless specifically indicated as excluded, provide components necessary for complete operating system including, but not limited to, conduit, wiring, connectors, hardware, and accessories.

2.02 OCCUPANCY SENSORS

A. Manufacturers:
   1. Acuity Brands, Inc: www.acuitybrands.com/#sle.
   2. Hubbell Incorporated: www.hubbell.com/#sle.
   3. Legrand North America, Inc: www.legrand.us/#sle.
   4. Lutron Electronics Company, Inc: www.lutron.com/#sle.
   5. RAB Lighting, Inc: www.rablighting.com/#sle.
   6. Substitutions: Approved Equal.
   7. Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.

B. General Requirements:
   1. Description: Factory-assembled commercial specification grade devices for indoor use capable of sensing both major motion, such as walking, and minor motion, such as small desktop level movements, according to published coverage areas, for automatic control of load indicated.
   2. Sensor Technology:
      a. Passive Infrared/Ultrasonic Dual Technology Occupancy Sensors: Designed to detect occupancy using combination of both passive infrared and ultrasonic technologies.
   3. Provide LED to visually indicate motion detection with separate color LEDs for each sensor type in dual technology units.
   4. Operation: Unless otherwise indicated, occupancy sensor to turn load on when occupant presence is detected and to turn load off when no occupant presence is detected during adjustable turn-off delay time interval.
   5. Dual Technology Occupancy Sensors: Field configurable turn-on and hold-on activation with settings for activation by either or both sensing technologies.
   6. Turn-Off Delay: Field adjustable, with time delay settings up to 30 minutes.
   7. Load Rating for Line Voltage Occupancy Sensors: As required to control load indicated on drawings.

C. Ceiling Mounted Occupancy Sensors:
   1. General Requirements:
      a. Description: Low profile occupancy sensors designed for ceiling installation.
      b. Unless otherwise indicated or required to control load indicated on drawings, provide low voltage units, for use with separate compatible accessory power packs.
      c. Occupancy sensor to be field selectable as either manual-on/automatic-off or automatic on/off.
      d. Finish: White unless otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that openings for outlet boxes are neatly cut and will be completely covered by devices or wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to lighting control devices.

F. Verify that service voltage and ratings of lighting control devices are appropriate for service voltage and load requirements at location to be installed.

G. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Install lighting control devices in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes as required for installation of lighting control devices; see Section 26 0533.16.

C. Maintain separation of remote-control, signaling, and power-limited circuits.
   1. See manufacturer instructions and Section 26 0519 for control wiring conductors, wiring methods, and identification requirements.

D. Install lighting control devices in accordance with manufacturer's instructions.

E. Unless otherwise indicated, connect lighting control device grounding terminal or conductor to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

F. Install lighting control devices plumb and level, and held securely in place.

G. Where required and not furnished with lighting control device, provide wall plate; see Section 26 2726.

H. Provide required supports; see Section 26 0529.

I. Where applicable, install lighting control devices and associated wall plates to fit completely flush to mounting surface with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

J. Identify lighting control devices; see Section 26 0553.

K. Occupancy Sensor Locations:

1. Location Adjustments: Locations indicated are diagrammatic and only intended to indicate which rooms or areas require devices. Provide quantity and locations as required for complete coverage of respective room or area based on manufacturer's recommendations for installed devices.

L. Unless otherwise indicated, install switches on load side of power packs so that switch does not turn off power pack.

3.04 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Adjust occupancy sensor settings to minimize undesired activations while optimizing energy savings, and to achieve desired function as indicated or as directed by Architect.

3.05 CLOSEOUT ACTIVITIES

A. Demonstration: Demonstrate proper operation of lighting control devices to Architect, and correct deficiencies or make adjustments as directed.

B. Training: Train Owner's personnel on operation, adjustment, programming, and maintenance of lighting control devices.

1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.

END OF SECTION

SECTION 26 2416
PANELBOARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Load centers.

B. Overcurrent protective devices for panelboards.

1.02 RELATED REQUIREMENTS

A. Section 26 0526 - Grounding and Bonding for Electrical Systems.

B. Section 26 0529 - Hangers and Supports for Electrical Systems.

C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service; 2013e, with Amendments (2022).

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

C. NECA 407 - Standard for Installing and Maintaining Panelboards; 2015.

D. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

E. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 1000V or Less; 2023.

F. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.

G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

I. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.

J. UL 67 - Panelboards; Current Edition, Including All Revisions.

K. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures; Current Edition, Including All Revisions.

L. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

M. UL 1053 - Ground-Fault Sensing and Relaying Equipment; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
   4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.

C. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
   1. Include dimensioned plan and elevation views of panelboards and adjacent equipment with all required clearances indicated.
   2. Clearly indicate whether proposed short circuit current ratings are fully rated or, where acceptable, series rated systems.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store panelboards in accordance with manufacturer's instructions and NECA 407.

B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

C. Handle carefully in accordance with manufacturer's written instructions to avoid damage to panelboard internal components, enclosure, and finish.

1.08 FIELD CONDITIONS

A. Maintain ambient temperature within the following limits during and after installation of panelboards:
   1. Panelboards Containing Circuit Breakers: Between 10 degrees F and 104 degrees F.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. ABB: www.electrification.us.abb.com/#sle.

B. Eaton Corporation: www.eaton.com/#sle.

C. Schneider Electric: www.se.com/#sle.

D. Siemens Industry, Inc: www.new.siemens.com/#sle.

E. Substitutions: Approved Equal.

2.02 PANELBOARDS - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled as suitable for the purpose intended.

B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
   1. Altitude: Less than 7,000 feet.
   2. Ambient Temperature:
      a. Panelboards Containing Circuit Breakers: Between 10 degrees F and 104 degrees F.

C. Short Circuit Current Rating:
   1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.

D. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.

E. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.

F. Bussing: Sized in accordance with UL 67 temperature rise requirements.
   1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
   2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.

G. Conductor Terminations: Suitable for use with the conductors to be installed.

H. Enclosures: Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E.
   1. Environment Type per NEMA EN 10250: As indicated on the drawings.
   2. Boxes: Galvanized steel unless otherwise indicated.
      a. Provide wiring gutters sized to accommodate the conductors to be installed.
   3. Fronts:
      a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
   4. Lockable Doors: All locks keyed alike unless otherwise indicated.

I. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.

J. Ground Fault Protection: Where ground-fault protection is indicated, provide system listed and labeled as complying with UL 1053.

2.03 LOAD CENTERS

A. Description: Circuit breaker type load centers listed and labeled as complying with UL 67; ratings, configurations, and features as indicated on the drawings.

B. Bussing:
   1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
   2. Bus Material: Aluminum or copper.

C. Circuit Breakers: Thermal magnetic plug-in type.

D. Enclosures:
   1. Provide surface-mounted enclosures unless otherwise indicated.
   2. Provide circuit directory label on inside of door or individual circuit labels adjacent to circuit breakers.

2.04 OVERCURRENT PROTECTIVE DEVICES

A. Molded Case Circuit Breakers:
   1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
   2. Interrupting Capacity:
      a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated.
      b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
   3. Conductor Terminations:
      a. Provide mechanical lugs unless otherwise indicated.
      b. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
   4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
   5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
   6. Provide the following circuit breaker types where indicated:
      a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive panelboards.

D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship).

B. Install products in accordance with manufacturer's instructions.

C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.

D. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

E. Provide required support and attachment in accordance with Section 26 0529.

F. Install panelboards plumb.

G. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.

H. Provide grounding and bonding in accordance with Section 26 0526.

I. Install all field-installed branch devices, components, and accessories.

J. Set field-adjustable ground fault protection pickup and time delay settings as indicated.

K. Provide filler plates to cover unused spaces in panelboards.

L. Identify panelboards in accordance with Section 26 0553.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers and circuit breakers larger than _____ amperes. Tests listed as optional are not required.

D. Ground Fault Protection Systems: Test in accordance with manufacturer's instructions as required by NFPA 70.

E. Test GFCI circuit breakers to verify proper operation.

F. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.04 ADJUSTING

A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

B. Adjust alignment of panelboard fronts.

3.05 CLEANING

A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.

B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

SECTION 26 2726
WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall switches.

B. Wall dimmers.

C. Fan speed controllers.

D. Receptacles.

E. Wall plates and covers.

1.02 REFERENCE STANDARDS

A. FS W-C-596 - Connector, Electrical, Power, General Specification for; 2014h (Validated 2022).

B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification); 2017g (Validated 2023).

C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

D. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

E. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).

F. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2021.

G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 20 - General-Use Snap Switches; Current Edition, Including All Revisions.

I. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.

J. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.

K. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

L. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

M. UL 1917 - Solid-State Fan Speed Controls; Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
   3. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
   4. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

C. Operation and Maintenance Data:
   1. Wall Dimmers: Include information on operation and setting of presets.
   2. GFCI Receptacles: Include information on status indicators.

1.05 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Products: Listed, classified, and labeled as suitable for the purpose intended.

1.06 DELIVERY, STORAGE, AND PROTECTION

A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.01 WIRING DEVICES - GENERAL REQUIREMENTS

A. Provide wiring devices suitable for intended use with ratings adequate for load served.

B. Wiring Device Applications:
   1. Receptacles Installed Outdoors or in Damp or Wet Locations: Use weather-resistant GFCI receptacles with weatherproof covers.

C. Wiring Device Finishes:
   1. Provide wiring device finishes as described below, unless otherwise indicated.
   2. Wiring Devices, Unless Otherwise Indicated: White with matching nylon wall plate.
      a. Notify Architect of any questions on finish to obtain direction prior to ordering.

2.02 WALL SWITCHES

A. Manufacturers:
   1. Hubbell Incorporated; _____: www.hubbell.com/#sle.
   2. Leviton Manufacturing Company, Inc; _____: www.leviton.com/#sle.
   3. Pass & Seymour, a brand of Legrand North America, Inc; _____: www.legrand.us/#sle.

B. Wall Switches - General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable, FS W-S-896; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.

C. Standard Wall Switches: Commercial specification grade, 20 A, 120 V with decorator style rocker type switch actuator and maintained contacts; single pole single throw or four way as indicated on the drawings.

2.03 WALL DIMMERS

A. Manufacturers:
   1. Leviton Manufacturing Company, Inc; _____: www.leviton.com/#sle.
   2. Lutron Electronics Company, Inc; Maestro Series: www.lutron.com/#sle.
   3. Pass & Seymour, a brand of Legrand North America, Inc; _____: www.legrand.us/#sle.
   4. Substitutions: Approved Equal.

B. Wall Dimmers - General Requirements: Solid-state with continuous full-range even control following square law dimming curve, integral radio frequency interference filtering, power failure preset memory, air gap switch accessible without removing wall plate, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1472; types and ratings suitable for load controlled as indicated on the drawings.

C. Control: Decorator rocker control type with preset slide adjustment.

D. Power Rating, Unless Otherwise Indicated or Required to Control the Load Indicated on the Drawings:

2.04 FAN SPEED CONTROLLERS

A. Manufacturers:
   1. Leviton Manufacturing Company, Inc; _____: www.leviton.com/#sle.
   2. Lutron Electronics Company, Inc; Maestro Series: www.lutron.com/#sle.
   3. Pass & Seymour, a brand of Legrand North America, Inc; _____: www.legrand.us/#sle.

4. Substitutions: Approved Equal.

B. Description: 120 V AC, solid-state, full-range variable speed, slide control type with separate on/off switch, with integral radio frequency interference filtering, fan noise elimination circuitry, power failure preset memory, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1917.
   1. Current Rating: 5 A unless otherwise indicated or required to control the load indicated on the drawings.

2.05 RECEPTACLES

A. Manufacturers:
   1. Hubbell Incorporated; _____: www.hubbell.com/#sle.
   2. Leviton Manufacturing Company, Inc; _____: www.leviton.com/#sle.
   3. Lutron Electronics Company, Inc; Designer Style: www.lutron.com/#sle.
   4. Substitutions: Approved Equal.
   5. Source Limitations: Where wall controls are furnished as part of lighting control system, provide accessory matching receptacles and wallplates by the same manufacturer in locations indicated.

B. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings, rectangular decorator style.
   1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
   2. NEMA configurations specified are according to NEMA WD 6.

C. Convenience Receptacles:
   1. Standard Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R; single or duplex as indicated on the drawings.
   2. Weather Resistant Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R, listed and labeled as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations; single or duplex as indicated on the drawings.

D. GFCI Receptacles:
   1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
      a. Provide test and reset buttons of same color as device.
   2. Standard GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.
   3. Tamper Resistant and Weather Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as tamper resistant type and as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations.

2.06 WALL PLATES AND COVERS

A. Manufacturers:
   1. Hubbell Incorporated; _____: www.hubbell-wiring.com/#sle.
   2. Leviton Manufacturing Company, Inc; _____: www.leviton.com/#sle.
   3. Lutron Electronics Company, Inc; _____: www.lutron.com/#sle.
   4. Substitutions: Approved Equal.
   5. Source Limitations: Where wall controls are furnished as part of lighting control system, provide accessory matching receptacles and wallplates by the same manufacturer in locations indicated.

B. Wall Plates: Comply with UL 514D.

1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
2. Size: Standard.
3. Screws: Metal with slotted heads finished to match wall plate finish.
4. Provide screwless wallplates with concealed mounting hardware.

C. Nylon Wall Plates: Smooth finish, high-impact thermoplastic.

D. Weatherproof Receptacle Covers for Wet Locations: Gasketed, thermoplastic, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130.

B. Coordinate locations of outlet boxes provided under Section 26 0533.16 as required for installation of wiring devices provided under this section.
1. Mounting Heights: Unless otherwise indicated, as follows:
   a. Wall Switches: 48 inches above finished floor.
   b. Wall Dimmers: 48 inches above finished floor.
   c. Fan Speed Controllers: 48 inches above finished floor.
   d. Receptacles: 18 inches above finished floor or 6 inches above counter.
2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
3. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.

F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

H. Provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.

I. Install wiring devices plumb and level with mounting yoke held rigidly in place.

J. Install wall switches with OFF position down.

K. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.

L. Do not share neutral conductor on branch circuits utilizing wall dimmers.

M. Install vertically mounted receptacles with grounding pole on bottom and horizontally mounted receptacles with grounding pole on left.

N. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

O. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

P. Identify wiring devices in accordance with Section 26 0553.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Inspect each wiring device for damage and defects.

C. Operate each wall switch, wall dimmer, and fan speed controller with circuit energized to verify proper operation.

D. Test each receptacle to verify operation and proper polarity.

E. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.

F. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.04 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.05 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

SECTION 26 5100
INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior luminaires.

B. Emergency lighting units.

C. Exit signs.

D. Ballasts and drivers.

1.02 RELATED REQUIREMENTS

A. Section 26 0529 - Hangers and Supports for Electrical Systems.

B. Section 26 0533.16 - Boxes for Electrical Systems.

C. Section 26 2726 - Wiring Devices: Manual wall switches and wall dimmers.

1.03 REFERENCE STANDARDS

A. IES LM-79 - Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products; 2024.

B. IES LM-80 - Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources; 2021.

C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

D. NECA/IESNA 500 - Standard for Installing Indoor Commercial Lighting Systems; 2025.

E. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; 2006.

F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 924 - Emergency Lighting and Power Equipment; Current Edition, Including All Revisions.

I. UL 1598 - Luminaires; Current Edition, Including All Revisions.

J. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
3. Coordinate the placement of exit signs with furniture, equipment, signage or other potential obstructions to visibility installed under other sections or by others.
4. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:

1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.

C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
   1. LED Luminaires:
      a. Include estimated useful life, calculated based on IES LM-80 test data.

D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

E. Operation and Maintenance Data: Instructions for each product including information on replacement parts.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.08 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.09 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Provide 3-year manufacturer warranty for LED luminaires, including drivers.

C. Provide 5-year warranty for batteries for emergency lighting units.

PART 2 PRODUCTS

2.01 LUMINAIRE TYPES

A. Furnish products as indicated in luminaire schedule included on the drawings.

B. Substitutions: Approved Equal.

2.02 LUMINAIRES

A. Manufacturers:
   1. Acuity Brands, Inc: www.acuitybrands.com/#sle.
   2. Cooper Lighting, a division of Cooper Industries: www.cooperindustries.com/#sle.
   3. Hubbell Lighting, Inc; _____: www.hubbelllighting.com/#sle.
   4. RAB Lighting, Inc: www.rablighting.com/#sle.
   5. Substitutions: Approved Equal.

B. Provide products that comply with requirements of NFPA 70.

C. Provide products that are listed and labeled as complying with UL 1598, where applicable.

D. Provide products listed, classified, and labeled as suitable for the purpose intended.

E. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

F. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.

G. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

H. LED Luminaires:
   1. Components: UL 8750 recognized or listed as applicable.
   2. Tested in accordance with IES LM-79 and IES LM-80.
   3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

2.03 EMERGENCY LIGHTING UNITS

A. Manufacturers:
   1. Acuity Brands, Inc; _____: www.acuitybrands.com/#sle.
   2. Cooper Lighting, a division of Cooper Industries; _____: www.cooperindustries.com/#sle.
   3. Hubbell Lighting, Inc; _____: www.hubbelllighting.com/#sle.
   4. Substitutions: Approved Equal.

B. Description: Emergency lighting units complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.

C. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.

D. Battery:
   1. Size battery to supply all connected lamps, including emergency remote heads where indicated.

E. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation.

F. Provide low-voltage disconnect to prevent battery damage from deep discharge.

2.04 EXIT SIGNS

A. Description: Exit signs complying with NFPA 101 and applicable state and local codes, and listed and labeled as complying with UL 924.
   1. Number of Faces: Single- or double-face as indicated or as required for installed location.
   2. Directional Arrows: As indicated or as required for installed location.

B. Powered Exit Signs: Internally illuminated with LEDs unless otherwise indicated.
   1. Manufacturers:
      a. Acuity Brands, Inc; _____: www.acuitybrands.com/#sle.
      b. Cooper Lighting, a division of Cooper Industries; _____: www.cooperindustries.com/#sle.
      c. Hubbell Lighting, Inc; _____: www.hubbelllighting.com/#sle.
      d. RAB Lighting, Inc; _____: www.rablighting.com/#sle.
      e. Substitutions: Approved Equal.
   2. Self-Powered Exit Signs:
      a. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.
      b. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation.

c. Provide low-voltage disconnect to prevent battery damage from deep discharge.

2.05 BALLASTS AND DRIVERS

A. Manufacturers:
   1. Alloy LED; _____: www.alloyled.com/#sle.
   2. Lutron Electronics Company, Inc; _____: www.lutron.com/#sle.
   3. Philips Lighting North America Corporation; _____: www.usa.lighting.philips.com/#sle.
   4. Substitutions: Approved Equal.

B. Ballasts/Drivers - General Requirements:
   1. Provide ballasts containing no polychlorinated biphenyls (PCBs).
   2. Minimum Efficiency/Efficacy: Provide ballasts complying with all current applicable federal and state ballast efficiency/efficacy standards.

C. Dimmable LED Drivers:
   1. Dimming Range: Continuous dimming from 100 percent to 10 percent relative light output unless dimming capability to lower level is indicated, without flicker.
   2. Control Compatibility: Fully compatible with the dimming controls to be installed.
      a. Wall Dimmers: See Section 26 2726.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 26 0533.16 as required for installation of luminaires provided under this section.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install products in accordance with manufacturer's instructions.

D. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).

E. Provide required support and attachment in accordance with Section 26 0529.

F. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

G. Install accessories furnished with each luminaire.

H. Bond products and metal accessories to branch circuit equipment grounding conductor.

I. Emergency Lighting Units:
   1. Install lock-on device on branch circuit breaker serving units.

J. Exit Signs:

1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls.
2. Install lock-on device on branch circuit breaker serving units.

K. Install lamps in each luminaire.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Inspect each product for damage and defects.

C. Operate each luminaire after installation and connection to verify proper operation.

D. Test self-powered exit signs, emergency lighting units, and fluorescent emergency power supply units to verify proper operation upon loss of normal power supply.

E. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Architect.

3.05 CLEANING

A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.06 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

END OF SECTION

SECTION 28 4600
FIRE DETECTION AND ALARM

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Section 26 0533.16 - Boxes for Electrical Systems.

1.02 SUBMITTALS

A. Comply with NFPA 72 chapter "Documentation," including noting names of installers, owners, and system classification information.

B. Design Documents: Submit all information required for plan review and permitting by AHJ, including floor plans, riser diagrams, and description of operation.

C. Shop Drawings: Submit installation documentation required for plan review and permitting by AHJ, including floor plans showing locations of fire alarm system components, enlarged drawn to identified scale plan view, and riser diagrams.
   1. Include system interconnection schematic riser diagram showing proposed and approved cable size and type; coordinated with floor plans and describing circuit class, survivability, and application specific information required by NFPA 72.
   2. Circuit layouts; number, size, and type of raceways and conductors; conduit fill calculations; standby and spare capacity calculations; notification appliance circuit loop resistance and voltage drop calculations, including spare capacity.
   3. Manufacturer's detailed data sheet for each component, including wiring diagrams, installation instructions, and circuit length limitations.
   4. Description of power supplies; if secondary power is by battery include calculations demonstrating adequate battery power.

D. Closeout Documents:
   1. NFPA 72 "Record of Completion," filled out completely and signed by installer and authorized representative of AHJ.

PART 2 PRODUCTS

2.01 FIRE ALARM SYSTEM

A. General Requirements:
   1. Provide new fire alarm system complying with NFPA 70, NFPA 72, NFPA 90A, and consisting of required equipment, conduit, cabinets, outlet boxes, wiring, connectors, hardware, supports, accessories, components, software, and system programming as necessary for complete operating system that provides functional intent indicated.
   2. Comply with the following; where requirements conflict, order of precedence of requirements is as listed:
      a. 36 CFR 1191 and ADA Standards.
      b. Requirements of AHJ.
      c. Applicable local codes.
      d. Contract Documents.
      e. NFPA 72; "should" is mandatory; where conflicts between requirements require deviation, identify deviations clearly on design documents.
   3. Fire Alarm System Products:
      a. Listed, classified, and labeled as suitable for purpose intended.
      b. Installation Environments: Provide products suitable for their respective indoor and outdoor applications.
   4. Provide fire alarm circuits in accordance with NFPA 70.
      a. Comply with methods of interconnecting FACUs in accordance with NFPA 72 and NFPA 70.
      b. Power Sources:
         1) Primary: Dedicated branch circuits from facility power distribution system.

2) Secondary: Storage batteries with capacity to operate system for period specified by NFPA 72.

c. Wiring and Wiring Methods:

1) General Requirements:

(a) Comply with NFPA 70 for wire and cable plenum, riser, general-purpose, limited-use, undercarpet, and underground applications.

2) Fire Alarm Circuits:

(a) Non-Power-Limited Fire Alarm (NPLFA) Circuits:

(1) Provide dedicated NPLFA non-GFCI branch circuits for fire alarm equipment and marked by red identification in accordance with NFPA 70.

(b) Power-Limited Fire Alarm (PLFA) Circuits:

(1) Provide identification for PLFA circuits in accordance with NFPA 70.

5. Provide pathway class designations and pathway survivability, as defined in NFPA 72.
6. Spare System Capacity:
   a. SLCs: Minimum 25 percent spare capacity.
   b. NACs: Minimum 25 percent spare capacity.
7. Secondary Power Source - Battery Storage Capacity:
   a. Provide standby (nonalarm) operation sufficient for 24 hours.
   b. Provide additional alarm operation for 15 minutes.
   c. Calculate combined of standby load plus alarm load for overall battery storage capacity requirements, per power supply.
   d. Provide 25 percent additional overall battery capacity correction factor.

B. Fire Alarm System Interfaces and Control Functions:
1. UL 864 listed unless otherwise indicated.
2. Provide initiating devices, interfaces, and control functions for emergency control function interfaces in accordance with NFPA 72.
3. Provide monitoring of interconnected systems. Coordinate notification appliance alternate markings as indicated on drawings.
4. Lighting/Dimming Control Systems:
   a. System Override:
      1) Provide output signal to override lighting/dimming controls via addressable relay module and power isolation relay.
      2) Provide connection to UL 864 listed control system interface or interface with system control power where interruption of control power overrides system.

2.02 FIRE ALARM CONTROL UNITS AND RELATED EQUIPMENT

A. Fire Alarm Control Units and Related Equipment: Listed and labeled as complying with UL 864.

B. Provide cabinets and enclosures as indicated or as required to house system components.

C. Fire Alarm Control Unit (FACU): Addressable.
1. SLCs and IDCs: Configurable for Class B or Class A with additional modules.
2. NACs: Integral and programmable with synchronization modules or cards as required.
3. Power Supply: 120 VAC, 60 Hz, supplying necessary power for FACU.
4. User-Interface: Touchscreen display for system interfacing and service mode settings, include password and user credentials; configurable for custom actions and incorporates historical event log.
5. Support self-testing detector capability.
6. Remote Annunciator Support: Up to 10.

D. Notification Appliance Circuit Expansion:
1. Where notification appliance circuit requirements exceed capacity of FACU, provide accessories and cabinets as required for expansion.

E. Remote Annunciators:

1. LCD Remote Annunciators:
    a. Provide backlit LCD display that mimics FACU display.
    b. Provide dedicated status indications for power and alarm, supervisory, and trouble conditions.
    c. Enable system control functions including acknowledge, silence, and reset.

2.03 FIRE ALARM SYSTEM INITIATING DEVICES

A. General Requirements:
1. Provide devices and associated accessories suitable for intended application and location to be installed. Unless otherwise indicated, use addressable devices and addressable interface modules only in clean, dry, indoor, nonhazardous locations.
2. Surface-Mounted Devices: Provide manufacturer's accessory surface mount backboxes or suitable outlet/device box.
3. Devices for Outdoor and Damp/Wet Locations: Weatherproof, suitable for outdoor use; provide manufacturer's accessory backboxes or enclosures in accordance with product listing.

2.04 FIRE ALARM SYSTEM NOTIFICATION APPLIANCES

A. General Requirements:
1. Provide signaling notification appliances listed for fire-protective service and intended operating mode, public or private; suitable for connection to FACU notification appliance circuits.
2. Surface-Mounted Notification Appliances: Provide manufacturer's accessory surface mount backboxes or suitable outlet/device box.
3. Notification Appliance Color:
    a. Wall-Mounted: Red.
    b. Ceiling-Mounted: White.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install field-devices, components, FACU and related equipment, and accessories in accordance with the following:
1. Manufacturer's instructions, applicable codes, and Contract Documents.

B. Field Locations:
1. Obtain Owner's approval of locations of devices and notification appliances before installation.
2. Conceal wiring, conduit, outlet boxes, and supports where installed in finished areas; maintain code-required access.

C. Raceways and Supports:
1. Coordinate locations of outlet boxes as required for installation. Only install boxes and equipment at locations based on application standards indicated in NFPA 72.
2. Secure and support raceways at intervals complying with NFPA 70. Provide supports where vertical rise exceeds permissible limits.
3. Install firestopping to preserve fire resistance rating of partitions and other elements.

D. Wiring and Connections:
1. Maintain separation of Class 1, Class 2, Class 3 remote-control, signaling, fire alarm circuits, and power-limited circuits in accordance with cable insulation class and NFPA 70.
2. Maintain circuit pathway and class designations in accordance with NFPA 72 for configuration, separation, and survivability.
3. Comply with permitted and not permitted installations for wires, cables, cable routing assemblies, communications circuits, and fire alarm circuits in accordance with NFPA 70.
4. Provide grounding and bonding in accordance with Section 26 0526.
5. Neatly train and bundle conductors inside boxes, wireways, and cabinets.

E. Fire Alarm System Components:
   1. Install field-installed devices, components, relays, notification appliances, accessories, and when applicable EoL resistors.
      a. Install wiring to supervisory devices and associated EoL resistors as required for supervision of hardwired connections
   2. Install Wall-Mounted Equipment: Assemble component hardware within (e.g., card bays, sub-bays, expansion bays, signal cards, other card frames, networking, signal transmission, application modules, tamper monitoring devices, interconnecting modules, and auxiliary power supplies), including space for required spare capacity, and configure settings.
   3. Install Interconnect Wiring: Connect system cabinets, install processor and cards, cabling, connectors, terminations, and bonding.

F. Branch Power:
   1. After installation confirmations, follow manufacturer instructions to connect branch circuit power cables to premises fire alarm system components; comply with NFPA 70.
   2. Where accessories require auxiliary power, provide control power source and monitoring as indicated or as required to complete installation.
   3. Install auxiliary power supplies, including indicated monitoring, and connections necessary for remote equipment.

G. System Identification:
   1. Identify devices, notification appliances, components, cables, and equipment in accordance with approved submittals. See Section 26 0553.
   2. Mark location of disconnecting means for NPFLA circuits.
   3. Coordinate to provide red branch power circuit protective devices or identify them accordingly as required by NFPA 72 and NFPA 70.
   4. Mark date of batteries installed on inside cover of panels and formal maintenance logs.

H. Troubleshooting and Installer Checks:
   1. Check system operation for notification, FACU functions, circuit supervision, alarm initiating devices, supervisory initiating devices, dress panels/doors/covers, and programming before performing field tests.

3.02 INSPECTION AND TESTING FOR COMPLETION

A. Notify Owner 7 days prior to beginning completion inspections and tests.

B. Notify AHJ and comply with their requirements for scheduling inspections and tests and for observation by their personnel.

C. Provide services of installer's supervisor or person with equivalent qualifications to supervise inspection and testing, correction, and adjustments.

D. Perform inspection and testing in accordance with NFPA 72 and requirements of AHJ; document each inspection and test.

E. Correct defective work, adjust for operation, and retest until entire system complies with Contract Documents.

3.03 CLOSEOUT ACTIVITIES

A. Closeout Demonstration: Demonstrate operation of all functions to Owner.
   1. Have minimum one copy of operation and maintenance data, preliminary copy of project record drawings, input/output matrix, and operator instruction chart(s) available during demonstration.
   2. Demonstration may be combined with inspection and testing required by AHJ; notify AHJ with enough time to schedule demonstration.
   3. Repeat demonstration until successful.

END OF SECTION