PROJECT MANUAL

FOR

ALAMANCE COUNTY
124 WEST ELM STREET
GRAHAM, NC 27253

ALAMANCE COUNTY DETENTION CENTER ROOF REPLACEMENT
109 SOUTH MAPLE STREET
109 SOUTH MAPLE STREET, GRAHAM, NORTH CAROLINA, 27253 27253
REI PROJECT NO. R25RAL-052
ALAMANCE COUNTY BID NO. RFB #26-B004

04-15-2026

PREPARED BY:

9121 ANSON WAY, SUITE 100, RALEIGH, NC 27615
NORTH CAROLINA FIRM LICENSE C-1520

SECTION 00 0107

SEALS PAGE

PART 1 GENERAL

1.1 SUMMARY

A. Design Firm for Alamance County Detention Center Roof Replacement with Project Manual dated 04-15-2026:

1. REI Engineers, Inc., 9121 Anson Way, Suite 100, Raleigh, NC 27615.

2. North Carolina Firm License C-1520

Professional Engineer


END OF SECTION

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END OF SECTION

SECTION 00 0115

LIST OF DRAWINGS

PART 1 GENERAL

1.1 SUMMARY

A. The following drawings dated 01-03-2025 are included as part of the Contract Documents:

1. G-001 Cover
2. G-002 Building Code Summary
3. XR101 Roof Plan
4. XR102 Wind Uplift Plan
5. XR103 Roof Walk Pad Plan
6. XR301 Roof Systems
7. XR501 Details
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END OF SECTION

SECTION 00 1116

INVITATION TO BID

PART 1 GENERAL

1.1 PROJECT INFORMATION

A. Project Name: Alamance County Detention Center Roof Replacement

B. Project Address: 109 South Maple Street, Graham, North Carolina, 27253

C. Owner: Alamance County

D. Alamance County Bid No. RFB #26-B004

1.2 BIDS

A. Sealed bids for the project will be received from bidders by the Alamance County Office Building, at 124 West Elm Street, Graham, NC 27253, 1st floor conference room until 2:00 PM on May 19, 2026. The bids for the project will be publicly opened and read on June 2, 2026 at 11:00 AM at the same location.

1.3 PROJECT DOCUMENTS

A. Electronic project documents may be obtained from the Mark Iakovenko, PE, Associate Project Engineer of REI Engineers, Inc., miakovenko@reiengineers.com 9121 Anson Way, Suite 100, Raleigh, NC 27615, at no cost. Complete contract documents will also be open for inspection in the office of REI Engineers, 9121 Anson Way, Suite 100, Raleigh, NC 27615.

1.4 BIDDING REQUIREMENTS

A. All bidders are hereby notified that they shall be properly licensed under the state laws governing their trades.

B. Bid security in the amount equal to not less than 5% of the gross amount of the bid is required.

C. A Performance Bond and Payment Bond in the amount of the contract is required.

D. Submit questions to REI Engineers, Inc. in writing to the email address listed above no later than 5:00 PM at least 7 days prior to the bid due date.

1.5 PRE-BID MEETING

A. A mandatory Pre-Bid Meeting is scheduled on April 30, 2026 at the project address listed above.

END OF SECTION

!SECTION 00 2113

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.1 DEFINITIONS

A. The Bidding Documents consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Bid Form, and other sample bidding and contract forms.

B. The proposed Contract Documents consist of the Form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and Addenda issued prior to execution of the Contract.

C. Definitions set forth in Section 00 72 13 - General Conditions of the Contract for Construction or in other Contract Documents are applicable to the Bidding Documents.

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

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

F. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

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

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

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

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

1.2 BIDS

A. Submit Bid Form along with required enclosures in a sealed envelope, with the Bidder's name, license number, and project name written on the outside; place this sealed envelope in another envelope and deliver to the Owner at the address specified.

1. Include a USB drive with PDF copy of the submitted bid.

B. Bids will be received until the date and time specified at which time they will be publicly opened and read.

C. Fill in and sign the bid form correctly. Bids that show any omission, alterations of form, additions not called for, conditional Bids, or any irregularities of any kind may be rejected. If erasures are necessary and appear on the forms, each such erasure must be initialed by the person signing the proposal.

D. Bids that are non-responsive or fail to follow the Instructions to Bidders may be rejected.

E. No bid may be withdrawn after receipt of Bids for a period of 60 days.

1.3 ACCEPTANCE OF BID (AWARD)

A. It is the intention of the Owner to award a contract for work under this project to the lowest responsible Bidder; however, in the interest of suitability to the need of the Owner and/or economy, equipment, materials and furnishings other than the lowest in price may be selected.

B. The Owner reserves the right to reject any or all Bids, to accept any bid submitted, to waive any formalities, and to negotiate with the low Bidder or Bidders any changes considered necessary or desirable. The Owner reserves the right to reject any Bid when such rejection is in the interest of the Owner to reject the bid of the bidder who has previously failed to perform or to complete on time Contracts of a similar nature; and to reject the bid of a bidder who is not, in the opinion of the Engineer, in a position to perform the Contract.

C. The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted. Alternates may be accepted at any time during the bid holding period.

1.4 PRE-BID MEETING

A. Refer to the invitation or advertisement for bids for the date, time and location of the Pre-Bid Meeting.

B. A Pre-Bid Meeting will be held for purposes of considering questions posed by Bidders. All interpretations and corrections to Contract Documents deriving from this meeting will be documented via Addendum.

C. If the Bidder does not attend the Pre-Bid Meeting, it is the Bidder's responsibility to obtain the Pre-Bid Meeting Minutes and all Addenda.

1.5 DISQUALIFICATION

A. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or commit other illegal practices upon the part of the Bidder.

1.6 CONTRACTOR'S LICENSE

A. All Bidders must have proper licenses for contractors as required by State Law. The Bidder's license number shall be listed on the bid form and on the outside of the inner sealed envelope in which the bid is submitted.

1.7 CONFLICT OF INTEREST

A. Bidders must disclose in writing with their bid the name of any owner, officer, director, or agent who is also an employee of the Owner.

B. Bidders must disclose in writing with their bid the name of any employee of the Owner who owns, directly or indirectly, an interest of 5 percent or more in the Bidder's firm or any of its branches or subsidiaries.

C. By submitting a bid, the Bidder certifies that there is no relationship between the Bidder and any person or entity which is, or gives the appearance of, a conflict of interest related to this project.

1.8 NON-DISCRIMINATION

A. The Bidder shall not discriminate against any individuals and will take proactive measures to assure compliance with all Federal and State requirements concerning fair employment, employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination based upon age, race, color, religion, sex, national origin, or disability.

1.9 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

A. Examine Drawings and Specifications and all Addenda or other revisions thereto and thoroughly familiarize themselves with the detailed requirements thereof prior to submitting a proposal.

B. Should a Bidder find discrepancies or ambiguities in, or omissions from the Specifications and Drawings bound herein, or should be in doubt as to their meaning, notify the Engineer in writing immediately. Engineer will issue an interpretation in the form of an addendum. This addendum will be forwarded to all Bidders of record.

C. Addenda will be issued no later than four 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.

D. Act promptly and allow sufficient time for a reply to be provided before the date established for submission of Bids.

E. Acknowledge receipt of all addenda on the Bid Form.

F. No oral interpretations will be made to any Bidder as to the meaning or intent of the Contract Documents or be effective to modify any of the provisions of the Contract Documents.

1.10 SUBSTITUTIONS

A. References are made to certain specific products solely to denote the quality standard of the desired product and are not intended to restrict Bidders to a specific brand, make, manufacturer, or name. These products have been noted to assist in establishing material types and acceptable products. Equivalent products will be considered acceptable provided that the approval of the specific product has been given in writing by the Engineer.

B. Written requests for substitution of equivalent products from prime bidders will be considered if received by the Engineer 14 calendar days prior to the bid opening.

C. Submit each request for substitution on the form contained in Section 00 63 25 - Substitution Request Form for consideration in accordance with procedures required below.

D. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification sections and drawing number.

E. Provide complete documentation on both the product specified and the proposed substitution including the following information as appropriate:

1. Comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.

2. Samples where applicable or requested.

3. Detailed comparison of significant qualities of the proposed substitution with those of the work specified.

4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.

F. Certification by the Bidder or manufacturer that the substitution proposed is equal to or better in every respect to that required by the Contract Documents, and that it will perform equal or superior to product specified in the application indicated. The Bidder waives any right to additional payment or time, which may subsequently become necessary because of the failure of the substitution to perform adequately.

G. Engineer's Action: The Engineer may request additional information or documentation necessary for evaluation of the request. The Engineer will notify the Bidders of acceptance of the proposed substitution by means of an addendum to the bid documents. If the proposed substitute is accepted through an addendum use the product specified by name. Engineer's Substitution Approval during bidding and subsequent addendums does not void the Bidder's responsibility to submit the required shop drawings and comply with the other contract documents and requirements.

1.11 SITE INVESTIGATION

A. Examine the site to determine the extent of work involved, size of work, etc., and the conditions under which the work must be staged and performed. Examine the grounds and buildings, utilities and roads and ascertain by any reasonable means conditions that will in any manner affect its work. Ask the Engineer for any additional information that he deems necessary to be fully informed as to exactly what is to be expected prior to submitting a proposal. The drawings have been prepared on the basis of surveys and inspections of the site and physical conditions at the site. This, however, does not relieve the Bidder of the necessity for fully informing itself as to the existing physical conditions. Secure field measurements for quantities upon which proposal is based. Carefully examine the existing conditions as compared to the Contract Documents.

B. The submission of a bid will be construed as evidence that such an investigation has been made, and no subsequent allowance will be made in this connection on behalf of the bidder for any error or negligence.

C. Upon arrival at the Project Site, immediately proceed to the main entrance/office and advise the administrative personnel of its presence and purpose. Sign the visitor's log, giving his name, his company and the time and date of the visit.

D. Inspection of the work areas shall occur between the hours of 8:00 AM and 5:00 PM. No inspections will be conducted on Saturdays, Sundays, or holidays.

1.12 BID SECURITY

A. Bid bond, deposit of cash or a certified check drawn on a bank or trust company insured by the FDIC in an amount equal to not less than 5% of the gross amount of the bid is required.

1.13 PRIME CONTRACT

A. Perform all work under a single prime contract.

1.14 PERMITS, FEES AND TAXES

A. Secure and pay the costs of licenses, permits and fees for inspections required by City, County and/or State authorities; Social Security and other applicable Local, State and Federal Government taxes, and sales taxes. Include such costs in its bid.

1.15 SUBCONTRACTORS

A. List names of subcontractors on the Bid Form. Identify work by the general, subcontractor or not applicable for each trade; utilize blank lines to list trades not provided in the table. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

B. A Bidder whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except if the listed subcontractor's bid is later determined by the successful Bidder to be nonresponsible or nonresponsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or with the approval of the awarding authority, the Owner, for good cause shown by the successful Bidder.

C. The terms, conditions, and requirements of each contract between the successful Bidder and a subcontractor performing work under a subdivision or branch of work listed in this subsection shall incorporate by reference the terms, conditions, and requirements of the contract between the contractor and the Owner.

1.16 FORM OF AGREEMENT

A. The form of agreement between the Owner and Contractor to be entered into shall be the sample contained in Section 00 52 13 - Standard Form of Agreement.

1.17 ROOF SYSTEM MANUFACTURER

A. The roof system manufacturer shall complete the form contained in Section 00 62 33 - Roof Manufacturer's Acknowledgment. Bidder shall enclose the signed Roof Manufacturer's Acknowledgment form from the manufacturer it intends to use on the project with their bid.

1.18 BIDDER QUALIFICATIONS

A. Bids will be accepted from Bidders who are regularly engaged in, and licensed to perform, the work they are bidding, which represents a significant portion of their total volume and who perform this work with workers regularly employed on their direct payrolls. Before a bid is considered for award, the Bidder may be requested by the Engineer to submit a statement of facts in detail as to its previous experience in performing similar or comparable work and of its business and technical organization and financial resources available to be used in contemplated work. The Bidder may also be required to submit a statement of facts in detail on his proposed subcontractors as to their previous experience and past performance in performing similar work or comparable work.

END OF SECTION

SECTION 00 41 13

BID FORM

PART 1 GENERAL

1.1 PROJECT AND ITS PARTIES

A. TO:

Brian Baker, Assistant County Manager
Alamance County
124 West Elm Street
Graham, North Carolina 27253

B. PROJECT:

1. Alamance County Detention Center Roof Replacement

2. REI Project No. R25RAL-052

C. FROM:

1. Date: _____

2. Bidder: _____

3. Address: _____

4. Phone: _____ Email: _____

5. GC License #:_____ Classification:_____ Limitation: _____

1.2 BASE BID

A. The undersigned, as bidder, hereby declares that the only person or persons interested in this bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this bid or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The Bidder further declares that he has examined the site of the work and the contract documents relative thereto dated 04-15-2026 as prepared by REI Engineers, Inc., and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees if this bid is accepted to contract with the Owner in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools apparatus, means of transportation and labor necessary to complete the construction of the project with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the Contract Documents, for the sum of:

1. Words: _____

2. Figures: $_____._____

1.3 ALTERNATES:

A. The undersigned agrees to perform alternative work as described in Section 01 23 00 - Alternates for the sums stated below resulting in additions to or deductions from the base bid stated above. Additions and deductions shall include any modifications of the Work or additional work that may be reasonably included as part of the alternative work. All alternative work is to be completed within the same timeframe as the base bid work. All alternates must be filled out. A zero or no entry after any alternate indicates no cost change to include that Alternate. Alternates may be accepted at any time during the bid holding period. The undersigned acknowledges that failure to complete all information requested in this section may result in the rejection of this bid.

1. Alternate No. 1: Replacement of existing skylights.

   a. Words:_____

   b. Figures: $_____.___

   c. Select One: ___ Add or ___ Deduct

1.4 ALLOWANCES:

A. Include in the Base Bid the $10,000.00 Contingency Allowance.

B. Include in the Base Bid the following Quantity Allowances:

1. Repair 700 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating.

2. Repair 700 SF of Steel Deck (Corrosion Degree 2) with Steel Plates.

3. Replace 700 SF of Deteriorated Steel Deck (Corrosion Degree 4).

4. Replace 150 BF of Deteriorated Wood Blocking.

1.5 UNIT PRICES:

A. Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the scope of the work all in accordance with the contract documents.

1. Repair Corroded Steel Deck with Coating: $_____ per SF.

2. Repair Steel Deck with Steel Plates: $_____ per SF.

3. Replace Deteriorated Steel Deck: $_____ per SF

4. Replace Deteriorated Wood Blocking: $_____ per BF

1.6 MANUFACTURERS:

A. Base bid shall utilize roofing materials manufactured by _____. Only one manufacturer shall be listed. Provide Section 00 62 33 - Roof Manufacturer's Acknowledgment signed by manufacturer listed above and enclose with bid.

1.7 BID HOLDING TIME AND ACCEPTANCE:

A. The undersigned hereby agrees that this bid may not be revoked or withdrawn after the time set for the opening of bids but shall remain open during the bid holding period as specified in Section 00 21 13 - Instructions to Bidders.

1.8 SCHEDULE OF COMPLETION:

A. The undersigned understands that time is of the essence and agrees to the Contract Time and liquidated damages as indicated in General Conditions of the Contract for Construction and Supplementary Conditions apply to this Work. The undersigned hereby agrees to commence work on this project within 30 days following receipt of an Executed Agreement between the Owner and Contractor. Date of commencement will be established in a Notice to Proceed issued to Contractor. Complete work under the Base Bid and all alternates accepted within 60 calendar days from the date of commencement. Applicable liquidated damages shall be as stated in the Supplementary Conditions.

1.9 ADDENDUM:

A. Addendum received and used in computing bid:

1. Addendum No. 1: _____

2. Addendum No. 2: _____

1.10 SUBCONTRACTORS:

A. Fill out all blanks on the list below listing all subcontractors. Identify work by the general, subcontractor or not applicable for each trade; utilize blank lines to list trades not provided. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

1. Trade: _General_____ Contractor:_____

2. Trade: _Roofing_____ Contractor:_____

3. Trade: _Sheet Metal_____ Contractor:_____

4. Trade: _Mechanical_____ Contractor:_____

5. Trade: _Plumbing_____ Contractor:_____

6. Trade: _Electrical_____ Contractor:_____

7. Trade: _Waste Disposal_____ Contractor:_____

8. Trade: _____ Contractor:_____

9. Trade: _____ Contractor:_____

10. Trade: _____ Contractor:_____

1.11 ENCLOSURES:

A. Provide the following enclosures with submitted bid:

1. Bid Bond

2. Minority Business Enterprise Submittals

3. Roof Manufacturer's Acknowledgment for Manufacturer listed above.

4. Response/Travel Time Documentation

1.12 SUBMITTED BY:

A. Contractor Name: _____

B. Authorized Signing Officer Name: _____

C. Authorized Signing Office Title: _____

D. Signature: _____

E. Respectfully submitted this _____ day of _____, 20____

1.13 NOTARIZED BY:

A. I, _____ (print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this _____ day of _____, 20 ___. My commission expires ____ of _____, 20 ___.

B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 00 4313

BID BOND FORM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Owner's required Bid Bond Form attached to this section.

1.2 RELATED DOCUMENTS

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

1.3 BID SECURITY

A. In lieu thereof, each bid may be accompanied by a deposit of cash or a certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation (FDIC) in an amount equal to not less than 5% of the gross amount of the bid.

B. Bid Bond shall be signed by the Bidder and notarized.

C. If the successful Bidder fails to execute the contract within 10 days after award, the above deposit will be retained by the Owner on the bid bond executed on liquidated damages.

END OF SECTION

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____ _____ as principal, and _____, as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the State of North Carolina* through _____ as obligee, in the penal sum of _____ DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this ____ day of _____ 20__

WHEREAS, the said principal is herewith submitting proposal for and the principal desires to file this bid bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that the bid may be withdrawn as provided by G.S. 143-129.1

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

***(**Community college projects: Delete State of North Carolina as owner and replace with community college name.)

SECTION 00 4339

MINORITY BUSINESS ENTERPRISE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Owner's required Minority, Women and Small Business Enterprise Program.

1.2 RELATED DOCUMENTS

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

Identification of HUB Certified/ Minority Business Participation

I,_____,
(Name of Bidder)
do hereby certify that on this project, we will use the following HUB Certified/ minority business as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work Type	*Minority Category	**HUB Certified (Y/N)

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

The total value of minority business contracting will be ($)_____.

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of_____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- ❑ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ❑ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- ❑ **3** – **(15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ❑ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ❑ **5** – **(10 pts)** Attended prebid meetings scheduled by the public owner.
- ❑ **6** – **(20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ❑ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ❑ **8** – **(25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ❑ **9** – **(20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ❑ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of_____, County of_____

Subscribed and sworn to before me this _____day of _____20____

Notary Public_____

My commission expires _____

State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20___

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by HUB Certified/Minority Businesses

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by HUB certified/minority businesses as defined in GS143-128.2(g) and 128.4(a),(b),(e) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit.
This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____
(Project Name)

Project ID#_____ Amount of Bid $_____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

SEAL

Signature:_____

Title:_____

State of _____, County of _____
Subscribed and sworn to before me this _____day of _____20____
Notary Public_____
My commission expires_____

State of North Carolina AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by HUB Certified/ minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____
(Project Name)

Project ID#_____ Amount of Bid $_____

I will expend a minimum of _____% of the total dollar amount of the contract with HUB certified/ minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.

B. Copies of quotes or responses received from each firm responding to the solicitation.

C. A telephone log of follow-up calls to each firm sent a solicitation.

D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.

E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.

F. Copy of pre-bid roster

G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.

H. Letter detailing reasons for rejection of minority business due to lack of qualification.

I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____day of _____20____

Notary Public_____

My commission expires _____

SECTION 00 5213

STANDARD FORM OF AGREEMENT

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Owner's Standard Form of Agreement

1.2 RELATED DOCUMENTS

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

ALAMANCE COUNTY NORTH CAROLINA
STANDARD FORM OF AGREEMENT AND GENERAL CONDITIONS
FOR CONSTRUCTION SERVICES

THIS AGREEMENT FOR GOODS AND/OR SERVICES (hereinafter "Agreement"), made and entered into by and between Alamance County ("County"), and _____ ("Contractor"),

WHEREAS, Contractor has agreed to provide construction services as hereinafter set forth in a professional manner in accordance with the standards of Contractor's business or industry; and

WHEREAS, the County wishes to enter into an Agreement with Contractor to provide the goods and/or services specified herein.

NOW THEREFORE, for good and valuable consideration upon which the Parties mutually agree to be beneficial, the parties agree as follows:

1. GENERAL

It is understood and agreed that, before the signing of this Agreement, the Contractor has examined these Contract Documents, drawings and specifications and has visited the site of the Work, or has otherwise satisfied himself relative to the Work to be performed.

2. DEFINITIONS

Owner: "Owner" shall mean Alamance County.

Contractor: "Contractor" shall mean the entity that will provide the services for the Owner.

Designer: The Designer(s) are those referred to within this contract, or their authorized representatives. The Designer(s), as referred to herein, shall mean architect and/or engineer responsible for preparing the project plans and specifications (which may also be the Contractor, if so specified in the Scope of Work). They will be referred to hereinafter as if each were of the singular number, masculine gender.

Contract Documents: "Contract Documents" shall consist of the Notice to Bidders; this Agreement; special conditions if applicable; Supplementary General Conditions; the drawing and specifications, including all bulletins, addenda or other modifications of the drawings and specifications incorporated into the documents prior to their execution; the bid; the contract; the performance bond if applicable; and insurance certificates. All of these items together form the Contract Documents.

3. INTENT AND EXECUTION OF DOCUMENTS

The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a complete job. In case of discrepancy or disagreement in the Contract Documents, the order of precedence shall be this Agreement, specifications, large-scale detail drawings, small-scale drawings.

In such cases where the nature of the work requires clarification by the Designer/ Owner, the Designer/ Owner shall furnish such clarification. Clarifications and drawings shall be consistent with the intent of the Contract Documents and shall become a part thereof.

4. AS-BUILT MARKED-UP CONSTRUCTION DOCUMENTS

Contractor shall provide one complete set of legible "as-built" marked-up construction drawings and specifications recording any and all changes made to the original design during the course of construction. In the event no changes occurred, submit construction drawings and specifications set with notation "No Changes." The Designer/Owner must receive "As-built" marked-up construction drawings and specifications before the final pay request can be processed.

5. SUBMITTAL DATA

The Contractor awarded the contract shall submit all specified submittals to the Owner/Designer. A minimum number of copies as specified by the Owner, of all required submittal data pertaining to construction, performance and general dimensional criteria of the components listed in the technical specifications shall be submitted. No material or equipment shall be ordered or installed prior to written approval of the submittals by the Owner. Failure to provide submittal data for review on equipment listed in the technical specifications will result in removal of equipment by the Contractor at his expense if the equipment is not in compliance with the specifications.

6. SUBSTITUTIONS

In accordance with the provisions of N.C. Gen. Stat. § 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until five (5) days prior to the receipt of bids or by the date specified in the pre bid conference, when submitted to the Designer or Owner with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as a potential change order.

Submittals for proposed substitutions shall include the following information:

a. Name, address, and telephone number of manufacturer and supplier as appropriate.

b. Trade name, model or catalog designation.

c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.

d. Detailed comparison with specified products including performance capabilities, warranties, and test results.

e. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer or Owner to those specified, all bidders of record will be notified by Addendum**.**

7. WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

The Contractor shall maintain, in readable condition at his job site one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the Owner, Designer, or his authorized representative.

The Contractor shall maintain at the job site, a day-to-day record of work-in-place that is at variance with the Contract Documents. Such variations shall be fully noted on project drawings by the Contractor and submitted to the Designer upon project completion and no later than 30 days after acceptance of the project.

8. MATERIALS, EQUIPMENT, EMPLOYEES

a. The Contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, fuel, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the Contract Documents.

b. All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.

c. Upon notice, the Contractor shall furnish evidence as to quality of materials.

d. Products are generally specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed. However, the Contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict bidders to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to bidders the general style, type, character and quality of product desired; and that equivalent products will be acceptable. Request for substitution of materials, items, or equipment shall be submitted to the Designer for approval or disapproval; the Designer prior to the opening of bids shall make such approval or disapproval. Alternate materials may be requested after the award if it can clearly be demonstrated that it is an added benefit to the Owner and the Designer and Owner approves.

e. The Designer is the judge of equality for proposed substitution of products, materials or equipment.

f. If at any time during the construction and completion of the work covered by the Contract Documents, the language, conduct, or attire of any workman of the various crafts be adjudged a

nuisance to the Owner or Designer, or if any workman be considered detrimental to the work, the Contractor shall order such parties removed immediately from grounds.

g. The Contractor shall cooperate with the Designer and the Owner in coordinating construction activities.

h. The Contractor shall maintain qualified personnel and effective supervision at the site at all times during the project, and exercise the appropriate quality control program to ensure compliance with the project drawings and specifications. The Designer is responsible for determining compliance with the drawings and specifications.

9. CODES, PERMITS AND INSPECTIONS

The Contractor shall obtain the required permits, if required, give all notices, and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Designer in writing. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the Owner, he shall bear all cost arising there from.

All work under this contract shall conform to the current North Carolina Building Code and other state and national codes as are applicable. Where appropriate, the Contractor shall, cooperate with the county or municipal authorities by obtaining building permits. The Contractor, at no additional cost, may obtain permits for the Owner.

All fire alarm work shall be in accordance with the latest State Construction Office (SCO) *Guidelines for Fire Alarm Installation* (NFPA72). Where the Contract Documents are in conflict with the SCO guidelines, the SCO guidelines shall govern. The Contractor shall be responsible for all the costs for the correction of the work where he installs it in conflict with the latest edition of the SCO *Guidelines for Fire Alarm Installation*.

10. PROTECTION OF WORK, PROPERTY, THE PUBLIC AND SAFETY

a. The Contractor(s) shall be jointly responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the Owner or Designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the Owner's property or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for and pay for any damages caused to the Owner. All Contractors shall have access to the project at all times, except as indicated in the Supplemental General Conditions.

b. The Contractor shall provide cover and protect all portions of the structure when the work is not in progress, provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection or from any other cause, shall be repaired or replaced without extra cost to the Owner.

c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the Designer and Owner.

d. The Contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations by building substantial boxes around it. He shall barricade all walks, roads, etc., as directed by the Designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.

e. The Contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the A.G.C. *Accident Prevention Manual in Construction*, as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

f. The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974, *Federal Register*), and revisions thereto as adopted by N.C. Gen. Stat. § 95-126 through 155.

i. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the Contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the Contractor on account of such action shall be determined as provided for under Article 13(b).

j. Any and all costs associated with correcting damage caused to adjacent properties of the construction site or staging area shall be borne by the Contractor. These costs shall include but not be limited to flooding, mud, sand, stone, debris, and discharging of waste products.

11. SUBCONTRACTS AND SUBCONTRACTORS

The Contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The Contractor agrees that no contractual relationship exists between the subcontractor and the Owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the Contractor.

12. CONTRACTOR-SUBCONTRACTOR RELATIONSHIPS

The Contractor agrees that the terms of these Contract Documents shall apply equally to each subcontractor as to the Contractor, and the Contractor agrees to take such action as may be necessary to bind each subcontractor to these terms. The Contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to Contractor-subcontractor relationships. The Owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.

13. CHANGES IN THE WORK AND CLAIMS FOR EXTRA COST

a. The Owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the Contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guarantee bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.

b. Except in an emergency endangering life or property, no change shall be made by the Contractor except upon receipt of approved change order from the Designer, countersigned by the Owner authorizing such change. No claim for adjustments of the contract price shall be valid unless this procedure is followed.

In the event of emergency endangering life or property, the Contractor may be directed to proceed on a time and material basis whereupon the Contractor shall proceed and keep accurately on such form as specified by the Designer or Owner, a correct account of costs together with all proper invoices, payrolls and supporting data. Upon completion of the work the change order will be prepared as outlined under either Method "c(1)" or Method "c(2)" or both (below).

c. In determining the values of changes, either additive or deductive, Contractors are restricted to the use of the following methods:

1. Where the extra work involved is covered by unit prices quoted in the proposal, or subsequently agreed to by the Contractor, Designer, Owner and State Construction Office the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed of the items involved, except is such cases where a quantity exceeds the estimated quantity allowance in the contract by one hundred percent (100%) or more. In such cases, either party may elect to proceed under subparagraph c(2) herein. If neither party elects to proceed under c(2), then unit prices shall apply.

2. The contracting parties shall negotiate and agree upon the equitable value of the change prior to issuance of the change order, and the change order shall stipulate the corresponding lump sum adjustment to the contract price.

d. Under Paragraph “b” and method "c(2)" above, the allowances for overhead and profit combined shall be as follows: all Contractors (the single contracting entity (prime), his subcontractors(1st tier subs), or their sub-subcontractors (2nd tier subs, 3rd tier subs, etc.) shall be allowed a maximum of 10% on work they each self-perform; the prime Contractor shall be allowed a maximum of 5% on contracted work of his 1st tier sub; 1st tier, 2nd tier, 3rd tier, etc. Contractors shall be allowed a maximum of 2.5% on the contracted work of their subs. ; Under method "c(1)", no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under method "c(2)" and Paragraph (b) above, the Contractor shall include no less than five percent (5%) profit, but no allowances for overhead.

e. The term "net cost" as used herein shall mean the difference between all proper cost additions and deductions. The "cost" as used herein shall be limited to the following:

1. The actual costs of materials and supplies incorporated or consumed as part of the work;

2. The actual costs of labor expended on the project site; labor expended in coordination, change order negotiation, record document maintenance, shop drawing revision or other tasks necessary to the administration of the project are considered overhead whether they take place in an office or on the project site;

3. The actual costs of labor burden, limited to the costs of social security (FICA) and Medicare/Medicaid taxes; unemployment insurance costs; health/dental/vision insurance premiums; paid employee leave for holidays, vacation, sick leave, and/or petty leave, not to exceed a total of 30 days per year; retirement contributions; worker's compensation insurance premiums; and the costs of general liability insurance when premiums are computed based on payroll amounts; the total of which shall not exceed thirty percent (30%) of the actual costs of labor;

4. The actual costs of rental for tools, excluding hand tools; equipment; machinery; and temporary facilities required for the work;

5. The actual costs of premiums for bonds, insurance, permit fees and sales or use taxes related to the work.

Overtime and extra pay for holidays and weekends may be a cost item only to the extent approved by the Owner.

f. Should concealed conditions be encountered in the performance of the work below grade, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, the contract sum and time for completion may be equitably adjusted by change order upon claim by either party made within thirty (30) days after the condition has been identified. The cost of such change shall be arrived at by one of the foregoing methods. All change orders shall be supported by a unit cost breakdown showing method of arriving at net cost as defined above.

g. Change orders shall be submitted by the Contractor in writing to the Owner/Designer for review and approval. The Contractor will provide such proposal and supporting data in suitable format. The Designer shall verify correctness. Delay in the processing of the change order due to lack of proper submittal by the Contractor of all required supporting data shall not constitute grounds for a time extension or basis of a claim. Within fourteen (14) days after receipt of the Contractor's accepted proposal including all supporting documentation required by the Designer**,** the Designer shall prepare the change order and forward to the Contractor for his signature or otherwise respond, in writing, to the Contractor's proposal. Within seven (7) days after receipt of the change order executed by the Contractor, the Designer shall, certify the change order by his signature, and forward the change order and all supporting data to the Owner for the Owner's signature. The Owner shall execute the change order**,** within seven (7) days of receipt.

At the time of signing a change order, the Contractor shall be required to certify as follows:

"I certify that my bonding company will be notified forthwith that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety."

h. A change order, when issued, shall be full compensation, or credit, for the work included, omitted or substituted. It shall show on its face the adjustment in time for completion of the project as a result of the change in the work.

i. If, during the progress of the work, the Owner requests a change order and the Contractor's terms are unacceptable, the Owner**,** may require the Contractor to perform such work on a time and material basis whereupon the Contractor shall proceed and keep accurately on such form as specified by the Designer or Owner, a correct account of cost together with all proper invoices, payrolls and supporting data. Upon completion of the work a change order will be prepared with allowances for overhead and profit per paragraph d. above and "net cost" and "cost" per paragraph e. above. Without prejudice, nothing in this paragraph shall preclude the Owner from performing or to have performed that portion of the work requested in the change order.

14. ANNULMENT OF CONTRACT

If the Contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the Contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the Owner may give notice in writing, sent by certified mail, return receipt requested, to the Contractor and his surety (if applicable) of such delay, neglect or default, specifying the same, and if the Contractor within a period of seven (7) days after such notice shall not proceed in accordance therewith, then the Owner shall, declare this Agreement in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified.

In the event the Contractor, or the surety (if applicable) shall fail to take over the work to be done under this contract within seven (7) days after being so notified and notify the Owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the Owner shall have full power and authority, without violating the contract, to take the prosecution of the work out of the hands of said Contractor, to appropriate or use any or all contract materials and equipment on the grounds as may be suitable and acceptable and may enter into an agreement, either by public letting or negotiation, for the completion of said contract according to the terms and provisions thereof or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the costs of completing the work under contract, shall be deducted from any monies due or which may become due said Contractor and surety (if applicable). In case the expense so incurred by the Owner shall be less than the sum which would have been payable under the contract, if it had been completed by said Contractor, then the said Contractor and surety (if applicable) shall be entitled to receive the difference, but in case such expense shall exceed the

sum which would have been payable under the contract, then the Contractor and the surety (if applicable) shall be liable and shall pay to the Owner the amount of said excess.

15. TERMINATION FOR CONVENIENCE

a. Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience, after notification to the Contractor in writing via certified mail. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

b. Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as approved by Owner; (3) plus ten percent (10%) of the cost of the balance of the work to be completed for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of any payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment.

16. OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the Contractor fails to prosecute the work properly or to perform any provision of the contract, the Owner, after seven (7) days' written notice sent by certified mail, return receipt requested, to the Contractor from the Designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the Contractor, such action and cost of same having been first approved by the Designer. Should the cost of such action of the Owner exceed the amount due or to become due the Contractor, then the Contractor or his surety, or both, shall be liable for and shall pay to the Owner the amount of said excess.

17. REQUESTS FOR PAYMENT / SUBSTANTIAL COMPLETION

The Owner will process all Contractor pay requests as the project progresses. The Contractor shall receive payment within thirty (30) consecutive days after Owner's approval of each pay request. Payment will only be made for work performed as determined by the Owner.

Retainage:

a. Retainage withheld will not exceed 5% at any time.
b. The same terms apply to general Contractor and subcontractors alike.
c. Following 50% completion of the project no further retainage will be withheld if the Contractor/subcontractor has performed their work satisfactorily.
d. Exceptions:
    1. Owner/Contractor can reinstate retainage if the Contractor/subcontractor does not continue to perform satisfactorily.
    2. Following 50% completion of the project, the Owner is authorized to withhold additional retainage from a subsequent periodic payment if the amount of retainage withheld falls below 2.5%.
e. Retainage shall be applied and released in accordance with N.C. Gen. Stat. § 143-134.1, as amended.

Final payment will be made within forty-five (45) consecutive days after acceptance of the work, receipt of marked-up “as-built” drawings and specifications and the submission both of notarized Contractor's affidavit and final pay request. Applications for Payment shall be submitted on AIA Document G702 and G703 or equivalent forms acceptable to the Owner. All pay requests shall be submitted to the Designer/Owner for approval.

Substantial Completion shall be documented on AIA Document G704, Certificate of Substantial Completion, or on an equivalent form approved by the Owner. The Designer and Owner may also utilize standard AIA administrative forms (including but not limited to G706, G706A, G707, G710, and G714), or equivalent forms, in administering the Contract; use of such forms does not modify the terms of this Agreement.

THE CONTRACTOR'S FINAL PAYMENT AFFIDAVIT SHALL STATE: "THIS IS TO CERTIFY THAT ALL COSTS OF MATERIALS, EQUIPMENT, LABOR, SUBCONTRACTED WORK, AND ALL ELSE ENTERING INTO THE ACCOMPLISHMENT OF THIS CONTRACT, INCLUDING PAYROLLS, HAVE BEEN PAID IN FULL."

18. PAYMENTS WITHHELD

The Owner may withhold payment for the following reasons:

a. Faulty work not corrected.

b. The unpaid balance on the contract is insufficient to complete the work.

c. To provide for sufficient contract balance to cover liquidated damages.

d. Claims filed against the Contractor or evidence that a claim will be filed.

e. Evidence that subcontractors have not been paid.

When grounds for withholding payments have been removed, payment will be released.

19. MINIMUM INSURANCE REQUIREMENTS

The work under this contract shall not commence until the Contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the Owner. These certificates shall document that coverages afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the Owner of such alteration or cancellation. If endorsements are needed to comply with the notification or other requirements of this article copies of the endorsements shall be submitted with the certificates.

a. **Worker’s Compensation and Employer's Liability**

The Contractor shall provide and maintain, until final acceptance, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of $100,000.

b. **Public Liability and Property Damage**

The Contractor shall provide and maintain, until final acceptance, comprehensive general liability insurance, including coverage for premises operations, independent Contractors, completed operations, products and contractual exposures, as shall protect such Contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the Contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury:	$1,000,000 per occurrence / $2,000,000 aggregate
Property Damage:	$1,000,000 per occurrence / $2,000,000 aggregate

In lieu of limits listed above, a $2,000,000 combined single limit shall satisfy both conditions.

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the work performed under the contract.

c. **Property Insurance (Builder's Risk/Installation Floater)**

The Contractor shall purchase and maintain property insurance until final acceptance, upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, the subcontractors and sub-subcontractors in the work and shall insure against the perils of fire, wind, rain, flood, extended coverage, and vandalism and malicious mischief. If the Owner is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto; the Contractor shall effect and maintain similar property insurance on portions of the work stored off the site when request for payment per articles so includes such portions.

d. **Deductible**

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the Contractor.

e. **Other Insurance**

The Contractor shall obtain such additional insurance as may be required by the Owner or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

f. **Proof of Carriage**

The Contractor shall furnish the Owner with satisfactory proof of carriage of the insurance required before written approval is granted by the Owner.

20. ASSIGNMENT

No assignment of the Contractor's obligations or the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the Owner and solely as a convenience to the Contractor, the Owner may: (1) forward the Contractor's payment check directly to any person or entity designated by the Contractor, and (2) include any person or entity designated by Contractor as a joint payee on the Contractor's payment check. In no event shall such approval and action obligate the Owner to anyone other than the Contractor, and the Contractor shall remain responsible for fulfillment of all contract obligations.

21. CLEANING UP AND RESTORATION OF SITE

The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Owner. Before final inspection and acceptance of the project, the Contractor shall thoroughly clean the sites, and completely prepare the project and site for use by the Owner.

At the end of construction, the Contractor shall oversee and implement the restoration of the construction site to its original state. Restoration includes but not limited to walks, drives, lawns, trees and shrubs, corridors, stairs and other elements shall be repaired, cleaned or otherwise restored to their original state.

22. GUARANTEE

The Contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the final acceptance of the work and shall replace such defective materials or workmanship without cost to the Owner.

Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The Contractor shall replace such defective equipment or materials, without cost to the Owner, within the manufacturer's warranty period.

Additionally, the Owner may bring an action for latent defects caused by the negligence of the Contractor, which is hidden or not readily apparent to the Owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.

Guarantees for roofing workmanship and materials shall be stipulated in the specifications sections governing such roof, equipment, materials, or supplies.

23. BONDS

Bid Security. For contracts to which N.C. Gen. Stat. § 143-129 applies, each bid shall be accompanied by a bid bond or cash deposit of not less than five percent (5%) of the bid amount, in a form acceptable to the County.

Performance & Payment Bonds. For contracts subject to N.C. Gen. Stat. § 143-129 and Article 3 of Chapter 44A, the Contractor shall, prior to execution of the Agreement, furnish performance and payment bonds each in the full amount (100%) of the Contract Sum, on forms approved by the County.

24. STANDARDS

All manufactured items and/or fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving a connection to a manufactured, natural, or LP gas source shall be constructed and approved in a manner acceptable to the appropriate State inspector which customarily requires the label or re-examination listing or identification marking of appropriate safety standard organization, such as the American Society of Mechanical Engineers for pressure vessels; the Underwriters Laboratories and/or National Electrical Manufacturers Association for electrically operated assemblies; or the American Gas Association for gas operated assemblies, where such approvals of listings have been established for the type of device offered and furnished. Further, all items furnished shall meet all requirements of the Occupational Safety and Health Act (OSHA), and State and federal requirements relating to clean air and water pollution.

All equipment and products must be independent third party tested and labeled (UL, FM, or CTS) before final connections to Owner services or utilities.

25. TAXES

Amount of county sales and use tax paid per Contractor's statements:

Contractors performing contracts for public entities shall give the public entity for whose project the property was purchased a signed statement containing the information listed in N.C. Gen. Stat. § 105-164.14(e).

The Department of Revenue has agreed that in lieu of obtaining copies of sales receipts from Contractors, an agency may obtain a certified statement as of April 1, 1991 from the Contractor setting forth the date, the type of property and the cost of the property purchased from each vendor, the county in which the vendor made the sale and the amount of local sales and use taxes paid thereon. If the property was purchased out-of-state, the county in which the property was delivered should be listed. The Contractor should also be notified that the certified statement may be subject to audit.

In the event the Contractor makes several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, the counties, and the county sales and use taxes paid thereon.

Name of taxing county: The position of a sale is the retailer's place of business located within a taxing county where the vendor becomes contractually obligated to make the sale. Therefore, it is important that the county tax be reported for the county of sale rather than the county of use.

When property is purchased from out-of-state vendors and the county tax is charged, the county should be identified where delivery is made when reporting the county tax.

Such statement must also include the cost of any tangible personal property withdrawn from the Contractor's warehouse stock and the amount of county sales or use tax paid thereon by the Contractor.

Similar certified statements by his subcontractors must be obtained by the general Contractor and furnished to the claimant.

Contractors are not to include any tax paid on supplies, tools and equipment which they use to perform their contracts and should include only those building materials, supplies, fixtures and equipment which actually become a part of or annexed to the building or structure.

26. EQUAL OPPORTUNITY

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the secretary of Labor, are incorporated herein.

The Contractor(s) agree not to discriminate against any employee or applicant for employment because of physical or mental disabilities in regard to any position for which the employee or applicant is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with such disabilities without discrimination based upon their physical or mental disability in all employment practices.

27. MINORITY BUSINESS PARTICIPATION

N.C. Gen. Stat. § 143-128.2 establishes a ten percent (10%) goal for participation by minority business in total value of work for each public building project.

For construction contracts with a value of less than $300,000, the Owner has the responsibility to make a good faith effort to solicit minority bids and to attain the goal. The Contractor shall include with his bid a completed Identification of HUB Certified/Minority Business Participation form. Contractor shall submit completed Appendix E MBE Documentation for Contract Payments form with final payment request.

For construction contracts with a value of $300,000 or greater, the Contractor shall comply with the document *Guidelines for* Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts including Identification of Minority Business Participation (Affidavits A, B, C, and D, and Appendix E). These forms provided herein are hereby incorporated and made a part of this contract.

28. ACCESS TO PERSONS AND RECORDS

The Owner's internal auditors shall also have the right to access and copy the Contractor's records relating to the Contract and Project during the term of the Contract and within two years following the completion of the Project/close-out of the Contract to verify accounts, accuracy, information, calculations and/or data affecting and/or relating to Contractor's requests for payment, requests for change orders, change orders, claims for extra work, requests for time extensions and related claims for delay/extended general conditions costs, claims for lost productivity, claims for lost efficiency, claims for idle equipment or labor, claims for price/cost escalation, pass-through claims of subcontractors and/or suppliers, and/or any other type of claim for payment or damages from Owner and/or its project representatives.

29. CONFIDENTIALITY

All proprietary data and information, if any, furnished to Contractor by County shall be regarded as confidential, shall remain the sole property of County and shall be held in confidence and safekeeping by Contractor for the sole use of County and Contractor under the terms of this Agreement. Contractor agrees that its officers, employees, and agents will not disclose to any person, firm, or entity other than

County or its designated legal counsel, accountants, or practice management consultants any confidential information about County. Contractor agrees to carry out its obligations to County in compliance with all privacy and security regulations required by law.

30. QUALITY OF GOODS AND/OR SERVICES

All goods and/or services hereunder shall be provided in a competent, professional and workmanlike manner and in strict compliance with this Agreement. The items and/or services hereunder shall be provided according to County's Specifications and Contractor's Proposal, which is attached hereto and incorporated herein by reference. Contractor will provide all goods and/or perform all services in accordance with the service levels and performance levels as may be set forth in this Agreement.

31. INTELLECTUAL PROPERTY OWNED BY CONTRACTOR

This Agreement is subject to the North Carolina public records law, and may be released upon request. Not all "Trade Secrets" will qualify as protected under N.C. Gen. Stats. §§ 132-1.2 and 66-152. Contractor should consult legal counsel before signing this document if Contractor is unsure of its intellectual property status under these statutes.

32. STATUS OF PARTIES

Nothing contained in this Agreement shall be construed as establishing a partnership or joint venture relationship between Contractor and the County. Contractor and its employees and representatives are independent contractors, solely responsible for its or their performance under this Agreement and shall have no legal authority to bind County.

33. ASSIGNMENT AND SUBCONTRACTING

Neither this Agreement nor any rights or obligations hereunder shall be subcontracted, assigned, or delegated by Contractor without prior written consent of County, which consent may be withheld in County's sole discretion.

34. BINDING EFFECT

This Agreement shall be binding upon the parties hereto, their heirs, administrators, executors, successors and assigns, if such assignment has been approved by the County.

35. NOTICES

Any notice or other communication required or permitted under this Agreement shall be in writing and shall be deemed to have been given on the date delivered personally or deposited in the United States Postal Service, certified mail, return receipt requested, with adequate postage affixed, addressed as follows:

Alamance County	Contractor
Attn: County Attorney	Attn:
124 W. Elm Street	Address
Graham, NC 27253	

Either party may change its address for notices under this Agreement by giving written notice of such change to the other party in accordance with the provisions of this paragraph.

36. FORCE MAJEURE

Neither Party shall be liable to the other party for any failure or delay caused by events beyond such party's control and not due to its own negligence, provided that such party uses commercially reasonable efforts to resume performance as soon as reasonably practicable. The non-performing Party shall notify the other Party of the force majeure event within twenty-four (24) hours of the onset thereof. In the event that a force majeure event precludes Contractor from performing services and/or providing goods for a period of ten (10) consecutive business days, County shall have the right to: (a) procure replacement goods and/or services from an alternative source and/or (b) terminate the Contract or portion(s) of Contract upon written notice to Contractor.

37. GOVERNING LAW

This Agreement and the rights and obligations to the parties hereunder shall be construed and governed by the laws of the State of North Carolina and venue for any proceedings arising hereunder shall be in the state court of appropriate jurisdiction located in Alamance County, North Carolina.

38. MODIFICATIONS

This Agreement may be amended or modified only by the mutual written consent of the parties. A modification is not enforceable against the County unless it is signed by the County Manager or other duly authorized official.

39. ENTIRE AGREEMENT

This Agreement contains the entire agreement between the parties pertaining to the subject matter of this Agreement. With respect to that subject matter, there are no promises, agreements, conditions, inducements, warranties or understandings, written or oral, expressed or implied, between the parties, other than as set forth or referenced in this Agreement.

40. WAIVER

A waiver of any provision of this Agreement must be in writing, designated as such, and signed by the party against whom enforcement of the waiver is sought. The waiver of a breach of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent or other breach thereof.

41. INDEMNITY

Contractor agrees to indemnify and hold harmless County, its officers, elected officials, agents, servants, and employees from any and all claims, actions, lawsuits, losses, damages, expenses, judgments, or liabilities of any kind whatsoever (including without limitation, cost of defense and attorney fees) suffered by County and proximately caused by an act or omission of Contractor, its subcontractors, agents, or employees.

42. TIME IS OF THE ESSENCE

Completion of all services (and supply of all goods required) under this Agreement must be completed in a timely fashion. Failure to act within the time required constitutes a breach of this Agreement.

43. SEVERABILITY

If any provision of this Agreement is held unenforceable, then it shall be stricken and all remaining provisions of this Agreement shall remain in full force and effect.

44. STATE AND FEDERAL REQUIREMENTS

By signing this Agreement, Contractor certifies that Contractor, and (if applicable) any of Contractor's subcontractors, are in compliance with all applicable State and Federal laws (including, but not limited to, N.C. Gen. Stat. § 143-129(j) regarding E-Verify, legal prohibitions against unlawful employment/workplace discrimination, and the requirement not to be listed on any divestment list published by the NC State Treasurer and any other Federal or State debarment or suspension lists).

IN WITNESS WHEREOF, the parties have executed this Agreement in their official capacities with legal authority to do so.

Alamance County

By: _____
Heidi York, County Manager

Contractor

By: _____

Name: _____

Title: _____

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

_____

Susan Evans, Finance Director

SECTION 00 6000

PROJECT FORMS

PART 1 GENERAL

1.1 SUMMARY

A. The following documents are hereby incorporated into the Contract Documents by reference:

1. AIA Documents: Properly licensed forms are available for purchase from the American Institute of Architects at www.aia.org/documents. Utilize current version of each document.

a. G701 Change Order Form

b. G702 Application and Certificate for Payment

c. G703 Continuation Sheet

d. G704 Certificate of Substantial Completion

e. G706 Contractor's Affidavit of Payment of Debts and Claims

f. G706A Contractor's Affidavit of Payment of Release of Liens

g. G707 Consent of Surety to Final Payment

h. G714 Construction Change Directive

B. The following documents are included in the Project Manual:

1. Section 00 61 13.13 – Form of Performance Bond

2. Section 00 61 13.16 – Form of Payment Bond

3. Section 00 62 11 - Submittal Transmittal Form

4. Section 00 62 33 - Roof Manufacturer's Acknowledgment

5. Section 00 62 73 - Schedule of Values

6. Section 00 62 89 - List of Key Personnel

7. Section 00 63 13 - Request for Interpretation

8. Section 00 63 25 - Substitution Request Form

9. Section 00 63 55 - Change Proposal Form

10. Section 00 65 16 – Certificate of Substantial Completion

11. Section 00 65 36 - Contractor's Warranty

12. Section 00 65 37 - Asbestos Free Warranty

END OF SECTION

SECTION 00 6113.13

PERFORMANCE BOND FORM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Utilize Owner's required Performance Bond Form attached to this section.

1.2 RELATED DOCUMENTS

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

1.3 GENERAL

A. A Performance Bond in the amount of the contract is required.

B. Include the cost of providing bonds in the Base Bid.

C. Deliver the required bonds to the Owner no later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

D. Write bonds on the forms contained or referenced herein.

E. Write bond in the amount of the Contract Sum.

F. Date bonds on the date of the Contract.

G. Issue bonds by sureties and execute by an attorney-in-fact, on behalf of the surety, who is authorized to do business in the State of North Carolina.

H. Affix thereto a certified and current copy of the power of attorney.

END OF SECTION

FORM OF PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal (Contractor) _____

Name and Address of Surety: _____

Name of Contracting Body: _____

Amount of Bond: _____

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind, ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body, identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the contracting body, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterpart(s).

_____
Contractor: (Trade or Corporate Name)

By: _____

Name: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

_____
(Surety Company)

By: _____

Name: _____

Title: _____
(Attorney in Fact)

(Surety Corporate Seal)

_____

_____
Name and Address-Surety Agency

_____

_____
Surety Company Name and N.C. Regional or Branch Office Address

SECTION 00 6113.16

PAYMENT BOND FORM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Utilize Owner's required Payment Bond Form attached to this section.

1.2 RELATED DOCUMENTS

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

1.3 GENERAL

A. A Labor and Material Payment Bond in the amount of the contract is required.

B. Include the cost of providing bonds in the Base Bid.

C. Deliver the required bonds to the Owner no later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

D. Write bonds on the forms contained or referenced herein.

E. Write bond in the amount of the Contract Sum.

F. Date bonds on the date of the Contract.

G. Issue bonds by sureties and execute by an attorney-in-fact, on behalf of the surety, who is authorized to do business in the State of North Carolina.

H. Affix thereto a certified and current copy of the power of attorney.

END OF SECTION

FORM OF PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal (Contractor) _____

Name and Address of Surety: _____

Name of Contracting Body: _____

Amount of Bond: _____

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor/material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterpart(s).

Contractor: (Trade or Corporate Name)

By: _____

Name: _____

Title: _____

(Owner, Partner, or Corp. Pres. or Vice Pres. only)

(Surety Company)

By: _____

Name: _____

Title: _____

(Attorney in Fact)

(Surety Corporate Seal)

Name and Address-Surety Agency

Surety Company Name and N.C. Regional or Branch Office Address

SECTION 00 62 11

SUBMITTAL TRANSMITTAL FORM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Utilize the following Submittal Transmittal Form for this project.

1.2 RELATED DOCUMENTS

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

SECTION 00 62 11

SUBMITTAL TRANSMITTAL FORM

CONTRACOR:
I have reviewed and approved the submittals, determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

Printed Name

Title

Signature of the Contractor

REI ENGINEERS:
REI's review is only for the limited purpose of checking for conformance wi information given and the design concept expressed in the Contract Document Review of submittals is not conducted for the purpose of determining the accurac and completeness of other details such as dimensions and quantities, or for sul stantiating instructions for installation or performance of equipment or system all of which remain the responsibility of the Contractor as required by the Contra Documents. The Engineer's review of the Contractor's submittals shall not relie the Contractor of the obligations of the Contract Documents. The Engineer's r view shall not constitute approval of safety precautions or of any constructio means, methods, techniques, sequences, or procedures. The Engineer's approv of a specific item shall not indicate approval of an assembly of which the item a component.

Reviewed by

Date

I.D. No.	Section No.	Submittal Item	Contractor Notes and Remarks	REI Engineers Notes and Remarks	Approved	Approved as Noted	Revise & Resubmit	Rejected	Not Subject to Review	Not Submitted
1	00 5213	Copy of Executed Contractor/Owner Agreement								
2	00 6113.13	Copy of Performance Bond								
3	00 6113.16	Copy of Payment Bond								

I.D. No.	Section No.	Submittal Item	Contractor Notes and Remarks	REI Engineers Notes and Remarks	Approved	Approved as Noted	Revise & Resubmit	Rejected	Not Subject to Review	Not Submitted
4	00 6233	Roof Manufacturer's Acknowledgment Form								
5	01 29 00	AIA G702 Sample								
6	00 6273	Schedule of Values Sample								
7	00 6516	AIAI G704 - Certificate of Substantial Completion Sample								
8	00 6536	Contractor's Warranty								
9	00 6537	Asbestos Free Warranty								
10	01 4000	Quality Requirements								
	05 01 30 Steel Roof Deck Repair and Securement									
11		Product Data								
12		Manufacturer's Instructions								
	06 10 00 Rough Carpentry									
13		Product Data								
	07 01 50 Preparation For Reroofing									
14		Fastener Withdrawal Testing								

I.D. No.	Section No.	Submittal Item	Contractor Notes and Remarks	REI Engineers Notes and Remarks	Approved	Approved as Noted	Revise & Resubmit	Rejected	Not Subject to Review	Not Submitted
15		Adhesive Bonded Field Uplift Test								
	07 22 16 Roof Insulation									
16		Product Data								
17		Manufacturer's Instructions								
18		Shop Drawings								
	07 54 00 Thermoplastic Single Ply Roofing									
19		Product Data								
20		Manufacturer's Instructions								
21		Roof System Assembly Letter								
22		Test Reports								
23		Shop Drawings								
	07 62 00 Sheet Metal Flashing and Trim									
24		Product Data								
25		Test Reports								
26		Color Charts								

I.D. No.	Section No.	Submittal Item	Contractor Notes and Remarks	REI Engineers Notes and Remarks	Approved	Approved as Noted	Revise & Resubmit	Rejected	Not Subject to Review	Not Submitted
	07 81 23 Intumescent Fireproofing									
27		Product Data								
28		Manufacturer's Instructions								
29		Product Compliance Certificates								
30		UL Fire Resistance Test Report								
31		Compliance Certificates								
	08 62 00 Unit Skylights									
32		Product Data								
33		Manufacturer's Instructions								
34		Samples for Selection								
	09 29 00 Gypsum Board									
35		Product Data								
	09 91 23 Interior Paint									
36		Product Data								
37		Manufacturer's Instructions								

I.D. No.	Section No.	Submittal Item	Contractor Notes and Remarks	REI Engineers Notes and Remarks	Approved	Approved as Noted	Revise & Resubmit	Rejected	Not Subject to Review	Not Submitted
38		Mockup								
	22 14 26 Roof Drains									
39		Product Data								
40		Manufacturer's Instructions								
41		Shop Drawings								

END OF SECTION 00 62 11

SECTION 00 6233

ROOF MANUFACTURER'S ACKNOWLEDGMENT

PART 1 GENERAL

1.1 FROM:

A. Roofing Contractor: _____

B. Address: _____

C. Phone: _____ Email: _____

1.2 FOR:

A. Owner: Alamance County

B. Project: Alamance County Detention Center Roof Replacement

C. REI Project No.: R25RAL-052

D. Address: 109 South Maple Street, Graham, North Carolina, 27253

1.3 ACKNOWLEGEMENT

A. This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated 04-15-2026, the above-titled project, we acknowledge that the roof system(s) and flashing system(s) specified are suitable for the issuance of the specified Manufacturer's warranty on this project and have been tested and approved for the wind uplift pressures and specified external fire resistance rating outlined in the project specifications. Having reviewed the project requirements in detail, the Manufacturer will provide a written response of exceptions or exclusions to the Engineer through the contractor as otherwise outlined in the Advertisement or Invitation for Bids, if conflicts exist between the Manufacturer's warranty requirements and the above listed documents. Exceptions not submitted accordingly are subject to rejection. The manufacturer also certifies that the installer is approved, authorized, or licensed by the manufacturer to install the specified roof system and is eligible to provide the specified manufacturer's warranty. The manufacturer will comply with the specified requirements for on-site technical support.

1.4 EXECUTED BY:

A. Manufacturer's Company Name: _____

B. Designated Reviewer Name and Title: _____

C. Signature: _____ Date: _____

END OF SECTION

SECTION 00 6273

SCHEDULE OF VALUES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Utilize the following Schedule of Values as the basis for this project.

1.2 RELATED DOCUMENTS

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

SCHEDULE OF VALUES

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

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO: **R25RAL-052**

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)	WORK COMPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
	Pre-Construction Activities								
	General Conditions								
	Bonds/Insurance								
	Mobilization								
	Demolition								
	Steel Roof Deck Materials								
	Steel Roof Deck Labor								
	Rough Carpentry Materials								
	Rough Carpentry Labor								
	Preparation for Reroofing Materials								
	Preparation for Reroofing Labor								
	Insulation Material								
	Insulation Labor								
	Membrane Material								
	Membrane Labor								
	Sheet Metal Material								
	Sheet Metal Labor								
	Roof Drains Materials								
	Roof Drain Labor								

SCHEDULE OF VALUES

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

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO: **R25RAL-052**

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	Allowances Unit Price 01 (700 SF) Unit Price 02 (700 SF) Unit Price 03 Unit Price 04 (700 SF) Unit Price 05 (150 BF)								
	Contingency Allowance	$ 10,000.00							
	Demobilization								
	GRAND TOTALS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	$0.00	

SECTION 00 6289

LIST OF KEY PERSONNEL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. List of Key Personnel for project to be submitted with bid. Personnel submitted with bid will be listed in the Form of Agreement between Owner and Contractor and cannot be changed without just cause.

B. Key Personnel:

1. Project Manager: Joel Brooks, joel.brooks@alamancecountync.gov
2. Associate Project Manager: John Triola, john.triola@alamancecountync.gov
3. Owner's Safety Director: Scott Rhoads, scott.rhoads@alamancecountync.gov
4. Designer's Project Manager: Mark Iakovenko, miakovenko@reiengineers.com
5. Designer's Associate Project Manager: TBD
6. Superintendent: TBD
7. Foreman: TBD

END OF SECTION

SECTION 00 6313

REQUEST FOR INTERPRETATION

PART 1 GENERAL

1.1 REQUEST FOR INTERPRETATION

A. RFI No.: 26-B003

B. Project: Alamance County Detention Center Roof Replacement

C. REI Project No. R25RAL-052

D. Request Date: _____

E. From: _____ (Company Name)

1.2 REFERENCE

A. Specification Section: _____ Paragraph: _____

B. Drawing Sheet: _____ Detail No(s): _____

1.3 DESCRIPTION OF REQUEST

A. _____

_____

_____

B. Signed by: _____

C. Signature: _____

1.4 REI RESPONSE

A. _____

_____

_____

B. Attachments: _____

_____

C. Response Date: _____

D. Signed by: REI PM

E. Signature: _____

SECTION 00 6325

SUBSTITUTION REQUEST FORM

PART 1 GENERAL

1.1 SUBSTITUTION REQUEST INFORMATION

A. RFI No.: 26-B003

B. Project: Alamance County Detention Center Roof Replacement

C. REI Project No. R25RAL-052

D. Request Date: _____

1.2 REFERENCE

A. Specification Section: _____ Paragraph(s): _____

1.3 DESCRIPTION

A. Manufacturer Name: _____

B. Product Name: _____

C. General Description of Substitution Request: _____

_____

1.4 CERTIFICATION

A. The undersigned certifies:

1. Proposed substitution has been investigated and determined that it meets or exceeds the quality level of the specified product.

2. Same warranty will be furnished for proposed substitution as for specified product.

3. Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.

4. Proposed substitution does not affect dimensions and functional clearances.

5. Payment will be made for changes to building design, including engineering design, detailing, and construction costs caused by the substitution.

6. Contractor waives right to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

B. Submitted by (Print Name): _____

C. Contractor Company Name: _____

D. Signature: _____

1.5 ATTACHED SUPPORTING DATA

A. The following items are attached to this substitution request:

1. ___ Product Data
2. ___ Test Reports
3. ___ Applicable Drawings
4. ___ (_____)
5. ___ (_____)

1.6 ENGINEERS ACTION

A. This substitution request is:

1. ___ Approved
2. ___ Approved as noted
3. ___ Rejected - utilize specified materials
4. ___ Rejected due too late submittal - utilized specified materials

B. Signed by: REI PM

C. Signature: _____

END OF SECTION

SECTION 00 6355

CHANGE PROPOSAL FORM

PART 1 GENERAL

1.1 CHANGE PROPOSAL FOR:

A. Change Proposal No. _____

B. RFI No.: 26-B003

C. Project: Alamance County Detention Center Roof Replacement

D. REI Project No. R25RAL-052

E. From (Contractor): _____

F. Description of Change: _____

_____

1.2 CHANGE BREAKDOWN

A. Materials:

1. Total direct cost of materials: $_____

2. Overhead & profit on A1 (15% max.): $_____

3. Sales tax: $_____

4. Shipping & transportation: $_____

5. Total Materials (A1+A2+A3+A4): $_____

B. Labor:

1. Total manhours: _____ mh at $_____/hr. = $_____

2. Overhead & profit on B1 (15% max.): $_____

3. Total Labor (B1+B2): $_____

C. Equipment Rental:

1. Equipment Rental

2. Overhead & profit on C1 (6% max.): $_____

3. Total Equipment Rental (C1+C2): $_____

D. Subcontractors:

1. Subcontractors: $_____

2. Overhead & profit on D1 (6% max.): $_____

3. Total Subcontractors (D1+D2): $_____

E. Subtotal of Proposal (A5+B4+C3+D3): $_____

F. Bonds (% of Subtotal (E)): $_____

G. Total of Change Proposal (E+F): $_____

H. Time Extension Request: _____ calendar days

I. The Contractor agrees to perform the work outlined in this change proposal for the amount specified above in accordance with the Contract Documents if the work is authorized by the Owner.

1. Contractor Signature and Date: _____

2. Engineer Recommended Approval and Date: _____

3. Owner Approval and Date: _____

END OF SECTION

SECTION 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:	Contractor:
Owner:	
Engineer:	REI Project No.: R25RAL-052

The Work performed under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below (list below or indicated "None"):

_____

_____

REI Engineers, Inc.		
Engineer	By	Date of Issuance

A list of items to be completed or corrected (Punch List) is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Cost estimate of Work that is incomplete or defective: $_____ (to date as signed above).

The Contractor will complete or correct the Work on items described as defective hereto within fifteen (15) days from the Date of Issuance

Contractor	By	Date

The Owner accepts the Work as substantially complete and will assume full possession at 12:00 AM on the day immediately following the Date of Issuance.

Owner	By	Date

SECTION 00 6536

CONTRACTOR'S WARRANTY

PART 1 GENERAL

1.1 WARRANTY

A. Know all men by these presents, that we, _____, having installed roofing system, flashings and sheet metal and new skylights on the Alamance County Detention Center under contract between Alamance County and _____, warrant to the Owner with respect to said work that for the period of 5 years from date of substantial completion of _____ ___, 20___, the work shall be watertight and free from defects, provided however the following are excluded from this Warranty: 1) defects or failures resulting from abuse by the Owner, 2) damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion, and 3) defects in design involving failure of structural frame, load bearing walls, and/or foundations. We agree that should any leaks occur in the work we will perform emergency repairs within 24 hours' notice and perform permanent repairs promptly in a manner to restore the work to a watertight condition by methods compatible to the system, acceptable under industry standards and general practice, and acceptable to the Manufacturer, all at no expense to the Owner. We further agree that for the period specified below, we will make repairs at no expense to the Owner to defects which may develop in the work in a manner compatible to the system, acceptable under industry standards and general practice as established by the Engineer and acceptable to the Manufacturer.

1.2 EXECUTED BY

A. Contractor: _____

B. Authorized Officer Name and Title: _____

C. Signature: _____ Date: _____

1.3 NOTARIZED BY:

A. I, _____(print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this ____ day of _____, 20 ___. My commission expires ___ of _____, 20 ___.

B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 00 6537

ASBESTOS FREE WARRANTY

PART 1 GENERAL

1.1 FOR

A. Owner: Alamance County

B. Project: Alamance County Detention Center Roof Replacement

C. Project Address: 109 South Maple Street, Graham, North Carolina, 27253

1.2 WARRANTY

A. Date of Substantial Completion: _____

B. Know all men by these presents, that we, _____ (Contractor) having furnished labor, materials, equipment and/or supplies, removed existing roof system; installed new roof system and/or miscellaneous components; from, to and/or on the above referenced project under contract between the Owner and Contractor, warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work.

C. Exceptions:_____ If there are no exceptions, state "None".

1.3 EXECUTED BY

A. Contractor: _____

B. Authorized Signing Officer Name: _____

C. Authorized Signing Office Title: _____

D. Signature: _____ Date: _____

1.4 NOTARIZED BY:

A. I, _____ (print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this _____ day of _____, 20 ___. My commission expires ____ of _____, 20 ___.

B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 01 1100

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Name: Alamance County Detention Center Roof Replacement

B. Project Address: 109 South Maple Street, Graham, North Carolina, 27253

C. Owner: Alamance County

D. Engineer: The Contract Documents, dated 04-15-2026, were prepared by REI Engineers, Inc.

E. This work includes the provision of labor, material, equipment, supervision and administration to integrate the work outlined in these specifications into the total building system such that no leakage into the system occurs. In general, the scope of work in the Base Bid includes:

1. Low Slope Roof Replacement - Roof Areas A and B:

    a. Remove and dispose of the roof system including flashings and sheet metal down to the steel deck.

    b. Secure the existing steel deck to structural framing members.

    c. Provide 3-inch thick base layer of Roof Insulation mechanically attached.

    d. Provide Tapered Insulation System adhered in foam adhesive.

    e. Provide 1/4-inch Cover Board adhered in foam adhesive.

    f. Fully adhere thermoplastic single ply membrane along with flashings and accessories.

    g. Replace sheet metal flashings and trim.

    h. Provide a complete, watertight, 30-year warrantable roof assembly.

2. Unit skylight replacement - Roof Area A:

    a. Remove existing skylights and their components down to existing wooden roof opening and steel deck.

    b. Replace deteriorated existing materials such as wood blocking and/or surrounding steel deck.

    c. Raise the units to allow for the required minimum flashing heights.

    d. Install aluminum framed, single-domed, single-glazed skylights.

F. Provide electrical, plumbing, mechanical, and other related trade work necessary to facilitate project operations. Relocate or raise conduit, HVAC equipment, curbs, and/or plumbing necessary to comply with the requirements of these documents and conform to the requirements of the State Building Code.

1. Conduct construction operations so that heat, air conditioning, ventilation, electrical, telephone, gas, water, sanitary, storm sewer, and any other service required for the building operations are maintained at all times during normal working hours. Any shutdowns or interruptions shall be coordinated with and approved by the owner.

G. General requirements and specific recommendations of the material manufacturers are included as part of these specifications. The manufacturers' specifications are the minimum standards required for the completed systems. Where specific items listed herein improve the standards required by the manufacturers, they take precedence where their compliance does not affect the manufacturers' guarantee or warranty provisions.

H. Act as the Project Expeditor and coordinate work and schedules of others hired.

1.2 REFERENCE STANDARDS

A. CSI/CSC MF - Masterformat; 2016.

1.3 CONTRACT

A. Project constructed under a single prime general construction contract between Owner and Contractor.

1.4 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC MF numbering system.

1. Section Identification: The Specifications use section numbers and titles to cross-reference Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Interpret words and meanings as appropriate. Infer words implied, but not stated, as the sense requires. Interpret singular words as plural and plural words as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Perform requirements expressed in the imperative mood. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall" "shall be" or "shall comply with" depending on the context, are implied where a colon (:) is used within a sentence or phrase.

END OF SECTION

SECTION 01 1400

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for work sequence, work restrictions, occupancy requirements and use of premises.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Background Checks: Provide background checks for employees anticipated to work on-site during the project.

1.4 WORK SEQUENCE

A. Construct Work in phases to accommodate the Owner's use; if applicable, of the premises during the construction period; coordinate the construction schedule and operations with the Owner and Engineer.

B. Construct the Work in phases to provide for public convenience. Do not close off public use of facility until completion of one phase of construction provides alternative usage.

C. Schedule construction in such a manner that once work has commenced on one facility, the work force to remain at that facility continuously each workday through final completion at that facility.

1.5 WORK RESTRICTIONS

A. Work hours generally performed during normal business hours. Normal business working hours defined as 7 a.m. to 7 p.m., Monday through Friday, except as otherwise indicated.

1. Provide notification to the Owner and Engineer 48 hours in advance of work outside of normal business hours. No work allowed without prior notification and authorization.

1.6 OCCUPANCY REQUIREMENTS

A. Owner Occupancy:

1. Owner occupies the premises during construction to conduct his normal operations. Cooperate with Owner in construction operations to minimize conflict and to facilitate Owner usage.

2. Conduct operations as to ensure the least inconvenience and the greatest amount of safety and security for the Owner, building occupants, and the general public.

3. Control noise from operations so that building occupants are not affected.

1.7 SECURITY

A. Restrict the access of persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the site of the work.

B. Maintain an accurate record of the names and identification of visitors entering upon the Owner's property in connection with the work of this contract, including times of entering and times of leaving, and submit a copy of the record to the Owner weekly.

C. Background Checks: No persons/personnel allowed on site without the following background checks: Nationwide, Sex Offender check, Social Security Number check. Provide this information to the Engineer/Owner 5 business days prior to the scheduled access for each person. Owner's decision on acceptability of personnel. Each person is required to wear a badge with name, photograph, and company name. Ensure background checks for persons are submitted to Owner and those persons denied access are not allowed on-site.

1.8 USE OF SITE

A. Limit use of premises and confine construction operations to work in areas indicated and approved by Engineer and Owner. Do not disturb portions of site beyond areas in which the Work is indicated.

1. Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances.

b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

2. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility. Maintain safe access for vehicles

3. Move stored materials and equipment that interfere with operations of the Owner.

4. Protect surface improvements including pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.

5. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to surface improvements resulting from, or attributable to, the work operation.

a. Repair damaged concrete by replacing full sections of concrete between control/expansion joints.

b. Fill ruts in grass areas and grade to original conditions. Provide grass seed and straw.

c. Replace disturbed landscaping in mulched or natural areas.

B. Transportation Facilities

1. Truck and equipment access:

a. Avoid traffic conflict with vehicles of the Owner's employees and customers and avoid over-loading of street and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the designated areas.

b. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.

2. Contractor's vehicles:

a. Require contractor's vehicles, vehicles belonging to employees of the contractor, and other vehicles entering the Owner's property in performance of the work the contract, to use only the designated access route.

b. Do not permit such vehicles to park on street or other area of the Owner's property except in the designated area.

1.9 USE OF BUILDING

A. Maintain building in a weathertight condition throughout construction period.

B. Take precaution against injuries to persons or damage to property.

C. Protect building, its contents, and its occupants during construction period.

D. Do not overload or permit the structure to be loaded with such weights that endanger its safety or to cause excessive deflection.

1. Equally distribute materials placed on the roof.

E. Properly secure materials or equipment placed on roof to prevent blow off during wind events. Ensure materials or equipment on roof does not interfere with roof drainage.

F. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to the building and its contents resulting from, or attributable to, the work operation.

G. Indoor Air Quality:

1. Coordinate with the facility personnel to identify the area where work is performed daily and what HVAC equipment and personnel in the building may be affected by the work.

2. Work with facility personnel to prevent odors or fumes from entering the building or where found to not be practical due to the work area, HVAC equipment limitations or other reasons; coordinate with facility personnel to have occupants relocated to an area of the building not affected by the work.

3. When possible to safely shut down and seal HVAC equipment; as determined by the facility personnel, coordinate with facility personnel to have mechanical units affected by the planned work area and air intakes properly closed and sealed. After closing of mechanical units and air intakes, cover units and intakes with 6-mil polyethylene sheeting taped secure. Remove polyethylene sheeting before coordinating restart of units and intakes.

4. Provide box carriage fans during work to move and circulate air away from intakes and units.

5. Where HVAC equipment is required to remain operational during work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work.

6. When starting work using materials which have odors or emit fumes, communicate with facility personnel within the building in the area of the work to determine if fumes or odors are being experienced. If fumes or odors are experienced, stop work until the cause is determined and remediated or occupants can be moved to an area not affected by the work.

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements governing allowances.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:

1. Section 05 01 30 - Steel Roof Deck Repair and Securement

2. Section 06 10 00 - Rough Carpentry

1.3 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)

2. Square Yard (SY)

3. Cubic Foot (CF)

4. Board Foot (BF)

5. Linear Foot (LF)

6. Each (EA)

7. Tonnage (TON)

1.4 CONTINGENCY ALLOWANCE

A. Include the specified contingency allowance in the base bid.

B. Credit unused portion remaining at the completion of the contract back to the Owner.

C. The Owner reserves the right to modify the contingency allowance prior to award of Contract.

1.5 QUANTITY ALLOWANCES

A. Include the specified quantity allowances in the base bid. Use the unit price submitted on the Bid Form to compute the quantity allowances. The quantities indicated on the Bid Form are estimated quantities only for the purpose of comparing bids. Compensation for the unit price bid made for the exact quantity of work performed under the unit price item. Deductive amounts of unit price work included in the Contract Sum are calculated at 100% of the quoted add unit price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALLOWANCES

A. Contingency Allowance: Include a $10,000.00 contingency allowance in the base bid.

B. Quantity Allowances:

1. Repair 700 SF of Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

2. Repair 700 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

3. Replace 700 SF of Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

4. Replace 150 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 2200

UNIT PRICES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for unit prices.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:

1. Section 05 01 30 - Steel Roof Deck Repair and Securement

2. Section 06 10 00 - Rough Carpentry

1.3 DEFINITION

A. Unit price is an amount proposed by Bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)

2. Square Yard (SY)

3. Cubic Foot (CF)

4. Board Foot (BF)

5. Linear Foot (LF)

6. Each (EA)

7. Tonnage (TON)

1.5 UNIT PRICE MEASUREMENT

A. Prior to performing work under a unit price as specified herein, notify the Engineer to allow for measurement of the actual quantities of work. Work performed under these items without prior approval and measurement is at the Contractor's expense.

B. Maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.

C. Owner and Engineer reserve the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

1.6 UNIT PRICE PAYMENT

A. Include in unit prices costs associated with performing the unit price work including but not limited to labor, material, equipment, insurance, applicable taxes, overhead and profit, bonds, etc.

1.7 UNIT PRICE PERFORMANCE

A. Install unit price work in accordance with the applicable specification sections and Contract Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Provide a unit price for:

1. Repair Corroded Steel Deck (Corrosion Degree 1) with Coating. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

2. Repair Steel Deck (Corrosion Degree 2) with Steel Plates. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

3. Overlay Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

4. Replace Deteriorated Steel Deck (Corrosion Degree 4). Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 - Steel Roof Deck Repair and Securement.

5. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for alternates.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction or in the products, materials, equipment, systems or installation methods described in the Contract Documents.

1.4 ALTERNATES

A. Indicate on the Bid Form whether the alternate bid amount is to added to or deducted from the base bid in the event the alternate bid is accepted.

B. The Owner reserves the right to accept or reject any or all of the alternate bids.

C. Responsible for determining to his own satisfaction and for his own purposes the limits and extent of the work affected by the alternate bids and to make proper allowance therefore in the submission of alternate bid.

D. Include the cost of each alternate bid as specified in the technical specification sections and as described on the drawings. Perform work required by the alternate bids in accordance with applicable specifications and drawings of the trade section affected.

E. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate selected alternates into the Work. No other adjustments are made to the Contract Sum.

F. The Owner reserves the right to delay the acceptance of the alternate bids during the bid holding period prior to accepting the contract without a change in the dollar amount of the alternate bids.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: _

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section specifies administrative and procedural requirements for handling requests for substitutions after award of Contract.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Substitutions: Requests for changes in products, materials, and equipment, of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions". The following are not considered substitutions:

1. Revisions to Contract Documents requested by the Owner or Engineer.

2. Specified options of products and construction methods included in Contract Documents.

3. Determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

A. Submit requests for acceptance of equivalent items in writing to the Engineer during the submittal process. No substitutions considered after acceptance of project submittals.

B. Substitutions after award are considered solely for convenience and approved by Change Order in form of credit to the Owner. Bear additional costs related to making the substituted material or system work including additional engineering, material or system modifications, and time considerations relating to material or system installation requirements.

C. Provide information sufficient for the Engineer to make a determination of equivalent items. Engineer's determination of the equivalency of a product is final. The Engineer reserves the right to request information or documentation for evaluation including but not limited to the following:

1. Provide a letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturer's specifications.

2. A written explanation of why substitutions should be considered is required.

3. Statement indicating why specified product cannot be provided.

4. Coordination of information, including a list of modifications needed to other parts of the work necessary to accommodate proposed substitution.

5. Product data including drawings, descriptions, and fabrication/installation procedures.

6. Samples where applicable.

7. Material test reports from a qualified testing agency indicating the interpreting test results for compliance with requirements.

8. Contractor's certification that proposed substitution complies with requirements in the contract documents and is appropriate for applications indicated.

9. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

10. If requesting product substitution after bid award, provide cost information including proposal of change in the contract sum.

END OF SECTION

SECTION 01 2600

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for handling and processing Contract modifications.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

A. AIA G714 - Construction Change Directive; 2017.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: A detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time will be issued by the Engineer along with supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.

2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.

b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

c. Include costs of labor and supervision directly attributable to the change.

d. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, propose changes by submitting a request for a change to Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

6. Comply with requirements in Division 1 if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Approval:

1. If sufficient contingency allowance funds remain, written approval will be provided by the Engineer in the form of an Allowance Authorization signed by the Engineer, Contractor and Owner.

2. If contingency allowance funds are not available; upon approval by Owner, written approval will be provided by the Engineer in the form of a Change Order as provided in the Conditions of the Contract.

a. Form of Change Order: Owner or Engineer Standard Form submitted by the Engineer signed by the Contractor and Owner.

b. Do not commence work or purchase materials for such change orders until written approval is received in the form of an executed Allowance Authorization or Change Order.

c. An executed Change Order is the only legal document which can change the Contract Sum or Time.

1.5 SUPPLEMENTAL INSTRUCTIONS

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Engineer on Engineer's Supplemental Instructions form.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Proposal Request; the Engineer may issue a Construction Change Directive on AIA G714, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive will contain a description of the change in the Work and designate the method followed to determine the change in the Contract Sum or Contract Time.

2. Submit unit costs, equipment rates and labor rates as requested by the Engineer and agree upon submitted rates before the work progresses unless directed to proceed in the absences of an agreement or in an emergency.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Provide a copy of those records the Engineer.

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

END OF SECTION

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 REFERENCE STANDARDS

A. AIA G702 - Application and Certificate for Payment; 1992.

B. AIA G703 - Continuation Sheet; 1992.

C. AIA G706 - Contractor's Affidavit of Payment of Debts and Claims; 1994.

D. AIA G706A - Contractor’s Affidavit of Release of Liens; 1994.

1.5 SUBMITTALS

A. Sample Application for Payment Cover on AIA G702.

B. Schedule of Values: A schedule of values on AIA G703. Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications serve as the format for preparation.

1.6 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Submittals.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

a. Application for Payment Forms with Continuation Sheets

b. Submittals Schedule

c. Contractor's Construction Schedule

2. Submit the Schedule of Values to Engineer along with Submittals.

3. Sub schedules: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.

B. Format and Content: Provide one line item for labor and one line item for material for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

a. Application for Payment Number.

b. Application for Payment Date.

c. Engineer's project number.

d. Period to for Schedule of Values.

2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents.

3. Provide several line items for principal subcontract amounts, where appropriate.

4. Round amounts to nearest whole dollar; total to equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

6. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

9. Complete each item in the Schedule of Values and Applications for Payment. Include total cost and proportionate share of general overhead and profit for each item.

10. Show temporary facilities and other major cost items that are not direct cost of work in place either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

11. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.7 APPLICATION FOR PAYMENT

A. Submit one electronic pdf of the application for payment on AIA G702.

1. Indicate the date for each progress payment. The period of Work covered by each application is the period indicated in the Agreement

2. Provide on original forms.

3. Complete, notarize and execute each Application for Payment by a person authorized to legally sign documents.

4. Show breakdown of the work with separate labor and material amounts on AIA G703 in accordance with the accepted Schedule of Values.

5. Make each application consistent with previous applications and payments as certified by Engineer and paid for by Owner.

6. Engineer will return incomplete applications without action.

B. Payment Terms: Within 45 days of receipt of engineer-approved request, Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract.

C. Retainage: If contract amount exceeds $100,000, to ensure proper performance of this Contract, 5% of the amount of each estimate will be retained by the Owner until 50% completion, at which time the Owner, with written consent of the surety, shall not retain further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and nonconforming work identified in writing prior to that time by the Engineer, engineer or owner has been corrected by the contractor and accepted by the Engineer, engineer or owner.

1. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of 5%.

2. The project shall be deemed 50% complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed 50% of the value of the contract, except the value of materials stored on-site shall not exceed 20% of the contractor's gross project invoices for the purpose of determining whether the project is 50% complete.

3. Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the owner with written consent of the surety shall release to the contractor retainage on payments held by the owner:

a. The owner receives a certificate of Substantial Completion from the Engineer in charge of the project.

b. The owner receives beneficial occupancy or use of the project. However, the owner may retain sufficient funds to secure completion of the project or corrections on work. If the owner retains funds, the amount retained shall not exceed two and one-half times the estimated value of the work to be completed or corrected. Reduction in the amount of the retainage on payments with the consent of the contractor's surety.

D. Match data of entries on the schedule of values and construction schedule. Include amounts of change orders issued before last day of construction period covered by the application.

E. The Engineer reserves the right to contact material manufacturers directly, without contractor consent, to verify material invoices. Make material invoices available to the Engineer upon his request from the contractor or material manufacturer.

F. When requesting payment for materials stored on site, submit with request an invoice for the materials and a certificate of insurance showing proof of coverage for the materials stored on site. Payment will be made only for stored materials. No payment will be made for anticipated overhead and/or profit.

G. With each application for payment, also submit the following:

1. Unit Price Daily Logs: Submit copies of unit price daily logs and appropriate change order forms with each application for payment unless no unit price work was accomplished during the period covered by the application.

2. Owner's MWSBE Program Forms

3. AIA G706

4. AIA G706A

H. At substantial completion, submit an application for payment showing 100% completion for portion of the work claimed as substantially complete. Include documentation supporting claim that the work is substantially complete.

I. At final completion, submit final application for payment with releases and supporting documentation not previously submitted and accepted, including but not limited to the following. Final payment not due until required documents have been submitted.

1. Project Closeout Submittals

2. Owner's MWSBE Program Forms

3. AIA G706

4. AIA G706A

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

a. Project Schedule

b. General project coordination procedures.

c. Coordination.

d. Administrative and supervisory personnel

e. Project meetings

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Emergency contact list: Key personnel including home, office and mobile numbers, for the Owner, Contractor, Subcontractor(s), and Engineer

B. Work schedule:

1. Indicate start date, crew size, production rate, completion date, etc.

2. Provide illustrated schedule on an aerial map.

1.4 COORDINATION

A. Coordinate construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Coordinate its operations with those included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.

B. Coordinate the scheduling and sequence of operations with the Owner and Engineer.

C. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Construction Schedule.

2. Preparation of the Schedule of Values.

3. Installation and removal of temporary facilities and controls.

4. Delivery and processing of submittals.

5. Pre-Construction conference.

6. Progress meetings.

7. Project closeout activities.

1.5 PROJECT MEETINGS

A. Pre-Construction Meeting

1. A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract. The Engineer's Representative will compile minutes of the meeting and will furnish a copy of the minutes to each person present.

2. Attendance: Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and other persons concerned with the installation and performance.

a. Provide 3 telephone numbers to contact the Contractor or his authorized representative in the event of an emergency after normal business hours.

3. Minimum Agenda: Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the Project Manager; channels and procedures for communication; construction schedule, including sequence of critical work; contract documents; rules and regulations governing performance of the work and procedures for safety, first aid, security, quality control, housekeeping and related matters.

B. Progress Meetings:

1. Attend monthly progress meetings for the purpose of informing the Owner and the Engineer regarding the status of the project. The Engineer will compile minutes of the meeting and will furnish a copy of the minutes to each person present.

2. Attendance: Owner, Engineer, Contractor, Job Superintendent, material Supplier, and Subcontractors, as appropriate. Provide an updated job progress schedule at each weekly meeting. Be thoroughly familiar with the status of the project and be prepared to discuss and act upon situations that arise. The time, date and location of these meetings will be established during pre-construction conference.

3. Minimum Agenda: Review of work progress; field observations, problems, and decisions; identification of problems which impede planned progress; maintenance of progress schedule; corrective measures to regain projected schedules; planned progress during succeeding work period; coordination of projected progress; maintenance of quality and work standards; processing of field decisions and Change Orders; effect of proposed changes on progress, schedule, and coordination; other business relating to work.

C. Substantial Completion Inspection Meeting

1. Scheduled by Owner and Engineer upon written notification of substantial completion of work from the Contractor.

2. Attendance: Owner, Engineer, Contractor, material manufacturer.

3. Minimum Agenda: Walkover inspection, verification of substantial completion, identification of punch list items and identification of problems potentially impeding issuance of warranties.

D. Final Inspection Meeting

1. Scheduled by Owner and Engineer upon written notification of final completion of work from the Contractor.

2. Attendance: Owner, Engineer, Contractor.

3. Minimum Agenda: Verification of final completion including the completion of the punch list items.

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTAL PROCEDURE

A. General: The Contractor is responsible for providing the submittals to the Engineer. Each submittal is required to be accepted in writing prior to commencement of work.

B. Submission Requirements:

1. Submit required submittals electronically in pdf format to the Engineer for review. The submittals will then be returned electronically to the Contractor with comments. Final submittals require written responses to submittal comments.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineers receipt of submittal.

1. Initial Review: Allow 7 work days for initial review of submittals.

2. Allow 7 work days for processing each resubmittal.

3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification:

1. Submit as one pdf file with bookmarks for each scheduled item.

E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals and provide letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturers specifications. Include a written explanation of why substitutions should be considered under the appropriate tab.

F. Transmittal: Package submittals appropriately for transmittal. Engineer will discard submittals received from sources other than Contractor. Include Contractors certification stating that information submitted complies with requirements of the Contract Documents.

G. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

1.4 SCHEDULE OF SUBMITTALS

A. Refer to the applicable specification section for list of submittal requirements for each section.

B. Submit the following submittal items electronically with a title page and/or pdf bookmark for each submittal item to meet the requirements specified herein:

1. Section 00 52 13 - Copy of Executed Owner/Contractor Agreement along with Certificate of Insurance

2. Section 00 62 33 - Roof Manufacturers Acknowledgment Form

3. Section 01 14 00 - Work Restrictions

4. Section 01 25 00 - Substitution Procedures

5. Section 01 29 00 - Payment Procedures

6. Section 01 31 00 - Project Management and Coordination

7. Section 01 40 00 - Quality Requirements

8. Section 01 73 00 - Execution Requirements

9. Section 01 77 00 - Closeout Procedures

10. Section 05 01 30 - Steel Roof Deck Repair and Securement

11. Section 06 10 00 - Rough Carpentry

12. Section 07 01 50 - Preparation for Reroofing

13. Section 07 22 16 - Roof Insulation

14. Section 07 54 00 - Thermoplastic Single Ply Roofing

15. Section 07 62 00 - Sheet Metal Flashing and Trim

16. Section 07 81 23 - Intumescent Fireproofing

17. Section 08 62 00 - Unit Skylights

18. Section 08 63 00 - Metal Framed Skylights

19. Section 22 14 26 - Roof Drains

20. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.

21. Physical color samples as specified in the applicable specification section.

PART 2 PRODUCTS

2.1 SUBMITTALS

A. General: Prepare and submit Submittals required herein and by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information is specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.

3. Include the following information, as applicable:

a. Manufacturers written recommendations.

b. Manufacturers product specifications.

c. Manufacturers installation instructions.

d. Manufacturers catalog cuts.

e. Wiring diagrams showing factory-installed wiring.

f. Printed performance curves.

g. Operational range diagrams.

h. Compliance with recognized trade association standards.

i. Compliance with recognized testing agency standards.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable: dimensions, identification of products, fabrication and installation drawings, schedules, coordination requirements and notation of dimensions established by field measurements.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

D. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

2. Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned.

3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineers sample where so indicated. Attach label on unexposed side.

4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and component as delivered and installed.

5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity and used to determine final acceptance of construction associated with each set.

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.

F. Product Certificates: Prepare written statements on manufacturers letterhead certifying that product complies with requirements.

G. Installer Certificates: Prepare written statements on manufacturers letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

H. Manufacturer Certificates: Prepare written statements on manufacturers letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

I. Material Certificates: Prepare written statements on manufacturers letterhead certifying that material complies with requirements.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agencys standard form, indicating and interpreting test results of material for compliance with requirements.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software used for calculations. Include page numbers.

M. Manufacturer's Instructions: Prepare written or published information that documents manufacturers recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

N. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, and term of the coverage.

PART 3 EXECUTION

3.1 CONTRACTORS REVIEW

A. Review each submittal, check for compliance with the Contract Documents and note corrections and field dimensions prior to submitting to Engineer.

3.2 ENGINEERS ACTION

A. Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal item with an action stamp and will mark stamp appropriately to indicate action taken.

B. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for quality assurance and quality control.

2. Secure and pay costs of licenses and permits required by City, County and/or State authorities.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.

C. Authority Having Jurisdiction: AHJ

1.4 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.

1.5 SUBMITTALS

A. Permit: Provide copy of construction permits along with required licenses or certifications required by the AHJ.

1.6 QUALITY ASSURANCE

A. Perform quality assurance in accordance with governing Codes, referenced standards, established standards, or industry standards.

B. Solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise necessary to perform the Work in accordance with the Contract. Solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating portions of the Work under the Contract, except where otherwise specified in the Contract Documents. Solely responsible to the Owner that the finished Work complies with the Contract Documents.

C. It is the intent under this contract that workmanship be of the best quality consistent with the materials and construction methods specified. The presence or absence of the Owner's or Engineer's representative in no way relieves the Contractor of his responsibility to furnish materials and construction in compliance with the drawings and specifications. The Owner and Engineer have the authority to judge the quality and require replacement of unacceptable work or personnel.

D. Materials or methods described by words which, when applied, have a well-known technical or trade meaning are held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, are of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.

E. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, deliver materials to the site in original packages or containers with seals unbroken and labels intact and do not open until reviewed and accepted by the Engineer. Notify the Engineer prior to such material's delivery.

F. Provide new materials unless otherwise indicated.

G. Verify dimensions and conditions at the site prior to starting work and notify the Engineer immediately of any errors or inconsistencies.

H. Maintain one set of the contract documents and accepted submittals at the job site.

I. Correct deficiencies identified by Engineer and non-conforming work within 24 hours of receipt of notification, either verbally or written, and submit a plan of action for addressing the deficiencies and non-conforming work. Do not proceed with further tear-off or commencement of other work until deficiencies and non-conforming work are properly addressed.

J. Control of Installation

1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

2. Comply with manufacturers' instructions, including each step in the sequence

3. Request clarification from Engineer before proceeding in the event manufacturers' instructions conflict with Contract Documents.

4. Comply with specified standards as the minimum quality for the Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

5. Only allow Work performed by person qualified to produce workmanship of specified quality.

6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

K. Tolerances:

1. Monitor tolerance control of installed products to produce acceptable work. Do not permit tolerances to accumulate.

2. Comply with manufacturers' tolerances. Request clarification from Engineer in the event manufacturers' tolerances conflict with Contract Documents.

3. Adjust products to appropriate dimensions; position before securing products in place.

L. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

1. Maintain applicable federal, state and municipal licenses.

2. Have a minimum of 5 years' experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Crew workers on site are experienced and have a working knowledge of the system being installed.

3. Principals of the firm to have a minimum of 10 years' experience in the estimating, supervision, management and administration of a contracting firm engaged in work similar to work as specified.

4. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.

5. Never filed bankruptcy or filed for protection from creditors.

6. During the construction and completion of work covered by these Specifications, if the conduct of workers of the various crafts is determined unsuitable or a nuisance to the Owner or Engineer, or if the workman is considered incompetent or detrimental to the work, order such party removed from the grounds with the person not returning during the course of work on the project.

7. Superintendent: During the performance of work by the Contractor or subcontractors, provide an on site and full time superintendent/representative meeting the following requirements:

a. For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.

b. Be in attendance at the project site during the progress of the work and duties as superintendent limited to this project only. Supervise and instruct workmen without engaging in the work process. If superintendent is absent temporarily from the project, designate a competent foreman to assume duties. During the superintendent's absence, foreman cannot engage in the work process; supervise and instruct only. Likewise, communications given to the foreman are binding as if given to the Contractor.

c. Communicate matters pertaining to the Work with the Owner and Engineer. Do not make decisions regarding changes in the Work without the Owner and Engineer's knowledge.

d. Decision making authority and ability.

e. Able to demonstrate knowledge of work being installed.

f. Fluent in the English language (reading, writing and speaking).

g. In possession of mobile telephone.

h. Employed by the Contractor at least six months prior to project commencement.

i. Owner approval and Engineer acceptance.

j. Once approved, do not change the superintendent except with the consent of the Owner unless he proves unsatisfactory to the Owner or Contractor or is no longer employed.

k. Minimum of five 5 years continuous experience as a job superintendent.

8. No later than ten days prior to the pre-construction conference, provide the Owner, in writing, the names of the proposed project manager, superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the pre-construction conference.

M. Specialists: Certain sections of the Specifications require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists satisfy qualification requirements indicated and be engaged for the activities indicated.

N. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

O. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.7 QUALITY CONTROL

A. The authorized representatives and agents of Owner permitted to inspect work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

B. Owner Responsibilities:

1. Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

a. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.

b. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

C. Contractor Responsibilities:

1. Repair and protection of work and materials.

2. Replace work or materials not conforming with requirements of the Specifications or damaged during the progress of the work before completion and acceptance of the project.

3. Coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.

4. Inclement Weather

a. In the event of temporary suspension of work during inclement weather, or whenever the Engineer recommends, protect carefully its work and materials against damage or injury from weather. If work or materials have been damaged by reason of failure to protect the work, replace such materials.

b. During inclement weather and temporary suspension of work, inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Make inspections daily during extended periods of inclement weather. Upon arrival at the facility, inform the Owner of his presence and purpose.

c. If inspection of the facility does not occur by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner can exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. Reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of $500.00, each occasion, for mobilization and/or travel expenses.

d. In the event inclement weather occurs after normal business hours, Saturday, Sunday or holidays, make arrangements with the Owner to provide access to the building to inspect for leaks. Compensate Owner for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

D. Manufacturer's Field Services: During construction, perform quality assurance site visits monthly by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.

1. The first site visit performed within the first three (3) days of operations.

2. Coordinate site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.

3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel are not acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.

4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.

5. Violation of these requirements results in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 REPAIR AND PROTECTION

A. On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

B. Protect construction exposed by or for quality control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality control services.

END OF SECTION

SECTION 01 4200

REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements relating to referenced standards.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

A. Reference standards are specified in Part 1 of the applicable specification section.

B. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

C. Comply with the reference standard of date of issue current on date of Contract Documents , except where a specific date is established by applicable code.

D. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.

E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered by Contract Documents by mention or inference otherwise in any reference document.

1.4 BUILDING CODE

A. Compy with the building code and energy conservation code/standard in effect in North Carolina and current on date of Contract Documents.

1. 2024 North Carolina Building Code

2. 2018 North Carolina Energy Conservation Code

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.

B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

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

1.4 USE CHARGES

A. Include in Contract, cost or use charges for temporary facilities which are not chargeable to Owner. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, occupants of testing and inspecting agencies and personnel of authorities having jurisdiction.

1.5 QUALITY ASSURANCE

A. Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241 .

B. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70 .

C. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

D. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures. Instruct personnel in methods and procedures. Post warnings and information.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Provide new materials or utilize undamaged, previously used materials in serviceable condition if accepted by Engineer. Provide materials suitable for use intended.

B. Fencing:

1. Safety Fence: Safety orange high density polyethylene fabric with a minimum of 4 feet in height, 15 lbs. per 100 linear feet. Painted steel fence posts with ground anchors and metal tabs stationed often enough to hold the fabric at a minimum height of 3 feet 8 inches tall.

C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

D. Water: Potable.

E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material with a self-contained or standalone exterior handwashing station.

F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

G. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.

H. Ground Protection Mats: 4 foot by 8 foot, HDPE infused with rubber for traction mats designed to protect landscaping from construction equipment.

I. Overhead Protection Scaffolds: Provide at building egress locations in accordance with OSHA 1926 Subpart L.

PART 3 EXECUTION

3.1 TEMPORARY UTILITIES

A. Water Service: Water for construction purposes is available from the Owner at no charge. Operate exterior hose biBs only with properly fitted handles. Remove at the end of each workday. Repair damage to hose bids or hose bib stems. Do not operate hose bibs with pliers.

B. Electrical Power Service: Provide portable generators for electrical power requirements.

1. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths do reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

3.2 CONSTRUCTION FACILITIES

A. Temporary construction facilities include the following:

1. Field Office: prefabricated, mobile units or job-built construction with lockable entrances and serviceable finishes including lights and utilities.

2. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Located facilities at sites approved by Owner. Access inside the facility is not available.

    a. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.

    b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.

    c. Wash Facilities: Provide adequate hand washing stations.

    d. Drinking-Water Facilities: Provide bottled-water, drinking-water units.

3. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations at a location approved by the Owner. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Use of Owner's waste disposal facilities is not acceptable.

    a. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material.

3.3 TEMPORARY BARRIERS, ENCLOSURES AND CONTROLS

A. Provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Protect buildings and grounds from damages during construction.

B. Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

C. Provide security controls to protect work and materials at the project site.

D. Provide fencing to enclose the materials storage and staging area.

E. Provide and maintain suitable temporary sidewalks, closed passageways, fences, or other structures required by law so as not to obstruct or interfere with traffic in public streets, alley ways, or private right-of-way. Leave an unobstructed way along public and private places for pedestrians and vehicles.

F. Provide walks over and around all obstructions in public places. Maintain sufficient light and guards to protect persons from injury.

G. Provide emergency egress from existing occupied areas at all times as required by AHJ. Maintain egress path in compliance with requirements of the applicable building code.

3.4 PROTECTION FACILITIES INSTALLATION

A. Provide environmental protection by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Provide storm water controls sufficient to prevent flooding from heavy rain.

C. Protection of materials stored on site.

1. Material storage will be where shown in Contract Drawings.

2. Protect materials stored on the job site from theft and weather related damage.

3. Store as much material in locked trailers as practicable.

4. Place no more material on the job site than is necessary to maintain the work schedule.

5. Do not deliver materials prior than 7 days eariler then work commencing.

3.5 TREE AND PLANT PROTECTION:

A. Contractors are hereby reminded and cautioned that care shall be exercised to protect trees and plants which are to remain during the progress of the Project. Suitable barriers shall be provided around all trees and plants that are to remain and which are in the construction area and product handling area. All damage to such trees and plants shall be repaired; broken limbs properly and neatly pruned and painted with pruning paint; all trunk damage neatly dressed and painted with pruning paint. Any trees and plants which are excessively damaged shall be replaced in like, kind, size, and species by The Contractor at no additional cost. All work shall be by a recognized and approved nursery.

1. All grading around trees and plants to remain shall be such that the root system shall not be disturbed. Earth shall not be temporarily piled around trees and plants, nor shall earth be graded to the trees and plants above the natural root depth for that particular species.

2. Established trees and plants, which are in the way of construction and which are in the material handling areas, shall be removed and stored for future replanting. The services of a recognized and approved nursery shall be employed to remove the trees and plants and prepare them for storage. Removed trees and plants shall be properly balled and burlapped in accordance with their size. During the time of storage, they shall be properly watered and cared for in accordance with the instructions from the nursery. After the construction work is completed, the stored trees and plants shall be replanted, and those trees and plants not replanted shall be disposed of as directed by the Owner.

3.6 CRANES, HOISTS AND LIFTING

A. Where cranes and other lifting equipment are required, develop and maintain a plan to execute the work in a safe manner including the following items at a minimum:

1. Erection, climbing and dismantling process

2. Inspection process for equipment and rigging

3. Exclusion zones

4. Maintenance processes

5. Identification of Qualified/Competent persons

6. Lifting plan

7. Process for identifying and working around aerial hazards

8. Signalmen communication

9. Working around energized lines

10. Ground conditions and underground hazards

B. Ensure that cranes and lifting equipment are certified for use by a Qualified/Competent person prior to first use and annually (at a minimum).

C. Ensure that cranes and lifting equipment are inspected as required by a third party Qualified/Competent person.

D. Provide ground protection mats over landscaped areas beneath lifts.

E. Do not operate or travel lifts over curbs or sidewalks. Where necessary to travel equipment over curbs or sidewalks, provide adequate protection to prevent damage.

3.7 PROJECT SIGNAGE

A. Provide temporary signs to provide information to building occupants directing them away from construction operations.

B. Provide signage inside adjacent buildings alerting occupants of the Work Area.

3.8 VEHICULAR ACCESS AND PARKING

A. Parking for vehicles available only in the approved Set-up and Staging area. No other vehicle parking on site is allowed.

B. Owner Personnel vehicles will be removed from the construction area prior to the start of construction.

3.9 TRAFFIC CONTROLS

A. Obtain and erect street/parking lot signage as necessary to divert traffic away from staging areas, work area, etc. Coordinate signage requirements with the Owner and Engineer.

B. Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 7300

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. General procedural requirements governing execution of the Work.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. List of Materials on the project site including manufacturer name and product name.

B. Safety Data Sheets (SDS):

1. Safety Data Sheets (SDS) for materials/products anticipated for use and stored or brought to the site for completion of this project.

2. Maintain on site with the Superintendent a set of SDS for products/materials on site.

C. Existing Damage Documentation: Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates no existing damaged components and Contractor takes responsibility for damages caused by operations.

PART 2 PRODUCTS

2.1 MATERIALS

A. Material storage area designated by the Owner at the Pre-Bid and Pre-Construction Meetings and/or indicated in Contract Drawings.

1. Store materials as required by the manufacturer and indicated in their installation instructions.

2. Store materials as required by their respective specification section.

3. Properly secure materials to resist wind events.

B. Deliver and transport materials to project in accordance with the Owner's requirements and coordinate material deliveries with Owner.

C. Hazardous Materials:

1. Use products, cleaners, and installation materials that are not considered hazardous.

2. Store chemicals in a fireproof cabinet. Store only like materials together in a cabinet. Ensure labels are intact or to place labels on chemicals prior to delivery to site.

PART 3 EXECUTION

3.1 EXAMINATION

A. Existing Conditions:

1. The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of construction affecting the Work.

B. Existing Utilities:

1. The existence and location of utilities and construction indicated as existing are not guaranteed.

2. Before construction, verify the location and points of connection of utility services.

3. Before beginning work, investigate and verify the existence and location of utilities and other construction affecting the Work.

C. Acceptance of Conditions:

1. Examine areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

2. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include a description of the work, list of detrimental conditions, list of unacceptable installation tolerances and recommended corrections.

3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each material. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Upon discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Install products at the time and under conditions that ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

3.4 STARTING AND ADJUSTING

A. Test equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

3.6 CORRECTION OF THE WORK

A. Restore permanent facilities used during construction to their specified condition.

B. Replace components that are not up to specification standards.

END OF SECTION

SECTION 01 7329

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes procedural requirements for cutting and patching.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

A. Engineer's Acceptance: Obtain acceptance of cutting and patching before cutting and patching. Acceptance does not waive right to later require replacement of unsatisfactory work.

B. Structural Elements: Do not cut and patch structural elements in a manner that changes their load-carrying capacity or load-deflection ratio. Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations sealed by a licensed Engineer in the state of the project showing integration of reinforcement with original structure.

C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.

E. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that, in the Engineer's opinion, reduces the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

F. Cutting and Patching Conference: If extensive cutting and patching is required, before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, match the visual and functional performance of existing materials.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces and conditions under which cutting and patching are performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that eliminate evidence of patching and refinishing.

3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.

4. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Renovation Project Procedures

1. Materials: As specified in technical sections, match existing products and Work.

2. Employ skilled and experienced installer to perform cutting and patching.

3. Remove, cut and patch materials in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.

4. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.

5. Where work abuts or aligns with existing construction, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.

6. When a smooth transition with Work is not possible, submit recommendation to Engineer for review. Terminate existing surface along a straight line at a natural line of division when possible.

7. Patch or replace portions of surfaces, which are damaged, lifted, discolored or showing other imperfections.

8. Finish surfaces as specified in individual Product sessions.

9. Cutting and patching completed in a manner such that the patched surfaces are compatible with the surfaces in which the repairs were made, both structurally and aesthetically as deemed appropriate by the Project Engineer.

E. Restoration: Restore existing work, including concealed work not indicated or specified to be modified, and which is damaged or otherwise affected by construction operations, to a condition which existed before the work was commenced. Use workers skilled in reconstruction and alteration work where construction adjoins, connects to, or abuts existing work. Join Work in such a manner as to make the joining as inconspicuous as possible. Obvious patching of damaged Work is not acceptable. At the completion, ensure that the buildings and grounds are in first-class condition within the intent of these specifications, with parts well joined as required, connections completed, and facilities in working condition.

3.4 CLEANING

A. Clean areas and spaces where cutting and patching is performed where required for construction or used as access.

B. Remove paint, mortar, oils, putty and similar materials.

C. Leave work in an acceptable completed condition.

END OF SECTION

SECTION 01 7400

CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and Procedural requirements for progress cleaning and construction waste management.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

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

1.4 DEFINITIONS

A. Waste: Material that has reached the end of its intended use. Waste includes salvageable, returnable, recyclable and reusable material.

B. Construction waste: Solid wastes including, but not limited to, building materials, packaging materials, debris and trash resulting from construction operations.

C. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.

D. Hazardous waste: Material or byproduct of construction that is regulated by the Environmental Protection Agency and cannot be disposed in a landfill or other waste end-source without adherence to applicable laws.

E. Trash: Product or material unable to be returned, reused, recycled or salvaged.

F. Landfill: Public or private business involved in the practice of trash disposal.

1.5 CLOSEOUT SUBMITTALS

A. Landfill charge tickets

PART 2 PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or cause damage to finished surfaces.

PART 3 EXECUTION

3.1 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials in a legal manner.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site:

1. Maintain Project site free of waste materials and debris.

2. Keep site free of nails, screws, fasteners and scrap metal. Utilize magnets as necessary to sweep parking lots, driveways and sidewalks. Responsible for repair or replacement of punctured tires of site occupants.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.

2. Where dust impairs proper execution of the Work, broom-clean or vacuum the work area, as appropriate.

3. If necessary, have a heavy-duty vacuum on site to remove small, loose debris from work area.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and do not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

H. Waste Disposal: Burying or burning waste materials on-site is not permitted. Washing waste materials down sewers or into waterways is not permitted.

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Acceptance.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to ensure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.2 DISPOSAL OF WASTE

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

1. Except as otherwise specified, do not allow waste materials to accumulate on-site.

2. Remove and transport debris in a manner that prevents spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

D. Separate, store and dispose of hazardous wastes in accordance with local and EPA regulations and additional criteria listed below:

1. Do not incinerate building products manufactured with PVC or containing chlorinated compounds.

2. Disposal of fluorescent tubes to open containers is not permitted.

3. Do not co-mingle unused fertilizers with construction waste.

3.3 FINAL CLEANING

A. Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.

2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.

3. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

4. Remove tools, construction equipment, machinery, and surplus material from Project site. Properly dispose of unwanted surplus material.

5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

6. Remove debris and surface dust from roofs and walls.

7. Clean transparent materials and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

8. Remove labels that are not permanent.

9. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

10. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.

11. Replace parts subject to unusual operating conditions.

12. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

a. Inspection Procedures.

b. Project Record Documents.

c. Warranties.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

A. AIA G704 - Certificate of Substantial Completion; 2017.

1.4 SUBMITTALS

A. Warranties: Submit copy of warranties to meet the requirements of their respective specification section.

1.5 SUBSTANTIAL COMPLETION

A. Submit written certification to the Engineer that the Project is substantially complete along with the following:

1. Prepare a list of items to be completed and corrected (Contractor's punch list), the value of items on the list, and reasons why the Work is not complete.

2. Notify Owner of pending insurance changeover requirements.

3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

5. Notify Owner of changeover in heat and other utilities.

6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

7. Complete final cleaning requirements, including touchup painting.

8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Substantial Completion Inspection: On receipt of written substantial completion certification, the Engineer will make a substantial completion inspection within 7 days after receipt of certification.

1. Should the Engineer consider the Work not substantially complete, he will notify the Contractor, in writing, stating the reasons. Complete the Work and send a second written notice to the Engineer, certifying the Project is substantially complete, at which time the Engineer will re-inspect the work.

2. Should the Engineer consider the Work substantially complete, he will prepare and issue AIA G704 accompanied by the list of items to be completed or corrected (Punch List).

3. A punch list of items will be prepared for correction and completion before the Final Inspection. Complete the punch list items within 15 days of the punch list inspection. If the Contractor fails to complete the punch list within this period, the Owner has the right to impose liquidated damages in the amount of $500.00 for each consecutive day until the items are completed.

1.6 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 01.

2. Submit signed copy of Engineer's inspection list of items to be completed or corrected (punch list) certifying each item has been completed or otherwise resolved for acceptance.

3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Final Inspection: The submission of the signed punch list constitutes as written request for final inspection for acceptance. On receipt of request, Engineer along with the Owner's Representative will conduct a final inspection within 7 days of receipt of certification.

1. Should the Engineer consider that the Work is finally complete in accordance with requirements of the Contract Documents, Project Closeout Submittals will be requested.

2. Should the Engineer consider that the Work is not finally complete, notification to the Contractor, in writing, stating the reasons will be made.

3. Take steps to remedy the stated deficiencies and send a second written notice to the Engineer certifying that the Work is complete, at which time the Engineer will re-inspect the Work.

1.7 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.

1. Submit required record documents and warranties within 30 days of the punch list inspection. If the Contractor fails to properly submit required items within this period, the Owner has the right to impose liquidated damages in the amount of $500.00 for each consecutive day until the items are properly submitted.

B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.

1. Mark Record Prints to show where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.

b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.

3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.

4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Note related Change Orders and Record Drawings, where applicable.

D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1. Completed and signed Engineer's Punch List

2. Copy of Manufacturer's Final Inspection Report

3. Landfill Charge Tickets

4. Certificate of Occupancy from AHJ

1.8 WARRANTIES

A. Warranties to commence on the date of Final Acceptance of the project.

B. Thermoplastic Single Ply Roofing System warranty as outlined in Section 07 54 00 - Thermoplastic Single Ply Roofing.

C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00 - Sheet Metal Flashing and Trim.

D. Skylight warranty as outlined in Section 08 62 00 - Unit Skylights.

E. Skylight warranty as outlined in Section 08 63 00 - Metal Framed Skylights.

F. Contractor's Warranty - utilize form contained in Section 00 65 36.

G. Asbestos Free Warranty - utilize form contained in Section 00 65 37.

END OF SECTION

SECTION 05 0130

STEEL ROOF DECK REPAIR AND SECUREMENT

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Steel Deck Repair: Inspect, evaluate and remediate steel roof deck as follows:

   a. Repair of surface rust in steel decking.

   b. Repair of through holes in steel decking.

   c. Overlay of damaged or deteriorated steel decking.

   d. Replacement of damaged or deteriorated steel decking.

2. Steel Deck Securement: Provide mechanical fasteners to secure steel deck to existing steel framing and to secure existing deck side and end laps.

1.2 RELATED REQUIRMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Divsion 1 Specification Sections and the folloiwng Specification Sections apply to this Section:

1. Section 06 10 00 - Rough Carpentry

2. Section 07 01 50 - Preparation for Reroofing

3. Section 07 22 16 - Roof Insulation

4. Section 07 54 00 - Thermoplastic Single Ply Roofing

5. Section 22 14 26 - Roof Drains

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

B. FM DS 1-29 - Roof Deck Securement and Above-Deck Roof Components; 2016, with Editorial Revision (2022).

C. SDI (DM) - Publication No.30, Design Manual for Composite Decks, Form Decks, and Roof Decks; 2007.

D. SDI QA/QC - Standard for Quality Control and Quality Assurance for Installation of Steel Deck; 2022.

1.4 SUBMITTALS

A. Refer to Section 01 33 00 – Submittal Procedures.

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

1.5 QUALITY ASSURANCE

A. Provide meticulous attention to the detail of installation and workmanship to ensure the assemblage of products in the highest grade of excellence by skilled craftsmen of the trade.

PART 2 PRODUCTS

2.1 MATERIALS

A. Steel Deck Repair:

1. Steel Deck: FM Approved or UL listed, 22 gauge minimum; galvanized steel meeting ASTM A653/A653M with profile to conform to existing deck profile at end and side laps.

2. Deck Repair Plates: 16 gauge, galvanized steel plates meeting ASTM A653/A653M sized to extend a min. 8 inches beyond the through hole in existing decking with plate edges resting on a rib.

3. Deck Repair Coating: High solids, low VOC, self-priming epoxy coating for use on steel structures.

   a. PPG Amerlock 400

   b. Devoe Bar-Rust 231

   c. Kryon Industrial High Build Epoxy Mastic 100

   d. Benjamin Moore & Co. Surface Tolerant Epoxy Mastic Coating V160

B. Steel Deck Securement:

1. Deck-to-structural steel fasteners: FM Approved, self-drilling deck fasteners of length and type as required by fastener manufacturer for thickness of structural steel.

   a. ITW Buildex Corp. 12-24 Tek 5

   b. SFS Intec Impax 12-24 SD5

   c. Blazer 1/4-20 DP5

2. Deck-to-deck side lap fasteners: FM Approved self-drilling deck side lap fasteners of length and type as required by fastener manufacturer for thickness of steel deck.

   a. ITW Buildex Corp. 10-16 Tek 3

b. SFS Intec #10-16 SD3

c. Blazer #10-16 DP3

3. Washers: 3/4 inch diameter of same material as fastener or integral 1/2 inch diameter washer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect roof deck in work areas noted on roof plan. Notify engineer of additional damaged decking, or damaged structural elements.

B. Before removing decking, cutting decking or fastening decking, inspect interior conditions under the deck to prevent cutting or damaging the joists, electrical conduit, sprinkler piping, fixtures and utilities. Ensure conditions are satisfactory before proceeding with the work, and continuously monitor interior and exterior work conditions during demolition and construction operations.

C. Commencement of work signifies acceptance of conditions. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

D. The following descriptions indicate roof deck corrosion levels by degree. Inspect roof deck areas and assess corrosion level of 1 through 5. Following the assessment, conduct the appropriate Remediation Method in accordance with the deck corrosion level descriptions.

1. Corrosion Degree 1

a. Red rust or dark brown rust scaling on top flange only.

b. Dark brown rust scale removed by scraping/wire brushing to indicate minor pitting of the metal surface.

c. Deck flutes discolored.

2. Corrosion Degree 2

a. Red rust or dark brown rust scale present on the deck surface.

b. Deck sections (flanges and flutes) have been or can be readily removed during examination or areas of decking are missing, up to 13" in any one direction.

3. Corrosion Degree 3

a. Red rust or dark brown rust scale present on the deck surface.

b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, from 13" to 24" in one dimension.

4. Corrosion Degree 4

a. Red rust or dark brown rust scale present on the deck surface.

b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, 24" or greater in one dimension.

3.2 PREPARATION

A. Remove and vacuum debris from deck surface and ribs to allow for inspection of deck, and to fasten decking.

B. Remove and properly dispose of damaged decking (Corrosion Degree Level 4) and remove deck fasteners in the repair area.

C. Take necessary precautions to prevent debris from entering building space, and coordinate operations with Engineer and Owner.

D. Provide temporary protection of building interior and contents to prevent damage.

3.3 STEEL DECK REMEDIATION

A. General:

1. Remove loose dirt, rust, moisture, grease or other contaminants from the surface with a power wire brush.

2. Vacuum the roof deck surface clean.

B. Corrosion Degree 1:

1. Properly mix deck repair coating according to manufacturer's recommendations.

2. Do not mix more material than can be used in the materials expected pot life.

3. Apply material at temperatures from 50˚ F to 90˚ F for optimum application.

4. Brush or roller apply deck repair coating as recommended by manufacturer.

5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.

C. Corrosion Degree 2:

1. Properly mix deck repair coating according to manufacturer's recommendations.

2. Do not mix more material than can be used in the materials expected pot life.

3. Apply material at temperatures from 50˚ F to 90˚ F for optimum application.

4. Brush or roller apply deck repair coating as recommended by manufacturer.

5. Mechanically attach deck repair plate to deck ribs with deck to side lap fasteners 6 inches on center maximum or a minimum of 2 screws per side.

D. Corrosion Degree 3:

1. Properly mix deck repair coating according to manufacturer's recommendations.

2. Do not mix more material than can be used in the materials expected pot life.

3. Apply material at temperatures from 50˚ F to 90˚ F for optimum application.

4. Brush or roller apply deck repair coating as recommended by manufacturer.

5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.

6. Overlay steel deck to match existing profile extending a minimum of 6 inches beyond the deficient area.

7. Mechanically attach perimeter of overlay deck to existing deck ribs with deck to side lap fasteners 6 inches on center.

   a. Where structural support is present, secure overlay deck to structural framing in accordance with the steel deck securement pattern.

   b. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.

   c. Follow deck Manufacturer's instructions and SDI QA/QC .

E. Corrosion Degree 4:

1. Examine underside of steel deck for conduit located directly below the deck surface, anything suspended or fastened to the deck surface, etc. If necessary, detach objects from the bottom side of the deck being removed.

2. Remove deck meeting Corrosion Degree 4.

3. Provide roof deck where existing is removed.

4. Overlap deck end laps no less than 6 inches and as required to secure through both panels and into the structural steel. Lap ends only over structural framing. Deck fasteners to penetrate deck panels no less than 2 inches from the edge of the panel.

5. Overlap deck side laps to nest flush into neighboring deck panel. Install a minimum of two deck side lap fasteners between framing members.

6. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.

7. Follow deck Manufacturer's instructions and SDI QA/QC .

3.4 STEEL DECK SECUREMENT

A. Fasten steel deck panels to steel framing and steel deck side laps as indicated in the contract drawings and to meet the requirements of SDI (DM), AISC (MAN), and FM DS 1-29.

B. Drive deck fasteners in the center of the bottom of the deck rib. Drive the fasteners within +/-1/4 inch of the center of the structural steel bearing surface. Drive fasteners along the center of the structural steel member, not near the edge of the structural steel.

C. Drive deck side lap fasteners into the deck rib such that both panels are penetrated. Locate the side lap fasteners along the center of the bottom of the rib.

D. Utilize fastener with integral washer or provide washer for fasteners in Zone 2 (perimeter) and Zone 3 (corner).

E. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.

3.5 FIELD QUALITY CONTROL

A. Monitor the inside of the building during removal and replacement of damaged steel decking to prevent damage to building, equipment and occupancy.

B. Monitor hot work operations in strict accordance with the Owners requirements and local Code. These operations include, but are not limited to, cutting, welding, soldering, brazing, grinding, etc. and other spark or flame producing operations.

END OF SECTION

SECTION 06 1000

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rough Carpentry work required to facilitate installation of roof assembly including:

a. Provide pressure treated rough carpentry.

b. Resecure rough carpentry to remain in place.

c. Replace damaged, rotted or deteriorated rough carpentry with pressure treated rough carpentry.

1.2 RELATED DOCUMENTS

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

1. Section 01 33 00 – Submittal Procedures

2. Section 05 01 30 - Steel Roof Deck Repair and Securement

3. Section 07 01 50 - Preparation for Reroofing

4. Section 07 22 16 - Roof Insulation

5. Section 07 54 00 - Thermoplastic Single Ply Roofing

6. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

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

B. ASTM F1667/F1667M - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2021a.

C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.

D. FM DS 1-49 - Perimeter Flashing; October 2021.

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

1.4 DEFINITIONS

A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.

B. KDAT: Kiln Dried After Treatment.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 – Submittal Procedures.

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.6 QUALITY ASSURANCE

A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.

B. Rough carpentry to present a smooth, consistent substrate for roof system and flashing installation.

C. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors present during execution of the work. Be thoroughly familiar with type of construction involved and related work and techniques specified.

D. Moisture Content:

1. Kiln Dry After Treatment (KDAT).

2. Do not store or install treated lumber used in the roofing assembly in a manner exposing it to rain.

3. Lumber: 19% or less before being covered/enclosed into roofing assembly.

E. Label: Bear the stamp of the AWPA Quality Mark, indicating compliance with the requirements of the AWPA Quality Control Program.

F. Installation of rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.

G. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.

H. Installation of fasteners and associated materials to secure rough carpentry as detailed and specified.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation

B. Avoid exposure to precipitation during shipping, storage or installation. If material does become wet, replace or permit to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).

C. Upon delivery to job site, place materials in area protected from weather.

D. Do not store seasoned materials in wet or damp portions of building.

E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 PRODUCTS

2.1 MATERIALS

A. Wood Nailers/Blocking:

1. No. 2 or better spruce or southern yellow pine lumber meeting PS 20 standards.

2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.

3. Dimensions determined by job conditions or as indicated in detail drawings.

B. Preservative Treatment:

1. ACQ as manufactured for Viance in accordance with AWPA U1 and P5, P26, P27, P28, P29 as appropriate. Use 0.15 lb/cu ft of ACQ in accordance with AWPA U1, Use Category UC3B.

2. Ecolife or EL2 as manufactured by Viance. Use 0.019 lb/cu ft of Ecolife or EL2 (+ 0.2 lb/cu ft MCS) in accordance with AWPA U1, Use Category UC3B.

3. Micro-Guard as manufactured by Hoover Treated Wood Products, Inc. in accordance with AWPA U1, Use Category UC3B.

4. Engineers accepted equivalent.

2.2 FASTENERS

A. General:

1. Stainless steel or as accepted by Engineer.

2. Fasteners securing pressure treated lumber manufactured for corrosion resistance and exposures associated with pressure treated wood applications.

3. Do not use nails at roof edges to fasten rough carpentry, lumber, plywood, etc. Use screws, anchors, and/or machine bolts to secure rough carpentry at roof perimeter edges.

4. Do not use masonry screws, spikes, and drive-pins to fasten edge/perimeter nailers to concrete. Utilize minimum 1/2-inch diameter anchors or bolts to secure roof edge nailers to concrete.

5. Do not secure or fasten edge/perimeter wood nailers to hollow core concrete masonry; grout concrete masonry units and provide minimum embedment of fasteners to meet anchor manufacturer's installation instructions.

6. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.

B. Nails: 8d (0.135 inch shank diameter), 10d (0.148 inch shank diameter) or 16d (0.162 inch shank diameter), type 316 stainless steel, ring shank nails. meeting ASTM F1667/F1667M. Length to embed into base substrate a minimum 1-1/2 inches.

1. Maze Nails

2. Anchor Staple and Nail

3. Simpson Strong Tie

4. Manasquan Premium Fasteners

5. Engineers accepted equivalent.

C. Screws: No. 10 or greater, stainless steel wood screws with flat head, or insulation screws. Length to embed into base substrate a minimum of 1-1/2 inches.

D. Self-Drilling Screws:

1. Zinc coated steel meeting ASTM A153/A153M with corrosion resistant coating, FM Approved, self-drilling, self-tapping, winged screw. Length to provide minimum 3 pitches of thread through metal thicknesses. Diameter, threads and drill point determined based upon wood and substrate component meeting manufacturer's published data.

2. Wood Blocking:

a. ITW Building Teks Wood-to-Metal Fastener

1) #12-24 Drill Point #4 for 1/8 inch thick to 1/4 inch thick steel

b. Blazer Sefl-Drilling Screw Wood to Metal Applications

1) #12-24 Blazer-2 with Wings for 18 gauge to 0.210 inch thick steel

2) 1/4-20 Blazer-5 with Wings for 0.210 inch to 1/2 inch thick steel

c. Hilti Wood Drill Screws

1) S-WW 12-24 1/2 PFH #4 Wings for 18 gauge to 0.232 inch thick steel

2) S-WW 14-20 #4 PFH Wings for 18 gauge to 0.25 inch thick steel

E. Washers: Fasteners heads for screws, anchors and bolts terminating at the surface of nailers provided with a minimum 5/8-inch diameter, stainless steel or similar corrosion resistance flat washer provided by fastener manufacturer, unless washer is provided from factory as part of the fastener assembly.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.

B. Inspect rough carpentry including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted or wet materials.

C. Remove cants, tapered edge strips, debris, fasteners, etc. that interfere with the installation of rough carpentry.

D. Notify Engineer in writing of unsatisfactory conditions.

E. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

A. Steel/Metal Substrates:

1. Coat steel and metal with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel/metal and treated wood products.

B. Roof Deck and Structure:

1. Adjust substrates to receive rough carpentry to ensure completed rough carpentry installation is acceptable for roofing and sheet metal flashings.

2. Coat steel decking with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel and treated wood products.

a. Do not allow treated lumber to make direct contact with steel decking.

3.3 INSTALLATION

A. Replace damaged or deteriorated wood blocking, nailers, and curbs.

B. Re-secure wood nailers at roof edges that are to remain with fastener type and spacing to comply with this section.

C. Install wood blocking, nailers, and curbs to achieve a minimum 8-inch flashing height above the roof membrane.

D. Install wood nailers at perimeter roof edges and low-profile expansion joints to match insulation height while maintaining a constant nailer height along perimeter edges.

E. Install wood blocking and nailers concurrently with roof system installation. Removal of insulation and/or folding back of roof membrane to install wood blocking and nailers at a later date is not acceptable.

F. Set rough carpentry to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.

G. Fit rough carpentry to other construction, scribe and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction. Install joints between wood for a smooth transition.

H. Attachment:

1. Consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing, substrate preparation and substrate embedment where not specified.

2. Securely attach rough carpentry work to substrate with fasteners anchored to resist the required upward and outward design wind loads.

3. Meet the requirements herein and that of FM DS 1-49 for rough carpentry attachment.

4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten above nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed; countersink a maximum of one half the board thickness.

5. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood to provide acceptable conditions.

6. For anchors, pre-drill concrete and masonry units to prevent damage or cracking of the masonry. Consult fastener manufacturer's published guides. Repair or replace damaged masonry with fasteners re-installed in an acceptable location.

7. Fastener spacing: Staggered in two rows 1/3 the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.

    a. Nails: Securing wood to wood spaced as indicated below with two nails installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints. Do not utilize nails at roof edges, utilize screws.

        1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

    b. Screws: Securing wood to wood spaced as indicated below with two screws installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.

        1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

    c. Self-Drilling Screws: Securing wood to steel spaced as indicated below with one screw within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.

        1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

I. Select fasteners of size and length that are not exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

J. Thickness of wood nailers flush with adjacent insulation and other materials. Install additional fasteners to ensure nailers are flush.

K. Unless otherwise detailed, install plywood used as blocking or shim below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.

L. Do not utilize wood nailers at roof perimeters, expansion joints, roof area dividers, etc. less than 3 feet long.

M. When multiple nailers are installed stacked two high or more, offset nailers no less than 12" such that joints at nailer end do not line-up vertically.

N. Fasten each end of nailers with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.

O. Shims:

1. Provide plywood and lumber shims as required for the specified height and thickness.

2. Shims to make full contact with stacked rough carpentry. Partial shim contact, and small shim pieces spaced apart are not acceptable.

P. Curbs:

1. Adjust wood curbs to support rooftop piping, ducts, equipment, etc.

2. Raise equipment to provide required flashing height for roofing.

3.4 CLEANING

A. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.

B. Clean the site and building of saw dust from lumber, fasteners and other debris.

C. Repair or replace damages to the building, grounds, equipment and site to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION

SECTION 07 01 50

PREPARATION FOR REROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Complete preparatory work prior to roof installation including but not limited to:

a. Removal of roof assemblies down to the steel deck.

b. Raising of mechanical units and/or HVAC units to meet the required minimum flashing height.

c. Under roof deck survey

1.2 RELATED DOCUMENTS

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

1. Section 01 33 00 – Submittal Procedures.

2. Section 05 01 30 - Steel Roof Deck Repair and Securement

3. Section 06 10 00 - Rough Carpentry

4. Section 07 22 16 - Roof Insulation

5. Section 07 54 00 - Thermoplastic Single Ply Roofing

6. Section 22 14 26 - Roof Drains

1.3 DEFINITIONS

A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.

B. Existing to remain: Protect construction indicated to remain against damage and soiling during demolition. When accepted by Engineer, items may be removed to a suitable, protected storage location during demolition, cleaned and reinstalled in their original locations.

C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished items become the Contractor's property. Remove demolished items from the site.

1.4 REFERENCE STANDARDS

1.5 SUBMITTALS

A. Refer to Section 01 33 00 – Submittal Procedures.

B. Fastener Withdrawal Testing: Provide a report along with a roof plan showing test locations and corresponding withdrawal value of each pull test.

C. Adhesive Bonded Field Uplift Test: Provide a report along with a roof plan showing test locations and corresponding results of each uplift test.

1.6 EXISTING ROOF ASSEMBLIES

A. Refer to Contract Drawings for existing roof system composition.

1.7 QUALITY ASSURANCE

A. Qualifications: Previous experience removing roof systems.

B. Requirements: Comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.

1.8 SCHEDULING

A. Do not disrupt Owner's operations during demolition. Provide 72 hours notification to Owner of activities that affect Owner's operations.

1.9 WARRANTIES

A. Repair or replace damage to existing items under warranty with materials acceptable to the Warrantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 EXAMINATION

A. Survey conditions to determine extent of demolition.

B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.

C. Do not remove elements that result in structural deficiency or collapse the structure or adjacent structures during demolition.

D. Inspect substrate for soundness and notify Engineer in writing of deficiencies. Commencement of work signifies acceptance of site conditions.

3.2 PREPARATION

A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.

B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.

C. Provide safe conditions for pedestrians. Erect temporary protection, walkways, fences, railings and canopies as required by OSHA and other governing authorities.

D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.

E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

3.3 UTILITIES/SERVICES

A. Maintain utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.

1. Locate conduits and equipment attached to the underside of the decking prior to reroofing. Do not disturb conduits or interior components/equipment with insulation fasteners.

2. If utilities serving occupied portions of the site are shut down, provide temporary services.

3. Provide 72 hours' notice to Owner if shut down is required.

4. Where services are removed, relocated or abandoned, provide necessary bypass connections to remaining occupied buildings and areas.

3.4 POLLUTION CONTROLS

A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.

1. Do not use water where there is potential for damage to occur or where hazardous conditions, ice or flooding are created.

3.5 UNDER ROOF DECK SURVEY

A. Prior to work being performed, complete a survey of the under deck components.

B. Locate and mark conduit, utilities, etc. that interfere with the replacement roof system.

C. Utilize caution when removing and replacing existing roof system to prevent fireproofing from dislodging. Survey interior of building during tear-off operations and at end of each day. Clean up debris daily. Report displaced fireproofing to the Owner/Engineer.

1. Contractor is responsible for repairing displaced fireproofing and repairing any interior finishes damaged from the displaced fireproofing.

2. Refer to Section 07 81 23 for fireproofing installation.

D. Notify Owner and Engineer prior to survey being performed.

3.6 REMOVALS

A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the replacement roof system and such that varying heights between roof assemblies does not adversely affect roof drainage.

B. Demolish and remove construction only to the extent required.

C. Remove roof membrane, flashings, roof insulation, and sheet metal and discard.

D. Remove or correct obstructions which interfere with the proper application of materials.

E. Lift or remove equipment so that flashings can be replaced.

F. Remove debris to provide clean, dry substrate.

G. Remove and transport debris in a manner that prevents damage/spills to adjacent buildings and areas.

H. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.

I. Transport demolished materials off-site and dispose of materials in a legal manner.

J. Perform progress inspections to detect hazards resulting from demolition activities.

3.7 FLASHING HEIGHTS

A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.

B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8" flashing height.

C. Extend sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system.

3.8 CLEANING

A. Inspect the site daily and clean up debris and hazards at the end of each day. Keep adjacent roads, drives and walkways in operation and free from construction materials debris.

B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

END OF SECTION

SECTION 07 2216

ROOF INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide roof insulation system as specified in Section 01 11 00 - Summary of Work and as indicated in Contract Drawings.

1.2 RELATED DOCUMENTS

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

1. Section 01 33 00 – Submittal Procedures
2. Section 05 01 30 - Steel Roof Deck Repair and Securement
3. Section 06 10 00 - Rough Carpentry
4. Section 07 01 50 - Preparation for Reroofing
5. Section 07 54 00 - Thermoplastic Single Ply Roofing
6. Section 22 14 26 - Roof Drains

1.3 REFERENCE STANDARDS

A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.

B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2025.

1.4 PERFORMANCE REQUIREMENTS

A. R Value

1. In accordance with the referenced Energy Conservation Code and ASHRAE 90.1.
2. Minimum continuous R-value: 15
3. R value based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for other insulation components, as tested in accordance with specified the specified.

B. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Contract Drawings.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 – Submittal Procedures.

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Shop Drawings: Tapered insulation plan from material supplier with minimum R-value for each roof area.

1.6 QUALITY ASSURANCE

A. Install insulation in accordance with their respective manufacturer's requirements.

B. Reject insulation not bearing UL label at point of delivery.

C. Remove insulation damaged or wetted before, during, or after installation from the job site no later than the next working day from the day such damage or moisture contamination is noted.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.

B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.

1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.

2. Install vapor retarders under material storage areas located on the ground.

3. Remove damaged or deteriorated materials from the job site.

4. Store adhesives in accordance with manufacturer's instructions.

C. Handling: Handle material in such a manner to prevent damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

A. Do not apply insulation during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Take necessary action to restrict dust, asphalt, and debris from entering the structure.

C. Do not remove more roofing than can be replaced with insulation, membrane and flashings in the same day to create a watertight installation.

PART 2 PRODUCTS

2.1 MATERIALS

A. Insulation Boards:

1. Roof Insulation:

   a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 2, Grade 2 and meeting the following requirements:

      1) Factory applied coated polymer bonded glass fiber mat facers on the top and bottom.

      2) 24 hours minimum curing time, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.

      3) 2 percent maximum linear change dimensional stability when conditioned at 158 degrees F and 97 percent relative humidity for seven days.

      4) Maximum permissible insulation board size for mechanical attachment is 4 feet by 8 feet and for foam adhesive and hot asphalt attachment is 4 feet by 4 feet. Field cutting of larger boards is not acceptable.

      5) Thickness: as indicated in Contract Drawings

2. Tapered Insulation System:

   a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 2, Grade 2 and meeting the following requirements:

      1) Factory applied coated polymer bonded glass fiber mat facers on the top and bottom.

      2) Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.

      3) Dimensional stability: 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.

      4) Board size: 4 feet by 4 feet.

      5) Slope: 1/4 inch per foot

      6) Minimum thickness: 1/2 inch

      7) Fill Insulation: Rigid polyisocyanurate meeting the above requirements with board size of 4 feet by 4 feet and thickness of 2 inches.

      8) Crickets and Saddles: Rigid polyisocyanurate meeting the above requirements with a board size of 4 feet by 4 feet and 1/2 inch per foot slope.

3. Cover Board:

a. Cover board approved by roof system manufacturer. Board Size: 4 feet by 8 feet. Minimum thickness as listed below or as required by roof system manufacturer.

1) Georgia Pacific 1/2 inch DensDeck Prime Roof Board

2) DEXcell 1/2 inch FA Glass Mat Roof Board

3) Engineer accepted equivalent

B. Insulation Accessories:

1. Tapered Edge Strip:

a. Wood Fiber: Asphalt impregnated wood fiber tapered edge strips with 1 inch per foot slope of sizes indicated in Contract Drawings or required by field conditions meeting ASTM C208.

C. Insulation Mechanical Attachment Materials:

1. Steel Deck Fasteners and Stress Plates: Corrosion resistant 3-inch galvalume stress plate and corrosion resistant screw type fasteners for use with steel decks; approved by the insulation manufacturer for the insulation type, thickness and board size specified; fastener length as required by the fastener manufacturer for the insulation thickness specified, and to penetrate the deck a minimum of 3/4 inch and a maximum of 1-1/4 inch.

D. Adhesives:

1. Foam Adhesive: One or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.

a. Primer: Provide as required by adhesive manufacturer and substrate conditions.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect substrate for soundness and notify Engineer in writing of deficiencies.

B. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

A. Dry and broom roof deck clean of debris and foreign matter prior to installation of insulation system.

3.3 APPLICATION

A. General

1. Apply in accordance with the insulation and roof system manufacturer's instructions and these specifications.

2. Install insulation in full boards, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch are not acceptable.

3. Saw cut or knife cut insulation and cover boards in a straight line, not broken. Utilize chalk lines to cut insulation. Uneven or broken edges are not acceptable.

4. Remove insulation dust and debris that develops during insulation cutting operations.

5. Offset joints between successive and adjacent layers of insulation a minimum of six inches.

6. Stagger joints of cover boards one foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.

7. On steel decks, apply insulation boards with long dimension of units across deck ribs. Bear ends of insulation boards on top flange of steel deck.

8. Install crickets, saddles and tapered edge strips before the cover board.

9. Adhere cant strips and tapered edge strips at transitions, terminations and/or penetrations as detailed or required ribbons of foam adhesive to ensure smooth transitions are provided for the roof membrane and flashings.

10. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.

11. Make field modifications of insulation, tapered insulation, tapered edge strips and cants where required to accommodate roof and flashing conditions and to prevent water dams and ponding water. Ponding water at scuppers and cricket valleys is not acceptable.

12. Ponding Water:

    a. The ponding of water on the roof surface after installation of the roofing system is not acceptable and is grounds for rejection of the roof.

    b. Ponding is herein defined as precipitation remaining in a four-square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation.

    c. Provide modifications to insulation system to ensure proper drainage and prevent standing water including but not limited to reinstallation of roof system or installation of additional tapered insulation.

B. Tapered Insulation System:

1. Install tapered insulation system to provide positive slope for roof drainage without ponding water.

2. Size crickets as shown in the Contract Drawings. Provide modifications to ensure positive slope and prevent standing water along the cricket valley.

    a. Minimum length to width ratio of 2:1. Fabricate partial crickets with dimensions which result in a minimum length to width ratio of 2:1 if they were extended to full size.

b. Unless otherwise noted, fabricate crickets from tapered stock as required to provide the specified minimum slope. For example, when roof slope is indicated as 1/4 inch per foot minimum, fabricate crickets with slope of 1/2 inch per foot minimum.

c. Construct crickets on up slope side of curbs to ensure positive drainage.

d. Install tapered edge strips at cricket edges to provide a smooth transition between the cricket and insulation system below.

3. Insulation boards may require mechanical fasteners and stress plates at slope transition of crickets to minimize bridging.

C. Roof Drainage:

1. Install drainage sumps as detailed.

2. Carefully lay out the tapered insulation, sumps, drain bowls and scuppers to ensure the finished roof provides drainage with no ponding water.

3. Fabricate miter-cut sumps at drains/scuppers to provide smooth transitions between the insulation system and the drains/scuppers.

4. Ensure sumps provide roof drainage and prevent water dams.

5. Adjust insulation, drains and scuppers to ensure roof drainage and satisfactory substrates for membrane and flashings.

6. Secure drain sump components using specified insulation fasteners or adhesives.

7. Circular sumps and sumps that do not provide smooth transition or that create standing water at the drains are not allowed.

D. Tapered Edge Strips:

1. Install at edges to make transitions as detailed in Contract Drawings.

2. Provide to form crickets in front of curbs wider than 12 inches.

3. Provide slope transition at the outside of drainage sumps.

4. Provide slope at top of parapet walls below coping.

5. Use 1/2 inch by 6 inch tapered edge strips in front of tapered insulation crickets to provide smooth transition.

E. Insulation Mechanical Attachment:

1. Fastener quantity and spacing as required to comply with the requirements of roof system manufacturer's approved, tested assembly.

2. Install fasteners using manufacturer's recommended equipment and in accordance with the manufacturer's requirements.

3. Set fasteners and stress plates secure and tight against the insulation surface and do not over drive.

4. Fasteners to engage the top flange of steel decks only.

5. For Nailable Cross Ventilated Roof Insulation, install insulation boards with vent channels parallel to the roof slope. Ensure that vent channels are aligned at butt joints.

F. Foam Adhesive:

1. Position and space adhesive beads as required to comply with the requirements of the roof system manufacturer's approved, tested assembly.

2. Size adhesive beads in accordance with the adhesive manufacturer's guidelines.

3. Place insulation boards onto the beads and "walk" and/or "weight" into place. Place insulation boards into the adhesive in accordance with the adhesive manufacturer's guidelines.

4. Ensure adhesion of insulation and take whatever steps necessary to achieve adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

END OF SECTION

SECTION 07 54 00

THERMOPLASTIC SINGLE PLY ROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide adhered, fleeceback, thermoplastic membrane and flashings to provide a permanently watertight system.

1.2 RELATED DOCUMENTS

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

1. Section 01 33 00 – Submittal Procedures
2. Section 05 01 30 - Steel Roof Deck Repair and Securement
3. Section 06 10 00 - Rough Carpentry
4. Section 07 01 50 - Preparation for Reroofing
5. Section 07 22 16 - Roof Insulation
6. Section 07 62 00 - Sheet Metal Flashing and Trim
7. Section 22 14 26 - Roof Drains

1.3 REFERENCE STANDARDS

A. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing; 2021.

B. ASTM D6754/D6754M - Standard Specification for Ketone Ethylene Ester Based Sheet Roofing; 2015.

C. FM 4470 - Examination Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for Use in Class 1 and Noncombustible Roof Deck Construction; 2022.

D. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

E. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.

F. UL 1897 - Uplift Tests for Roof-Covering Systems; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.4 PERFORMANCE REQUIREMENTS

A. Install roofing system to meet UL 790 Class A Fire Rating.

B. Wind Uplift Strength: Provide an approved roof assembly tested in accordance with FM 4470, UL 580 or UL 1897 to resist the minimum required wind uplift strength specified in the Contract Drawings.

1.5 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Roof System Assembly Letter: Letter from roof system manufacturer listing roof assembly components along with their method of attachment and acceptance of the specified roof system warranty terms. Assembly letter should match the submitted test report documentation and specified assembly.

D. Test Reports: Submit documentation of approved, tested roof system to meet the specified requirements for the following:

1. Wind uplift pressures

2. UL Fire Resistance Rating

E. Shop Drawings:

1. Submit manufacturer approved drawings and details for conditions not depicted in Contract Drawings including but not limited to inside corners, outside corners, lap seams, etc.

1.6 QUALITY ASSURANCE

A. Manufacturer Requirements:

1. Written contractor/installer approval program.

2. Primary membrane products (including roof membrane and flashing membrane) manufactured by other manufacturers and private labeled are not acceptable.

B. Contractor Requirements:

1. Install roof system by a Contractor authorized by the membrane manufacturer for a minimum of two years with manufacturer's highest certification level.

2. Application of the roofing system accomplished by primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer of the single ply roofing system. Submit evidence of qualification from the manufacturer.

C. No deviations made from the Contract Documents or the accepted shop drawings without prior written acceptance by the Engineer.

D. Complete work by personnel trained and authorized by the membrane manufacturer.

E. Upon completion of the installation, provide inspection by a representative of the membrane manufacturer to review the installed roof system and document deficiencies.

F. Provide manufacturer written verification indicating seams have been probed and are watertight.

1.7 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging and in quantities required to allow continuity of application.

B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.

1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.

2. Install vapor retarders under material storage areas located on the ground.

3. Remove damaged or deteriorated materials from the job site.

4. Store membrane rolls lying down on pallets and protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions affecting the ease of membrane weldability.

5. Store adhesives at temperatures approved for the product.

6. Store flammable materials in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/ supplier.

7. Remove damaged materials and replace at no cost to the Owner.

C. Handling: Handle materials in such a manner as to prevent damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

A. Do not apply roofing during precipitation. Contractor assumes responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Only install as much of the roofing as can be made weathertight each day, including flashing and detail work. Clean and hot air weld seams before leaving the job site that day.

C. Schedule and execute work without exposing the interior building areas to the effects of inclement weather. Protect the building and its contents against risks.

D. Ensure surfaces to receive insulation, membrane or flashings are dry. Provide the necessary equipment to dry the surface prior to application.

E. Secure construction, including equipment and accessories, in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.

F. Install uninterrupted waterstops at the end of each day's work and remove before proceeding with the next day's work. Do not allow waterstops to emit dangerous or unsafe fumes and remain in contact with the finished roof as the installation progresses. Replace contaminated membrane at no cost to the Owner.

G. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, provide necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Provide a protection layer of plywood over insulation board for roof areas that receive rooftop traffic during construction.

H. Prior to and during application, remove dirt, debris and dust from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.

I. Do not allow contaminants, grease, fats, oils, and solvents to come into contact with the roofing membrane. Report rooftop contamination that is anticipated or that is occurring to the Engineer and membrane manufacturer to determine the corrective steps necessary.

J. If unusual or concealed condition is discovered; stop work and notify Engineer of such condition in writing within 24 hours.

K. Do not install the roofing membrane under the following conditions without consulting the membrane manufacturer's technical department for precautionary steps:

1. The roof assembly permits interior air to pressurize the membrane underside.

2. The wall/deck intersection permits air entry into the wall flashing area.

1.9 WARRANTIES

A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility).

1. Warranty Period: 30 years from date of Final Acceptance.

2. Warranty to remain in effect for wind speeds up to 72 mph.

3. Warranties requiring the Owner's signature are not acceptable.

4. Warranty to include membrane materials, adhesives, related materials and fasteners specified in this section and the following materials specified in other sections as follows:

a. 07 22 16 - Roof Insulation

b. Retrofit Roof Drains as specified in Section 22 14 26 - Roof Drains

B. Contractor's Warranty: Five Year Warranty: Manufacturer's Representative and Contractor's Representative will attend two post construction field inspections: 1) the first two years from the date of commencement of the Contractor's Warranty plus or minus one month and 2) the second no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Subject to compliance with requirements herein, provide roof system from a single source. Manufacturers:

1. Sika Sarnafil
2. Fibertite
3. IB Roof Systems
4. Siplast
5. Soprema

2.2 MEMBRANE MATERIALS

A. Membrane: Thermoplastic membrane with fiberglass and/or polyester reinforcement meeting ASTM D4434/D4434M or ASTM D6754/D6754M and factory applied fleece backing. Acceptable products:

1. Sika Sarnafil 60-mil S327 Feltback
2. Fibertite 60-mil SM-FB
3. IB PVC FB 60-mil Single-Ply Membrane
4. Siplast Parasolo PVC Fleeceback 60-mil
5. Soprema Sentinel P150 HFB

B. Flashing/Stripping Membrane: Non fleeceback, thermoplastic membrane reinforced with fiberglass.

1. Sika Sarnafil 60-mil G410
2. Fibertite 45-mil SM
3. IB PVC 60-mil Single-Ply Membrane
4. Siplast Parasolo PVC Smooth 60-mil
5. Soprema Sentinel P150 Membrane

C. Asphalt Resistant Flashing/Stripping Membrane: Thickness to match Flashing/Stripping Membrane, non fleeceback, asphalt resistant, thermoplastic membrane reinforced with fiberglass or polyester. Utilize where flashing membrane is in contact with residual asphaltic materials or as required by the manufacturer.

D. Membrane and Flashing Membrane Color: White

2.3 ADHESIVES

A. Membrane Adhesive: Membrane manufacturer's solvent-based adhesive.

1. Sika Sarnafil Sarnacol 2170

2. Fibertite FTR 290

3. IB Vertibond Adhesive 432

4. Siplast Parasolo PVC Bonding Adhesive

5. Soprema Sentinel S Bonding Adhesive

B. Flashing Adhesive: Membrane manufacturer's solvent-based adhesive.

1. Sika Sarnafil Sarnacol 2170

2. Fibertite FTR 190e

3. IB Vertibond Adhesive 432

4. Siplast Parasolo PVC Bonding Adhesive

5. Soprema Sentinel S Bonding Adhesive

2.4 RELATED MATERIALS

A. Fluid Applied Flashing: Roof system manufacturer's approved, reinforced, PMMA liquid applied flashing.

1. Sika Sarnafil Liquid Flashing

2. Fibertite - Soprema Alsan RS

3. Soprema Alsan RS 230 Flash as approved by IB Roof Systems

4. Siplast Parapro 123 Flashing System

5. Soprema Alsan RS 230 Flash

B. T-joint Patch: Membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.

C. Corner Flashing: Membrane manufacturer's pre-formed inside and outside flashing corners that are hot-air welded to membrane or polymer clad metal base flashings.

D. Coverstrip: 8 inch wide pre-cut polyester reinforced flashing strip.

E. Pipe Flashing: Membrane manufacturer's pre-formed pipe boot flashing that is hot-air welded to membrane and secured with a stainless-steel draw band and sealant.

F. Termination Bar: Manufacturer's 1/8 inch by 1 inch mill finish extruded aluminum bar with pre-punched slotted holes.

G. Lipped Termination Bar: 3/4 inch wide, extruded mill finished aluminum (6063 T6 Alloy) with 3/16 inch lip and pre-punched oval holes at 6 inches on center.

H. Walkway Pad: Walkway pad by manufacturer of membrane.

I. Pre-Fabricated Expansion Joint: Manufacturer's approved pre-fabricated expansion joint made with polyester reinforced membrane, neoprene foam and galvanized metal.

J. Retrofit Roof Drain: Refer to Section 22 14 00 - Roof Drains.

2.5 SEALANTS AND CLEANERS

A. Sealant: Manufacturer's multi-purpose sealant.

B. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.

C. Primary Membrane Cleaner: High-quality solvent cleaner provided by membrane manufacturer for use as a general membrane cleaner.

D. Pre-weld Cleaner: High-quality solvent based seam cleaner with moderate evaporation rate as recommended and provided by membrane manufacturer.

2.6 FASTENERS

A. Membrane Fasteners and Plates: Approved and provided by membrane manufacturer for the deck type and membrane configuration.

1. Steel Deck Fastener: Phillips head, carbon steel fastener with corrosion resistant coating designed for use with specified plate meeting the following minimum requirements:

a. Shank diameter: 0.21 inch

b. Thread diameter: 0.26 inch

c. Head diameter: 0.435 inch

d. Thread density: 13 turns per inch.

2. Plates: 18 gauge, 1-1/2 inch by 2-3/4-inch-high strength, linear steel plate with an AZ 55 galvalume coating.

B. Flashing Membrane Termination Screws: #12 corrosion resistant hex or pan head screws with length to penetrate substrate a minimum of 1-1/2 inch.

C. Concrete and Masonry Flashing Membrane Termination Anchors:

1. 1/4-inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inch.

2. Masonry screws approved my membrane manufacturer, 1/4-inch minimum diameter, corrosion resistant, with Phillips flat head. Length to provide minimum 1-1/2 inch embedment into substrate.

D. Steel Deck Fasteners and Plates: #12 corrosion resistant approved by membrane manufacturer of length to penetrate top flange of steel deck a minimum of 1 inch with galvalume plates approved for membrane attachment.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect the surface of the insulation or substrate prior to installation of the roof membrane.

B. Verify that the substrate is dry, clean, smooth, and free of debris, loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections and accumulations of bitumen to ensure a smooth surface before roofing.

C. Replace broken, delaminated, wet or damaged insulation boards.

D. Repair deteriorated substrates.

E. Beginning installation means acceptance of prepared substrate.

3.2 PREPARATION

A. Remove, cover or flash using compatible, approved materials substrates containing asphalt. Do not allow PVC to contact substrates containing asphalt materials.

B. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.3 ADHERED MEMBRANE INSTALLATION

A. Over the properly installed and prepared substrate, apply membrane adhesive in accordance with the manufacturer's instructions and application rates utilizing equipment as required by the manufacturer.

1. Do not allow adhesive to skin-over or surface-dry prior to installation of roof membrane.

2. Comply with the manufacturer's published requirements for adhesive application rates.

3. Count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.

4. Do not apply adhesive in seam areas.

5. Replace notched squeegees daily or as notches are reduced below 1/4 inch.

B. Place roof membrane into the adhesive in accordance with manufacturer's instructions.

C. Shingle seams with flow of water. Overlap upslope, adjacent rolls 3 inches over previous roll. This process is repeated throughout the roof area.

D. After placement of membrane, press roll into place with the manufacturer's recommended roller by frequent rolling in two directions.

E. Weld membrane coverstrips at fleeceback membrane seams without a factory selvage edge.

3.4 MEMBRANE TERMINATION

A. Terminate membrane at walls and curbs as shown in the contract drawings.

1. Roof Deck: Mechanically terminated using specified fasteners and plates 6 inches on center.

2. Wood Wall Substrate: Turn membrane up wall 1 inch and mechanically terminate using specified screws 8 inches on center with a termination bar.

3. Concrete/Masonry Wall Substrate: Turn membrane up wall 1 inch and mechanically terminated using specified anchors 8 inches on center with a termination bar.

B. Terminate membrane at penetrations as shown in the contract drawings.

1. Fasten membrane 6 inches on center or a minimum of 4 fasteners per penetration into the structural deck using fasteners and plates as approved by the membrane manufacturer for the deck substrate.

C. Extend membrane over roof edge a minimum of 2 inches below the perimeter wood blocking. If fleeceback membrane is utilized, trim membrane flush with outside edge of roof and hot-air weld a non fleeceback flashing membrane to extend over the roof edge.

D. Provide sealant tape at base of flashing membrane on outside of wall to prevent moisture infiltration.

3.5 FLASHING INSTALLATION

A. General

1. Install flashings concurrently with the roof membrane as the job progresses.

2. Temporary flashings are not allowed.

3. Do not tape seams as temporary measure; hot-air weld seams before the end of each day.

4. Adhere flashings to compatible, dry, smooth, and solvent-resistant surfaces.

5. Where substrates are incompatible with adhesives and PVC materials, remove the incompatible materials and replace with a compatible substrate or install compatible PVC flashing materials.

6. Use caution to ensure adhesive fumes are not drawn into the building.

B. Adhesive for Flashing Membrane

1. Over the properly installed and prepared flashing substrate, apply flashing adhesive according to manufacturer's installation instructions. Apply adhesive in smooth, even coats with no gaps, globs or similar inconsistencies.

2. Press the sheet firmly in place with a hand roller to ensure bond and adhesion.

3. Do not apply adhesive in seam areas that are to be welded.

C. Mechanically terminate flashings a minimum of 8 inches above the finished roofing surface using specified method indicated in the Contract Drawings.

D. Cut and provide hot-air welded corner flashing at interior and exterior corners.

E. Hot-air weld flashings at their joints and at their connections with the roof membrane.

F. Provide additional securement for flashings that exceed 30 inches in height. Consult Manufacturer's Technical Department for securement methods.

G. At expansion joints, extend flashing membrane over joint and dip into cavity to allow for expansion.

H. Roof Drain:

1. Mechanically attach membrane 6 inches on center into structural deck around drain sump. Adhere flashing membrane and hot-air weld to membrane a minimum of 4 inches.

2. Set flashing membrane in bed of sealant under the clamping ring.

3. Refer to Section 22 14 26 - Roof Drains.

I. Soil Pipe/Pipe Penetration:

1. Provide field wrapped pipe penetration flashing or manufacturer's prefabricated pipe boot as shown in detail drawing.

2. Apply aluminum tape to penetration if asphalt contamination is present.

3. Hot-air weld horizontal flashing membrane a minimum of four inches onto the membrane.

4. Adhere vertical flashing membrane adhered to pipe penetration and extend a minimum of 1.5 inches horizontal at the base of penetration. Hot-air weld vertical flashing membrane to horizontal flashing membrane.

5. Install stainless steel draw band and sealant or hot-air weld flashing cap to terminate top edge of pipe flashing.

3.6 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

1. Hot-air weld seams.

a. Minimum 3-inch-wide membrane overlap when automatic machine-welding.

b. Minimum 4-inch-wide membrane overlap when hand-welding, except for certain details.

c. Minimum width of hot-air weld is 1-1/2 inches.

d. Provide wider membrane overlaps or width of welds as required by the roof membrane manufacturer.

2. Provide welding equipment by or approved by the membrane manufacturer. Mechanics intending to use the equipment to have successfully completed a training course provided by a membrane manufacturer's technical representative prior to welding.

3. Clean and dry membrane to be hot-air welded.

B. Hand-Welding

1. Complete hand-welded seams in two stages. Allow hot-air welding equipment to warm up prior to welding.

2. Weld the back edge of the seam with a narrow but continuous weld to prevent loss of hot air during the final welding.

3. Insert nozzle into the seam at a 45-degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1-1/2 inch wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch wide nozzle is recommended for use.

C. Machine Welding

1. Machine welded seams are achieved by the use of automatic welding equipment. When using this equipment, follow instructions from the manufacturer and local codes for electric supply, grounding and over current protection. Dedicated circuit house power or a dedicated portable generator is recommended. Do not operate other equipment off the generator.

2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Hot-Air Welded Seams

1. Check hot-air welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. Provide on-site evaluation of welded seams daily and to locations as directed by the Engineer or membrane manufacturer's representative.

2. Take 1-inch-wide cross-section samples of hot-air welded at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Patch test cut areas.

3.7 WALKWAY PAD INSTALLATION

A. Check membrane seams that are to be covered by walkway pad with rounded screwdriver and repair deficiencies prior to walkway pad installation.

B. Clean and dry roof membrane to receive walkway pad.

C. Place chalk lines on sheet to indicate location of Walkway.

D. Apply a continuous coat of membrane adhesive to the sheet and the back of walkway pad in accordance with membrane manufacturer's technical requirements and press walkway pad into place with a water-filled, foam-covered lawn roller.

E. Clean the membrane in areas to be welded. Hot-air weld perimeter of the walkway to the roof membrane.

F. Check welds with a rounded screwdriver. Repair deficiencies.

G. Provide walk pads where indicated in Contract Drawings and at the following locations:

1. Around roof hatches.

2. At base and top of fixed wall access ladders.

3. Around HVAC units.

4. At door access to roof areas.

3.8 TEMPORARY CUT-OFF

A. Install flashings concurrently with the membrane in order to maintain a watertight condition as the work progresses.

B. When a break in the day's work occurs in the central area of the project, install a temporary watertight seal. Provide an 8-inch strip of flashing membrane welded 4 inches to the field membrane. Seal the remaining 4 inches of flashing membrane to the deck or the substrate so that water can not travel under the membrane. Seal the edge of the membrane with a continuous, heavy, 6 inch width application of pourable sealer. When work resumes, remove the contaminated membrane. Do not reuse these materials.

C. If inclement weather occurs while a temporary water stop is in place, monitor the situation to maintain a watertight condition.

D. If water is allowed to enter under the completed system, replace the affected area.

3.9 CLEANING

A. Ensure trash and debris is removed from the roof daily.

B. Keep metal scraps, nails, screws and other sharp damaging debris off of the roof membrane surface during construction.

C. Clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.

D. Remove temporary coverings and masking protection from adjacent work areas upon completion.

3.10 PROTECTION

A. Protect the roof from construction related damages during the Work.

B. Replace damaged membrane, flashings and other membrane components. Repair in accordance with the membrane manufacturers repair instructions to comply with the specified warranty.

END OF SECTION

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Sheet metal flashings and trim to provide a permanently watertight condition.

1.2 RELATED DOCUMENTS

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

1. Section 01 33 00 – Submittal Procedures

2. Section 06 10 00 - Rough Carpentry

3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 REFERENCE STANDARDS

A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.

B. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2025a.

C. ASTM A792/A792M - Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

E. ASTM D1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)

F. NRCA (RM) - The NRCA Roofing Manual; 2025.

G. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.4 SUBMITTALS

A. Refer to Section 01 33 00 – Submittal Procedures

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Shop Drawings: For any transitions and/or terminations not depicted in Contract Drawings.

E. Test Reports: Submit test reports for edge metal indicating resistance of specified wind uplift pressures.

F. Color Charts:

1. Pre-finished Sheet Metal

2. Polymer Clad Sheet Metal

3. Sealants

1.5 MOCK-UPS

A. Provide mock-ups of the following sheet metal components prior to fabrication of the components:

1. Coping: Provide minimum 10-foot length of coping mock-up including applicable fascia covers. Include at least one seam of the configuration specified.

2. Metal Edge and Fascia Cover: Provide minimum 10-foot length of gravel stop/metal edge and fascia cover. Include at least one lap of each component.

1.6 QUALITY ASSURANCE

A. Install in accordance with the Contract Drawings.

B. Ensure work is free of leaks.

C. Provide metal edge and coping fabricated and tested in accordance with ANSI/SPRI/FM 4435/ES-1 to resist the specified wind uplift pressures.

1. Fabricate metal edge and coping as shown in Contract Drawings and following NRCA (RM) tested details.

D. Provide sheet metal flashing and trim in accordance with SMACNA (ASMM).

E. Provide first-class workmanship. Assemble and secure sheet metal work in accordance with these specifications, roof system manufacturer's requirements and referenced standards.

1.7 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store materials within areas designated by the Owner. Ensure materials remain dry, covered and not in contact with the ground.

C. Handling: Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

A. Environmental: Protect building and its components from the elements.

B. Coordination and Scheduling: Coordinate phases of work to allow continuity of work without delays.

1.9 WARRANTY

A. Provide pre-finished sheet metal manufacturer's thirty (30) year finish warranty from the date of substantial completion.

PART 2 PRODUCTS

2.1 PRIMARY SHEET METAL

A. Material: Pre-finished Galvalume

1. 24-gauge, galvalume coated steel meeting or exceeding AZ50 per ASTM A792. Manufacturer's smooth finish, pre-finished color coatings consisting of 70% Kynar 500 fluorocarbon (Polyvinylidene Fluoride PVF2) coating over a urethane primer on the finish side, with primer and a wash coat on the reverse. Measurements per NCCA Technical Bulletin II-4 or ASTM D1005. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.

B. Components:

1. Slip Flashing
2. Receiver Flashing
3. Counterflashing
4. Coping
5. Crimped On Metal Edge
6. Continuous Cleat (use one gauge thicker than primary sheet metal): 22-gauge, galvalume coated steel
7. Multi-pipe penetration enclosure
8. Curb covers
9. Threshold cover

2.2 FASTENERS

A. Roofing Nails: Minimum 12-gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8 inch diameter head and length as required to penetrate substrate a minimum of 1-1/4 inches.

B. Screws:

1. Sheet metal to wood attachment (exposed): #12 stainless steel, 5/16 HWH with length to penetrate substrate a minimum of 1-1/2 inches. Provide with bonded EPDM washer or washer specified below. Factory painted heads to match the sheet metal color.

2. Sheet metal to wood attachment (concealed): #10 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1-1/2 inches.

3. Sheet metal to sheet metal attachment (exposed): 1/4 inch x 7/8 inch carbon steel, self-drilling point, self-tapping, zinc alloy hex head screws with bonded EPDM tubular washer under head of fastener; screw heads to match color of wall panel by means of factory applied coating. Factory painted heads to match the sheet metal color.

4. Sheet metal to light gauge steel attachment (concealed): #14-13 DP1 stainless-steel low-profile pancake head of length as required for three threads to penetrate metal substrate or min. 1 inch penetration though wood substrates.

C. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inches. Factory painted heads to match the sheet metal color.

D. Washers: Stainless steel with neoprene gasket backing.

1. 9/16 inch diameter for use with #12 screws

2. 5/8 inch diameter for use with 1/4 inch diameter concrete and masonry anchors.

E. Rivets: #44 stainless steel rivets with stainless steel mandrel and factory painted head to match adjacent sheet metal. Length to properly fasten particular sheet metal components.

2.3 RELATED MATERIALS

A. Sealants:

1. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant meeting ASTM C920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to match sheet metal color selected by Owner. Acceptable Manufacturers include:

a. Dow 790 Building Sealant

b. Pecora 890 NST Silicone

c. Sikasil-WS 290

d. Triangle Fastener Corporation Ultra 1000

2. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.

3. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.

PART 3 EXECUTION

3.1 EXAMINATION

A. Coordinate with other work for correct sequencing of items.

B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.

C. Report deficiencies associated with the sheet metal substrates to Engineer before beginning sheet metal work. Correct deficiencies before installing sheet metal flashings.

3.2 INSTALLATION

A. General:

1. Lock and seal joints of pre-finished sheet metal.

2. Provide for thermal movement (expansion and contraction) of sheet metal.

3. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt primer or separate with sheet metal underlayment.

4. Prime sheet metal surfaces (top and bottom) to receive bituminous materials. Allow primer to dry before application of bituminous materials.

5. Install metal flanges on top of membrane, adhere and fasten as indicated in detail drawings, specified herein, and in accordance with membrane manufacturer's requirements.

6. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.

7. Hem (return) exposed edges for strength and appearance.

8. Fit sheet metal close and neat.

9. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.

10. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.

B. Sheet Metal Laps (unless otherwise indicated):

1. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two bead of butyl sealant between sections.

2. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2 inches on center.

C. Fasteners:

1. Size and type required.

2. Fasteners compatible with materials being joined.

3. Exposed Fasteners:

a. Install screws with 5/16-inch predrilled, oversized holes.

b. Install Concrete and Masonry Anchors with 11/32-inch predrilled, oversized holes.

c. Exposed horizontal surface fasteners are not acceptable.

D. Slip Flashing:

1. Fabricate at curbs as shown in detail drawings in 10 foot lengths.

2. Extend a minimum of 2 inches below base flashing termination and fit tightly against curb.

3. Secure at 12 inches on center of a minimum of two fasteners per side of the curb. If slip flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

E. Receiver Flashing:

1. Fabricate receiver flashing as shown in detail drawings in 10 foot lengths.

2. Attachment:

a. Install receiver flashing surface mounted at 12 inches on center. If receiver flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

3. Install sealant properly tooled to ensure adhesion and slope to shed water.

F. Counterflashing:

1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.

2. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. If counter flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

3. Stagger receiver anchors with counter flashing fasteners.

4. Extend counter flashing a minimum of 1.5 inches below base flashing termination.

G. Coping:

1. Fabricate coping in 10 foot lengths. Fabricate coping a maximum of 1/2 inch wider than the width of the wall; field verify parapet wall width prior to sheet metal fabrication.

2. Install continuous cleat fastened to substrate 6 inches on center in vertical leg. Locate fasteners no greater than 2 inches from the bottom hem.

3. Lock outside face of coping onto continuous cleat and secure inside face as follows:

a. For coping widths up to and including 12 inches, secure with screws through waterproof washers and oversized holes at 18 inches on center.

b. For coping widths greater than 12 inches, secure inside face with continuous cleats. Secure cleat through vertical face of cleat to blocking with fasteners at 6 inches on center. Locate fasteners no greater than 2 inches from the bottom hem.

4. Coping Seams: Provide drive seam at adjoining coping sections. Turn cover ends back a minimum of 1 inch onto itself. Allow 1/4 inch space between coping sections for expansion and contraction and install sealant. Refer to SMACNA (ASMM) Figure 3-2, Type 4

5. Provide one-piece coping section at corners, four-way intersections and tee intersections. Locate joints within 24 inches from inside corner.

6. Turn coping ends up a minimum of 2 inches at elevation walls and cover termination with surface mounted counterflashing.

H. Crimped On Metal Edge:

1. Fabricate metal edge and continuous cleat as shown in detail drawings in 8 foot or 10 foot lengths.

2. Terminate membrane at roof edge and hot-air weld flashing membrane strip to extend down the outside vertical face over the wall.

3. Install a continuous cleat as indicated in detail drawings fastened to substrate 6 inches on center in vertical face and secure flange of metal edge to wood blocking 3 inches on center staggered with first row 1 inch from edge of flange and second row offset 1/2 inch from first row. Locate fasteners no greater than 1-3/4 inch from the break at the bottom hem.

4. Strip flange of continuous cleat as specified.

5. Lock metal edge onto continuous cleat crimp as shown.

6. Hand tong metal edge onto continuous cleat.

7. Metal Edge Joints:

a. Leave a 1/4 inch opening between metal edge sections.

b. Center 6-inch minimum width cover plate over or back-up plate under joint opening.

c. Set cover plate in butyl sealant tape on each side of joint.

3.3 CLEANING AND PROTECTION

A. Clean sheet metal work of asphalt, flux, scrapes and dust.

B. Replace sheet metal components with scratches through the metal finish.

END OF SECTION

SECTION 07 8123

INTUMESCENT FIREPROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Prepare surfaces to receive fireproofing.

B. Protection of adjacent surfaces from overspray.

C. Application of exterior rated intumescent fireproofing on exterior exposed structural steel beams and related exposed steel to provide rated fire proofing.

1.2 RELATED DOCUMENTS

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

1. 05 0130 - Steel Roof Deck Repair and Securement

2. 06 1000 - Rough Carpentry

3. 07 0150 - Preparation for Reroofing

4. 07 2216 - Roof Insulation

1.3 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2024.

B. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics; 2023.

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

D. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2024.

E. ASTM E605/E605M - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members; 2019 (Reapproved 2023).

F. AWCI 117 - Technical Manual 12-B; Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-Resistive Materials; an Annotated Guide; 2014.

G. UL (FRD) - Fire Resistance Directory; Current Edition.

1.4 DEFINITIONS

A. Intumescent coatings: Material or combination of fireproofing materials used to help retain the structural integrity of steel members by maintaining an effective thermal barrier to provide fire resistance rating as documented by listings from accredited test laboratories.

1.5 PERFORMANCE REQUIREMENTS

A. Intumescent fireproofing to provide a minimum two-hour fire resistance rating.

B. Coordinate with placement of ceiling hanger tabs, mechanical component hangers, and electrical components.

C. Coordinate with areas requiring spray applied fireproofing to provide required ratings.

1.6 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Product certificates from manufacturer documenting intumescent coatings comply with specified requirements including those for fire test response characteristics and compatibility with adhesives, primers, and other surface coatings on substrates indicated to receive intumescent coatings.

D. Test Reports: Published fire resistive designs for structural elements of the types required for the project, indicating hourly ratings of each assembly.

E. Certificates: Certify that intumescent fireproofing provided for this project meets or exceeds specified requirements in all respects.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company that specializes in manufacturing the type of products specified, with minimum of 10 years of documented experience. Manufacturer’s technical representative to be on site during start of installation and be generally available on site as requested during the application process.

B. Installer Qualifications: Approved, certified, or supervised by manufacturer of intumescent fireproofing, with not less than 5 years of documented experience.

C. Installation: Verify steel members have been properly prepared, including the use of a compatible primer, and install intumescent coatings in accordance with manufacturer’s written recommendations published in their product technical literature and/or provided by manufacturer.

D. Product Identification: Label packages (pail or bucket) with manufacturer name, product name, expiration date, UL or ULc label (mark).

E. Fireproofing shall be investigated for exterior use by UL (FRD).

F. Special Inspection: Owner to employ a qualified independent inspection and testing agency to perform field quality control testing services in accordance with NFCA 400 Field Quality Assurance Procedure, local building code and Authority Having Jurisdiction requirements.

G. Field Constructed Mockups: Prior to installing intumescent coatings, Installer shall apply products specified for exposed applications to demonstrate aesthetic qualities and workmanship. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.

1. Location: As indicated on drawings.

2. Extent of Mockups: Approximately 5 sq. ft. of surface for each product indicated.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened containers with identification labels and testing agency markings intact and legible.

B. Store products in manufacturer's unopened packaging until ready for installation.

1. Store intumescent coatings protected from direct sunlight and maintained at a temperature as specified by the manufacturer. The product must not be frozen or stored at freezing temperatures. Identify and label material damaged due to improper storage, remove from Project site and properly discard.

C. Dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

A. Protect areas of application from windblown dust and rain.

B. Maintain ambient field conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under ambient conditions outside manufacturer's absolute limits.

1. Provide temporary enclosures as required to control ambient conditions.

2. Do not install Intumescent Coatings when ambient or substrate temperatures are, or prior to full cure will be, outside the manufacturer's recommended installation temperatures, unless temporary protection and heating/cooling is provided to maintain temperatures within the prescribed range for the period specified by the manufacturer.

3. Do not install intumescent coatings when relative humidity is outside the limits established by the manufacturer. Consult manufacturer to determine precautions that may be implemented to prevent condensation from forming on the steel during application of fireproofing.

4. Do not install intumescent coatings when relative humidity exceeds 80%. Consult manufacturer to determine precautions that may be implemented to prevent condensation from forming on the steel during application of fireproofing.

C. Ventilation: Maintain ventilation in enclosed spaces during application and for not less than 72 hours afterward.

1.10 SEQUENCING

A. Sequence and coordinate application of intumescent coatings with related work specified in other Sections to comply with the following requirements:

1. Coordinate installation of intumescent coatings with other items of work that may interfere with proper installation of coatings.

2. Do not begin applying intumescent coatings until clips, hangers, supports, and other welded connections have been installed. Intumescent coatings manufacturer must approve in writing any clips, hangers, supports or connections that may installed over coating using mechanical or adhesive devices.

3. Provide temporary enclosures as necessary to prevent deterioration of intumescent coatings due to exposure to unfavorable environmental conditions.

4. Take appropriate steps to avoid abrasion and other damage to the applied intumescent coatings during construction operations.

5. Do not protect or conceal structural members to which intumescent coatings have been applied until each area has been inspected, tested, and corrections have been made to any deficient areas.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Intumescent Fireproofing:

1. Albi Manufacturing Division of StanChem Inc : Albi Clad 800.

2. Sherman Williams FIRETEX FX9500

3. Carboline Company THERMO-LAG E100: www.carboline.com.

4. Engineer approved equal.

2.2 SYSTEM REQUIREMENTS

A. Fireproofing: Provide intumescent thin-film fire-resistive coating systems tested by an independent testing agency in accordance with ASTM E119 and acceptable to authorities having jurisdiction. Provide assemblies as indicated on the drawings. No spray-applied fireproofing to be located/exposed in rooms indicated with intumescent coating.

1. Provide assemblies listed by UL or FM and bearing listing agency label or mark.

2.3 MATERIALS

A. Fire Resistive Coating System: Thin film intumescent coating system for the fire protection of structural steel.

1. Surface Burning Characteristics: Tested in accordance with ASTM E84. Class A

2. Impact Resistance: ASTM D256, 0.54 ft. lbs. per inch when set and dry.

3. Compressive Strength: ASTM D695 average 2,100 lb/sg. in.

4. Dry Density: ASTM E605/E605M, average density of 86 lb/cu ft.

B. Sealers and Primer: As required by tested and listed assemblies, and as recommended by fireproofing manufacturer to suit specific substrate conditions.

C. Topcoat: Suitable for application over applied intumescent coatings; of type recommended in writing by intumescent coatings manufacturer for each fire resistance design. Color of topcoat shall be as selected by the Owner.

1. Manufacturer’s approved Urethane based topcoat.

2. Sherman Williams ACROLON 7300

3. Carboline Carbothane 133 MC

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates to determine if they are in satisfactory condition to receive intumescent fireproofing. Verify that they are clean and free of oil, grease, incompatible primers, or other foreign substances capable of impairing bond to fireproofing system.

3.2 PREPARATION

A. Cover other work subject to damage from fall out or overspray of intumescent coatings materials during application. Provide temporary enclosure as required to confine spraying operations, protect the environment, and ensure maintaining adequate ambient conditions for temperature and ventilation.

B. Clean substrates of substances that could impair bond of fireproofing, including oil, grease, rolling compounds, incompatible primers, rust, and mill scale.

C. Prime substrates. Primer must be fully cured prior to applying intumescent coatings.

D. Apply intumescent coatings: Protect intumescent coatings from rain, direct sunlight, high humidity, strong wind (with dirt, dust or sand) during the application and drying phases. Do not apply an additional coat of intumescent coating until previous layer has fully cured.

E. For applications visible upon completion of project, repair substrates to remove surface imperfections that could affect uniformity of texture and thickness in finished surface of fireproofing. Remove minor projections that would telegraph through fire resistive products after application.

3.3 INSTALLATION

A. Comply with intumescent coatings manufacturer's instructions for mixing materials, application procedures, and types of equipment used to convey and install products, as applicable to the particular conditions of installation and as required to achieve fire resistance ratings indicated.

B. Coat substrates with primer and allow proper cure time prior to applying intumescent coatings as recommended by intumescent coatings manufacturer for material and application indicated.

C. Mix and prepare fireproofing materials according to manufacturer's written instructions.

D. Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match color of finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

E. Apply fireproofing to full thickness over entire area of each substrate to be protected. Apply coats at manufacturer’s recommended rate to achieve dry film thickness required for fire resistance ratings designated for each condition.

F. Apply intumescent fireproofing by spraying to maximum extent possible. If necessary, complete coverage by roller application or other method acceptable to manufacturer.

G. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.

H. Allow enough time between successive coats to permit proper drying. Do not recoat surfaces until fireproofing has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where applying another coat of fireproofing does not cause the undercoat to loose adhesion.

I. Produce a smooth, even surface film using multiple coats. Provide a finish free of laps, runs, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections. Achieve uniform finished appearance complying with approved mock-up.

J. Ensure full curing of intumescent coating prior to application of an approved topcoat.

K. Apply approved topcoat to provide a uniform finish and to the thickness required by the system manufacturer.

3.4 FIELD QUALITY CONTROL

A. Perform field testing.

1. Frequent thickness measurements with a wet film gauge are recommended during the application process to ensure uniform thickness. Final thickness must be measured with a dry film thickness gauge.

2. Inspection & testing shall be in accordance with AWCI 117.

3. Submit test reports promptly to Engineer.

4. Repair or replace fireproofing at locations where test results indicate fireproofing does not meet specified requirements.

3.5 PROTECTION

A. Immediately after installation of fireproofing in each area, remove overspray and fallout from other surfaces and clean soiled areas.

B. Protect installed intumescent fireproofing from damage due to subsequent construction activities, so fireproofing is without damage or deterioration before Date of Substantial Completion.

C. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 08 6200

UNIT SKYLIGHTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Replace unit skylights with curb mounted metal-framed skylights.

1.2 RELATED DOCUMENTS

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

1. Section 06 10 00 - Rough Carpentry

2. Section 07 54 00 - Thermoplastic Single Ply Roofing

3. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

A. AA DAF-45 - Designation System for Aluminum Finishes; 2003 (Reaffirmed 2009).

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

C. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2024.

D. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2022.

E. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 2023.

F. ASTM D2843 - Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics; 2022.

G. NAAMM AMP 500-06 - Metal Finishes Manual; 2006.

1.4 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Samples for Selection: Manufacturer's color charts showing a range of colors available for each type of skylight glazing and Aluminum Finish.

1.5 PERFORMANCE REQUIREMENTS

A. General: Provide unit skylights capable of withstanding loads indicated without failure. Failure includes the following:

1. Thermal stresses transferred to the building structure.

2. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing.

3. Noise or vibration created by thermal and structural movement and wind.

4. Weakening of fasteners, attachments, and other components.

B. Structural Loads: Provide unit skylights that meet the requirements of American Architectural Manufacturer's Association (AAMA) publication "Voluntary Uniform Load Structural Standard for Plastic Domed Skylights" (AAMA 1606-82) which requires acrylic thickness adequate to withstand a positive and negative test pressure of 60 PSF.

C. Fire-Test-Response Characteristics: Provide thermoformed domes fabricated from sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

1. Self-Ignition Temperature: 651 deg F or greater when tested per ASTM D1929 on plastic sheets in the thickness intended for use.

2. Smoke density of 75 or less when tested per ASTM ASTM D2843 on plastic sheets in the thickness intended for use.

3. Relative-Burning Characteristics: As follows, when tested per ASTM D635:

a. Polycarbonate: (when specified) Burning extent of 1 inch or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch or the thickness intended for use.

1.6 WARRANTY

A. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. Defects are defined as uncontrolled leakage of water and abnormal aging or deterioration.

1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by:

1. Velux America LLC

2. American Skylights

3. Kingspan

4. Engineers accepted equivalent

2.2 PLASTIC SKYLIGHT UNITS

A. Products:

1. Wasco-Velux CMT2

2. American Skylights Model TCM-FG

3. Kingspan Acrylic Skylight - Series 1400

B. Shape and Size: As indicated by model number and to properly fit on roof curb.

C. Curb Frame: Bright white high-performance PVC with Bronze cap stock and minimum effective thickness of 0.060 inch. Provide integral condensation gutter and weep system with corners welded for waterproof quality.

D. Retainer Frame: Extruded aluminum alloy 6063-T5 min. ASTM B221/ASTM B221M with minimum effective thickness of 0.60 inch.

E. Plastic Sheets: Monolithic, formable, transparent (colorless and tinted) or translucent (white) sheets with good weather and impact resistant.

1. Polycarbonate: Thermoformable, monolithic polycarbonate sheets manufactured by the extrusion process, category C-1 or CC-1, type. UV resistant, burglar resistance rated per UL 972 with average impact strength of 12 to 16 ft-lb/inch of width when tested according to ASTM D256 ASTM D 256, Test Method A (Izod).

F. Thermal Break: Fabricate skylight units with thermal barrier separating interior metal framing from materials exposed to outside temperature.

G. Glazing:

1. Double Domed.

2. Thermoformed acrylic, clear outer dome with 25% rise.

3. Thermoformed acrylic inner dome (#2447 white).

H. Fasteners: Same metal as metals being fastened, or non-magnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

2.3 FABRICATION

A. Framing Components:

1. Factory fit and assemble components.

2. Fabricate components that, when assembled, have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.

3. Fabricate components to drain water passing joints and to drain condensation and moisture occurring or migrating within skylight system to the exterior.

4. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.

5. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.

6. Form shapes with sharp profiles, strait and free of defects or deformations, before finishing.

7. Fit and secure joints by heliarc welding.

2.4 ALUMINUM FINISHES

A. General: Comply with NAAMM AMP 500-06.

B. Finish designations prefixed by AA DAF-45.

C. Mill Finish: Manufacturer's standard mill finish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting skylight performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Where aluminum contacts dissimilar metals, protect against galvanic action by paining contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

B. Where aluminum contacts concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Where aluminum contacts pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

3.3 INSTALLATION

A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.

B. Coordinate with installation of roof deck, insulation, membrane and other substrates to receive skylight units.

C. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

D. Counter Flashing: Where counter flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3.4 CLEANING

A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.

B. Clean plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION

SECTION 09 29 00

GYPSUM BOARD

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:

1. Interior gypsum board.

1.2 RELATED DOCUMENTS

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

1. Section 09 91 23 - Interior Paint

1.3 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2024.

C. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

D. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

E. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.

F. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2024.

G. GA-214 - Levels of Finish for Gypsum Panel Products; 2021.

H. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

1.4 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.5 QUALITY ASSURANCE

A. Fire-Resistance-Rated Assemblies: For fire-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing agency.

1.6 STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging. In addition, follow the guidelines found in GA 801.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Comply with ASTM C840 or GA-216 requirements, whichever are more stringent.

B. Do not install interior products until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. American Gypsum Company

2. National Gypsum Company

3. Georgia-Pacific

4. USG

5. Engineers accepted equivalent

2.2 GENERAL

A. Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C1396/C1396M as applicable to type of gypsum board indicated.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C1047, galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.

1. Shapes:

a. Cornerbead.

b. Bullnose bead.

c. LC-Bead: J-shaped; exposed long flange receives joint compound.

d. L-Bead: L-shaped; exposed long flange receives joint compound.

e. U-Bead: J-shaped; exposed short flange does not receive joint compound.

f. Expansion (control) joint.

g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C475/C475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.

2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type or setting-type taping compound.

a. Use drying-type or setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type or setting-type, sandable topping compound.

4. Finish Coat: For third coat, use drying-type or setting-type, sandable topping compound.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C1002, unless otherwise indicated.

1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 GENERAL

A. Comply with ASTM C840, GA-216 or GA-214 .

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.

2. Fit gypsum panels around ducts, pipes, and conduits.

3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4 to 3/8 inch wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4 to 1/2 inch wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members, or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

1. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

a. Stagger abutting end joints not less than one framing member in alternate courses of panels.

b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.

2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings and if not shown, according to ASTM C840 or GA-216 and in specific locations approved by Engineer for visual effect.

3.5 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840, GA-216 GA- 216 or GA-214 GA-214:

3.6 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 09 91 23

INTERIOR PAINT

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Contractor shall prepare new substrates, prime and paint in accordance with Manufacturer's instructions for building components specified. Substrates included in the Work are as follows:

a. Gypsum board

1.2 RELATED DOCUMENTS

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

1. Section 09 29 00 - Gypsum Board

1.3 REFERENCE STANDARDS

A. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2; 2017.

1.4 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Mockup: Submit mockup of actual paint system before starting work as required by Owner for color selection/acceptance.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver Manufacturer's unopened containers to the work site. Packaging shall bear the Manufactures name, label, and the following list of information:

1. Product name, type (description)

2. Application & use instructions.

3. Surface preparation

4. VOC content

5. Environmental issues

6. Batch date

7. Color number

B. Storage: Contractor shall store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction. Store materials in an area that is within the acceptable temperature range, per Manufacturer’s instructions. Protect from freezing.

C. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

D. Responsible for all fire safety and prevention requirements for all materials.

1.6 PROJECT CONDITIONS

A. Ensure or maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by Manufacturer for optimum results. Do not apply coatings under environmental conditions outside Manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:

1. Benjamin Moore & Co.

2. Behr Process Corporation

3. Glidden Professional.

4. The Sherwin-Williams Company

5. ICI Dulux

6. Duron, Inc.

B. Manufacturer's interior primer and paint system for optimum performance compatible with the following substrate surfaces.

1. Gypsum Board

2.2 MATERIALS

A. Colors and Finishes: As selected by Owner from manufacturer's full range and to match existing components.

B. Paints and Coatings: Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with Manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in Manufacturer's product instructions.

C. Primers: Where the Manufacturer offers options on primers for a particular substrate, use primer categorized for optimum performance by the Manufacturer.

D. Low-Emitting Materials: Comply with the testing and product requirements of CAL (CDPH SM)

2.3 ACCESSORIES:

A. Coating Application Accessories: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required per Manufactures printed requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared. Notify Engineer of unsatisfactory conditions before proceeding.

B. Proceed with work only after conditions have been corrected, and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

3.2 SURFACE PREPARATION

A. Comply with all lead-based paint abatement requirements where existing lead-based paint is encountered in the Work.

B. Consult Manufacturer to ensure proper product selection, surface preparation, and application for optimum coating performance. Responsible for proper product selection, surface preparation, and application.

C. The surface shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint, coatings, or other contamination to ensure good adhesion.

1. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting.

E. Do not paint immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50°F, unless products are designed specifically for these conditions. Follow Manufacturer's printed instructions.

F. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

3.3 INSTALLATION

A. Apply coatings and materials in accordance with Manufacture printed recommendations. Apply no less than one coat of primer, and two coats of paint. Thickness determined by Manufacturer's printed requirements for optimum or "best" performance.

B. Do not apply coatings to wet or damp surfaces or at or below the dew point temperature.

C. Apply coatings using methods and application tools recommended by Manufacturer.

D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.

E. Apply coatings at spreading rate required to achieve the Manufacturers recommended dry film thickness.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

G. Time between primer and coats shall be per Manufacturer's printed requirements.

H. Inspection: The coated surface shall be inspected and accepted by the Engineer and Owner.

3.4 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged coatings after substantial completion, following manufactures recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

3.5 CLEAN-UP

A. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

B. Clean-up and remove all spills, and coatings on adjacent substrates to the Owner's satisfaction. Do not scratch or damage adjacent finished surfaces.

C. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods.

D. Dispose of all containers and waste in a legal manner immediately.

END OF SECTION

SECTION 22 1426

ROOF DRAINS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water test of below grade storm drain leaders and roof drains.

2. Replacement of existing roof drain components.

3. Replacement of existing overflow roof drain components.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications sections apply to this section, including but not limited to:

1. Section 07 01 50 - Preparation for Reroofing

2. Section 07 22 16 - Roof Insulation

3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 REFERENCE STANDARDS

1.4 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: Include plans, elevations, sections and details.

1.5 QUALITY ASSURANCE

A. Ensure plumbing systems and components are installed by licensed, qualified personnel.

B. Ensure roof drains, couplings, piping, supports, fixtures, pipe hangers, fasteners, fittings, etc. are installed in compliance with the referenced plumbing code, and installed in accordance with the component manufacturer's published guidelines and instructions, and referenced standards.

C. Field test completed storm drain systems as required by the referenced plumbing code.

1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.

B. Storage: Store materials to prevent damage and not encumber Owner's operations.

C. Handling: Handle materials in such a manner as to prevent damage and contamination.

1.7 PROJECT CONDITIONS

A. Environmental Requirements:

1. Install roof drains and associated plumbing during periods of no precipitation to prevent water from entering the building.

2. Prevent damage to the building and contents during roof drain and associated plumbing installations.

3. Comply with applicable rules and regulations of Authorities Having Jurisdiction pertaining to storm sewage systems.

4. Flood test roof drain systems to verify functional operation prior to roof replacement operations and report deficiencies to Engineer and Owner.

B. Protection:

1. Ensure roof drainage systems remain in service and restore to operational before leaving the site.

2. Protect building interior and exterior surfaces during construction.

PART 2 PRODUCTS

2.1 ROOF DRAINS

A. Existing Roof Drains: Replace clamping ring and strainer dome to match existing drain manufacturer and model with cast iron adjustable extension, clamping ring, and strainer dome. Replace bolts with stainless steel clamping ring bolts. Restore threads as necessary using taps to ensure positive fastening; clean metal shavings, chips and debris before fastening clamping ring.

1. Overflow Roof Drains: Meet the above requirements with a 2 inch high external water dam.

PART 3 EXECUTION

3.1 INSPECTION

A. Conduct a pre-job conference including the Engineer, Contractor, and the Owner's representative prior to the installation of roof drains and associated piping and plumbing fixtures.

B. Verify that conditions are acceptable to begin the installation.

C. Inspect daily the plumbing installation to ensure conditions remain satisfactory.

3.2 PREPARATION

A. Inspect building components and conditions before proceeding with plumbing installation.

B. Where decking is cut for drains, inspect building interior for utilities, structural members and occupancy conditions to ensure conditions are satisfactory to proceed.

C. Where decking is cut to install roof drains, provide minimum steel angle around perimeter of deck opening for additional deck support.

D. Inspect the piping route and hanger attachment points to ensure conditions are satisfactory to install piping and associated plumbing fixtures for the completed drainage system.

E. Route piping to maintain working spaces around electrical equipment by NEC.

F. Do not route piping and fixtures to interfere with the service of in-place equipment and systems.

G. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner, Engineer, and Authorities Having Jurisdiction.

3.3 DRAIN LEADERS AND ROOF DRAINS

A. Prior to commencement of work on the project inspect for damage and water flow.

1. Clean drains of accumulated debris and loose gravel.

2. Clean drain bowl and drain outlet of bitumen build-up to bare metal by hand scraping.

3. Power vacuum debris, loose gravel, and bitumen scrapping down to the first elbow in the drain line.

4. After cleaning bitumen from the drain bowl, inspect the bowl carefully for cracks, and the drainpipe connection for possible deterioration.

5. Flood test to determine that there are no plumbing leaks unrelated to the existing roof system and to verify proper function and flow.

6. Complete inspection and testing prior to roofing tear-off. If deficiencies or damages are observed, record the deficiency on a Roof Plan and forward to the Engineer. The Engineer will notify the Owner accordingly. Allow 48 hours after notification for corrective work by the Owner.

7. If no deficiencies or damages are reported to the Owner prior to commencement of work, assume responsibility for the condition and operation of the leaders and drains including the connection between the roof drain and associated plumbing/leaders.

B. Install temporary drain plugs during roofing activities to prevent foreign materials from entering drainage system. Remove drain plugs at the end of each workday to maintain drains in operational condition.

C. Reinstall clamping rings, bolts and strainer domes at the end of each working day.

D. Repair drain piping clogged by construction debris at no cost to the Owner.

E. Repair leaks associated with damage, following successful flood testing, to the roof drain connection to associated plumbing at no cost to the Owner.

3.4 ROOF DRAIN INSTALLATION

A. Install roof drains and associated components in accordance with the drain manufacturer's published instructions.

B. Install roof drains, piping and associated plumbing to meet applicable requirements of the local plumbing, building and fire code.

END OF SECTION