

PROJECT MANUAL

**ROOF REPLACEMENT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
BID #015.23.B3**

HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Clarksville Pike  
Ellicott City, Maryland 21042

ISSUE DATE: **Wednesday, January 11, 2023**

SEALED BID FOR: Roof Replacement-  
Triadelphia Ridge Elementary School

BID NUMBER: Bid #015.23.B3

PRE-BID DATE: **Tuesday, January 17, 2023 @ 1:00 PM**

PRE-BID ACCESS: Join Teams Meeting +1 301-960-8312,,26859335#

[Click here to join the meeting](#)

United States, Silver Spring

Phone Conference ID: 268 593 35#

SITE VISIT: **Wednesday, January 18, 2023 @ 10:00 AM**

Triadelphia Ridge Elementary School

13400 Triadelphia Rd.

Ellicott City, MD 21042

LAST DATE & TIME FOR QUESTIONS: **Friday, January 27, 2023 @ 1:00 PM in writing**

Submit To: Kristal Burgess at [kristal\\_burgess@hcpss.org](mailto:kristal_burgess@hcpss.org)

**BID OPENING DATE:** **Wednesday, February 1, 2023**

**BID OPENING TIME:** **1:00 PM**

BUYER: Kristal Burgess  
phone: 410-313-6723  
fax: 410-313-6789  
email: [kristal\\_burgess@hcpss.org](mailto:kristal_burgess@hcpss.org)

Engineer/Architect:  
Gale Associates, Inc.  
1122 Kenilworth Drive, Suite 206  
Towson, MD 21204  
(443) 279-4500



Office of Purchasing  
10910 Clarksville Pike  
Ellicott City, Maryland 21042-6198  
(410) 313-6723, fax (410) 313-6789

SECTION 00020

**NOTICE TO BIDDERS - INVITATION TO BID #015.23.B3**

**ROOF REPLACEMENT PROJECT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL**

THE HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 CLARKSVILLE PIKE  
ELLCOTT CITY, MD 21042

The Howard County Public School System invites all pre-approved bidders to participate in a bid for a roof replacement at Triadelphia Ridge Elementary School. The project is state funded and therefore bid utilizing prevailing and non prevailing wage rates at the time of bid from pre-approved bidders. The scope of work is listed below.

**Project Name: Triadelphia Ridge Elementary School**

**State Funded Project**

**Scope of Work:**

The project involves replacement of the existing roof systems totaling approximately 71,000 square feet. Remove all materials as indicated on the drawings and as required to install the new components, to include but not limited to the following: existing gravel surfaced bituminous built-up roof systems and insulation, and all associated bituminous and sheet metal flashings down to the existing structural roof decks.

Provide all components as indicated on the drawings and as required to properly install the new roofing systems, to include but not limited to the following: flat multi-layered insulation and high density coverboard, fully adhered thermoplastic (PVC) roof membrane, sheet metal fabrications, drains, ladders, skylights, RTU curbs, and other specified accessories or appurtenances.

Actual materials and scope of work may vary slightly from that stated herein. Refer to the contract documents for specific information.

Bid documents may be obtained on **Wednesday, January 11, 2023** at the Howard County Department of Education, Purchasing Office website <https://purchasing.hcpss.org/business-opportunities>. It is the responsibility of the bidder to print documents/drawings to scale.

The Purchasing Office's contact for this project is Kristal Burgess, [kristal\\_burgess@hcpss.org](mailto:kristal_burgess@hcpss.org), (410) 313-6723.

**A Pre-bid teleconference to be attended by all bidders will be held on Tuesday, January 17, 2023 at 1:00 PM**, Directions to join conference are as follows; **Join on your computer or mobile app [Click here to join the meeting](#) Or call in (audio only) +1 301-960-8312,, 26859335# Phone Conference ID: 268 593 35#**. Howard County Public School System staff will explain the scope of work and answer any questions about the bidding specifications that will assist in the preparation of bids. Attendance is not mandatory, however, it is highly recommended.

**A site visit will be offered at Triadelphia Ridge Elementary School, 13400 Triadelphia Rd. Ellicott City, MD 21042 on Wednesday, January 18, 2023 at 10:00 A.M.** The Engineer and HCPSS Project Manager will explain the scope of the project and answer questions about the bidding documents that will

assist in the preparations of bids. Attendance is not mandatory but strongly recommended and will assist the Owner in evaluating bids to determine if the bid can be considered responsive and/or responsible. **All interested bidders should meet outside the front entrance of the school prior to 10:00 AM and then will be escorted by school staff to the roof site.**

**Bids SHALL ONLY be submitted electronically via email in their entirety (all pages) in PDF format no later than Wednesday, February 1, 2023 at 1:00 P.M. to [BidsandProposals@hcpss.org](mailto:BidsandProposals@hcpss.org).** Bids that contain either more than one file, or files larger than 75MB, shall be inserted into an e-folder and compressed in a .zip file. To ensure delivery, if file size cumulatively exceed 75MB, it is recommended that bidders submit separate emails labeled No.1, No.2, etc. Please note that the Bids and Proposal e-mail address above should not be used for any other purpose other than to forward your proposals on the day that the bids are due. This is not to be used for questions or other communication purposes. If you have questions or need to communicate with the Purchasing Specialist, please contact Kristal Burgess at [kristal\\_burgess@hcpss.org](mailto:kristal_burgess@hcpss.org). **Do not copy the Purchasing Specialist with your proposals. Proposals must only be sent to the Bids and Proposals e-mail address listed above.**

**Email subject lines, Folder names and File names shall include: "Bid Number, 015.23.B3 and Company Name"**. In the body of the email please include Bidder's contact person's email and cell phone number for contacting purposes if/when necessary.

Electronic signatures, scanned or e-signature, will be accepted. By providing bids electronically to HCPSS, Bidders grant HCPSS an unlimited right to generate additional electronic and/or paper copies for distribution solely for the purpose of evaluation and review.

To determine timeliness, the time "received" by HCPSS will be verified by the time stamp on HCPSS's email server. **Bids arriving after the due date and time will not be accepted. Bidders will be notified by email.**

Due to the current HCPSS COVID-19 safety measures in place, the bid opening will not be open to the public. Sealed bids will be opened electronically by the Purchasing Officer after the due date and time. The Purchasing Officer shall provide the bid results via a bid tab to be posted in the drop box within a reasonable time after the bid opening for all bidders to review.

**All questions SHALL BE directed, in writing, no later than 1:00 PM, Friday, January 27, 2023** to Kristal Burgess, Procurement Specialist, [kristal\\_burgess@hcpss.org](mailto:kristal_burgess@hcpss.org). DO NOT send questions to the Bids and Proposals email address. The Howard County Public School System is under no obligation to respond to any questions that are received after the cutoff date and time. Only answers provided via addenda issued by the HCPSS will be binding. Under no circumstances are bidders, including third party vendors or their staff, to contact any other HCPSS Staff, employees or any related constituency for purposes associated with this solicitation, including but not limited to, obtaining or providing information. Bidders failing to comply with this requirement may be disqualified.

The Board reserves the right to waive any informalities in, or to reject any or all bids.

Howard County Public School System shall not be responsible for errors or omissions made by the printer or advertising houses which prepare bid documents, addenda, or advertising services.

Instructions pertaining to the Bid Bond, Surety Checks, Performance and Materials Payment Bond requirements are contained in the bid documents.

Certified Minority Business Enterprises are encouraged to respond to this solicitation notice.

The contractor or supplier who provides materials, supplies, equipment and/or services for this project shall attempt to achieve the specific overall MBE goal of 29% percent established for this project with sub goals of 8% from a certified African American business and 11% from a certified Women owned business.

The bidder or offeror is required to submit with its bid or proposal a completed Attachment A - Certified MBE Utilization and Fair Solicitation Affidavit and Attachment B - MBE Participation Schedule, as

described in the solicitation documents. Each bid or offer submitted, including a submittal from a certified MBE in response to this solicitation, shall be accompanied by a completed Attachment A - Certified MBE Utilization and Fair Solicitation Affidavit and a completed Attachment B - MBE Participation Schedule. These two attachments must be accurate and consistent with each other. Attachment A and Attachment B shall be submitted with the sealed bid price at the place, date, and time specified in the solicitation document. The bidder or offeror must check one of the three boxes on Attachment A, which relates to the level of MBE participation achieved for the project.

The contractor or supplier who provides materials, supplies, equipment and/or services for this project shall attempt to achieve the specific overall MBE goal of 29% percent established for this project with sub goals of 8% from a certified African American business and 11% from a certified Women owned business.

All prime contractors, including certified MBE firms, when submitting bids or proposals as general or prime contractors, are required to attempt to achieve this goal from certified MBE firms. Bidders are encouraged to review Section 00730 of the bidding documents for the full Minority Business Enterprise Procedures.

The bidder must check one of the three boxes on Attachment A, which relates to the level of MBE participation achieved for the project. The bidder's signature indicates that in the event that they did not meet the MBE goal or sub-goals, if applicable, that: 1) They are therefore requesting a waiver, and 2) Documentation of their good faith efforts will be provided to the school system staff within 10 days of being notified that they are the apparent low bidder.

Contractors are required to register on eMaryland Marketplace Advantage at [eMaryland Marketplace Advantage \(eMMA\)](#) within five days following notice of award. Maryland law requires local and state agencies to post award notices on eMaryland Marketplace Advantage This cannot be done without the contractor's self-registration in the system. Registration is free. Failure to comply with this requirement may be considered grounds for default. It is recommended that any interested bidder register with eMaryland Marketplace Advantage regardless of the award outcome for this procurement as it is a valuable resource for bid notification for municipalities throughout Maryland.

Kristal Burgess  
Procurement Specialist





Office of Purchasing  
10910 Clarksville Pike  
Ellicott City, Maryland 21042-6198  
(410) 313-6723, fax (410) 313-6789

THE HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Clarksville Pike  
Ellicott City, Maryland 21042

**NO BID REPLY FORM**

Sealed Bid For: Roof Replacement - Triadelphia Ridge Elementary School  
Bid Number: 015.23.B3  
Bidder: \_\_\_\_\_

To assist us in obtaining good competition on our Request for Bids, we ask that each firm that has received an invitation, but does not wish to bid, state their reason(s) below. This information will not preclude receipt of future invitations unless you request removal from the Bidders' List by so indicating below. This form may be emailed to the Purchasing representative noted in this solicitation or faxed to (410) 313-6789.

We must offer a "No Bid" at this time because:

- \_\_\_\_\_ 1. We do not wish to bid under the terms and conditions of the Bid document. Our objections are:  
\_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_ 2. We do not feel we can be competitive.
- \_\_\_\_\_ 3. We can not submit a bid because of the marketing or franchising policies of the manufacturing company.
- \_\_\_\_\_ 4. We do not wish to do business with Howard County Public School System. Our objections are:  
\_\_\_\_\_
- \_\_\_\_\_ 5. We do not sell the item(s)/service(s) requested in the specific specifications.
- \_\_\_\_\_ 6. Other: \_\_\_\_\_  
\_\_\_\_\_

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TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
BID #015.23.B3**

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**END OF SECTION**

# AIA<sup>®</sup> Document A701™ – 2018

## Instructions to Bidders

for the following Project:  
(Name, location, and detailed description)

**THE OWNER:**  
(Name, legal status, address, and other information)

**THE ARCHITECT:**  
(Name, legal status, address, and other information)

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### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

## **ARTICLE 1 DEFINITIONS**

§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. 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 all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201-2007 Edition and as modified by Howard county Public School System or other Contract Documents as applicable to the Bidding Documents.

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

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

§ 1.5 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.

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

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

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

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

## **ARTICLE 2 BIDDER'S REPRESENTATIONS**

§ 2.1 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

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

## **ARTICLE 3 BIDDING DOCUMENTS**

### **§ 3.1 COPIES**

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein.

*(Paragraphs deleted)*

The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders.

§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

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

*(Paragraph deleted)*

### § 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Construction Manager and Architect at least seven business days prior to the date for receipt of Bids.

*(Paragraphs deleted)*

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

### § 3.3 SUBSTITUTIONS

*(Paragraph deleted)*

§3.3.1 Bids shall be based upon the materials, systems and equipment required by the bidding documents without exception. Proposed substitute products or manufacturers shall be submitted in accordance with the following provisions:

- a. No substitutions will be considered prior to receipt of bids. The Contract award will be made solely on the basis of Base bid, Alternate Bids with regard to proposed substitutions and deducts when requested.
- b. Bidders may propose substitutions for the materials, systems and equipment specified or whom by listing them in the space provided on the Form of Proposal, along with any stipulated cost adjustment (add. deduct or no change) in the Base Bid or Alternate bids. Proposed substitutions may be accepted with the award of the contract or later by the Owner.
- c. Provide all necessary backup data for proposed substitutions at time of bid for review by Owner.
- d. The Architect will evaluate all substitutions based on compliance with the environmental goals stated in the specifications. All proposed substitutions shall document and demonstrate meeting or exceeding LEED certification requirements through product data, MSDS sheets and other supporting literature that highlight conformance. Any substitution that does not have this information highlighted will be rejected.

§ 3.3.2 It is the responsibility of the bidder to provide documentation with the bid at the date and time set forth for submission. The burden of proof that proposed substitutes are in fact equal or better falls on the bidder and proof must be to the satisfaction of HCPSS. The HCPSS shall be the sole authority as to whether proposed substitute items meet specifications or are an approved equal. The HCPSS decision of approving or disapproving of a proposed equal shall be final.

*(Paragraphs deleted)*

§ 3.3.3 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

*(Paragraphs deleted)*

**§ 3.4 ADDENDA**

**§ 3.4.1** Addenda will be

*(Paragraphs deleted)*

posted on the school system website.

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

**§ 3.4.3** Addenda will be issued no later than two 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.

**§ 3.4.4** Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

**ARTICLE 4 BIDDING PROCEDURES**

**§ 4.1 PREPARATION OF BIDS**

**§ 4.1.1** Bids shall be submitted on the forms included with the Bidding Documents. Submit Form of Proposal (Bids) in triplicate.

**§ 4.1.2** All blanks on the bid form shall be legibly executed in a non-erasable medium. If blanks do not apply insert " O " in spaces.

**§ 4.1.3** Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

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

**§ 4.1.5** Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

*(Paragraphs deleted)*

**§4.1.6** All addenda shall be acknowledged on the Form of Proposal

**§ 4.2 BID SECURITY**

**§ 4.2.1** Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

**4.2.2** Bonds shall be written by a bonding company that must be licensed with Maryland Insurance Administration to do business in the state of Maryland and otherwise acceptable to the Howard County Public School System. The Contractor shall use Bond Form provided by the Owner AIA 310 Bid Bond, in order to satisfy the Bond requirements referenced in this Article and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney in an amount not less than required.

**4.2.3** The bonding company furnishing the Bid Bond shall provide upon request to the Purchasing Department, the following statement, signed by an authorized representative for the bonding company: **As surety for (Name of**



Contractor), (Name of Bonding Company), hereby agrees to furnish the 100% Performance, Labor and Materials Bonds, as required by the specifications for the (Name of Project), on behalf of the Contractor, in the event that such firm be the successful bidder for this project. Failure to provide this statement may be cause to reject submitted bid.

§ 4.2.4 Bid Bond shall be in the amount of 5% of the Base Bid.

*(Paragraph deleted)*

§ 4.2.5 The apparent low bidder, upon notification, shall provide to the Owner/ Purchasing Office within 24 hours three (3) references of successfully completed projects from General Contractors and/or Construction Managers and/or Owners. Failure to provide these references will be cause to reject the submitted bid.

*(Paragraphs deleted)*

§ 4.2.6 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either

- (a) the Contract has been executed and bonds, if required, have been furnished, or
- (b) the specified time has elapsed so that Bids may be withdrawn or
- (c) all Bids have been rejected.

§ 4.2.7 To protect the public interest the Owner may request a D & B (Dun & Bradstreet ®) report on the apparent low bidder. D & B rating less than A shall be cause for rejection of bid by Owner.

§ 4.2.8 Owner reserves the right to request from apparent low bidder financial statements for the firm for up to 3 fiscal years..

#### § 4.3 SUBMISSION OF BIDS

##### § 4.3.1

*(Paragraphs deleted)*

All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

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

*(Paragraph deleted)*

#### § 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date and time stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for

*(Paragraphs deleted)*

the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

## ARTICLE 5 CONSIDERATION OF BIDS

### § 5.1 OPENING OF BIDS

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

### § 5.2 REJECTION OF BIDS

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

### § 5.3 ACCEPTANCE OF BID (AWARD)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid, Alternate Bids, and proposed Substitutions which, in the Owner's judgment, is in the Owner's own best interests.

§ 5.3.2 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.

## ARTICLE 6 POST-BID INFORMATION

*(Paragraphs deleted)*

### § 6.3 SUBMITTALS

§ 6.3.1 The Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, after notification of selection for the award of a Contract, furnish to the Owner through the Architect in writing:

.1

*(Paragraphs deleted)*

names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

*(Paragraphs deleted)*

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

## ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

*(Paragraph deleted)*

### §7.1 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1.1 The Contractor shall furnish a Performance Bond and Labor and Materials Payment Bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder and complying with the requirements of

Maryland Law. Both bonds shall be in the amount of one hundred percent (100%) of the Contract amount and shall name the Howard County Board of Education as Obligee.

§ 7.1.2 Bonds shall be written by a bonding company that must be licensed with MD Insurance Administration to do business in the State of Maryland and otherwise acceptable to the Howard County Public School System. The Contractor shall use Bond Forms provided by the Owner AIA Document A312 - 2010 Performance Bond and AIA Document A312 - 2010 Labor and Material Payment Bond, in order to satisfy the Bond requirements referenced in this Article.

§ 7.1.3 Owner reserves the right to request from Contractor financial statements for the firm for up to prior 3 fiscal years.

§ 7.1.4 To protect the public interest the Owner may request a D & B report on the Contractor. Should the D & B rating fall below the awarded rating, Contractor shall advise Owner of his corrective measures.

§ 7.1.5 Firms issuing said bonds must be licensed to write bonds in the State of Maryland. The Contractor shall pay the premiums for required bonds. Obtainage of the required bonds by Contractor shall be a condition precedent to effectuation of the Contract between Owner and Contractor. If additional work is authorized, the amounts of the bonds shall be increased to cover the value of the increased Contract sum. All bonds shall conform to the requirements of the Maryland Little Miller Act. All bonds shall be subject to Owner's approval.

*(Paragraphs deleted)*

§ 7.1.6 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 7.1.7 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

## § 7.2 TIME OF DELIVERY AND FORM OF BONDS

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner with the executed contract and dated with the date of contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, 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 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312-2010, Performance Bond and Labor and Material Payment Bond. Both bonds shall be written in the amount of the Contract Sum.

*(Paragraph deleted)*

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney effective as of the date of execution of the contract..

## ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101-2007 edition as modified by Howard County Public School System, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

*(Table deleted)(Paragraphs deleted)(Paragraphs deleted)*

SECTION 003000  
FORM OF PROPOSAL

ROOF REPLACEMENT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
BID #015.23.B3

Date: \_\_\_\_\_

Owner:

Board of Education  
of Howard County Maryland  
10910 Clarksville Pike  
Ellicott City, MD 21042  
Tel (410) 313-6723

Contractor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Engineer/Architect:

Gale Associates, Inc.  
1122 Kenilworth Drive, Ste 206  
Towson, MD 21204

The undersigned, having carefully examined the Bid Announcement and Bid Documents, the Drawings and Specifications, dated May 18, 2022, and Addenda thereto prepared by Gale Associates, Inc. proposes to furnish all specified materials and specified equipment in strict accordance with the aforesaid documents for the Lump Sums as follows:

To complete all of the work, including indicated unit price quantities, required for the Roof Replacement project located at Triadelphia Ridge Elementary School, 13400 Triadelphia Rd. Ellicott City, MD 21042 in strict accordance with the aforesaid Documents, with Phase 1 commencing on or about June 21, 2023 and completing not later than August 25, 2023 and Phase 2 commencing on or about June 20, 2024 and completing no later than August 23, 2024.

A. **Base Bid (WAGE SCALE)** (\$ \_\_\_\_\_ )  
\_\_\_\_\_ Dollars  
(written in words)

A. **Base Bid - (NON WAGE SCALE)** (\$ \_\_\_\_\_ )  
\_\_\_\_\_ Dollars  
(written in words)

**B. Alternates**

1. **ADD-Alternate 1** – Provide .080-inch-thick PVC roof membrane and associated flashings and strippings in lieu of the specified .060-inch-thick PVC roof system

(WAGE SCALE) (\$ \_\_\_\_\_ )

\_\_\_\_\_ Dollars  
(written in words)

1. **ADD-Alternate 1** – Provide .080-inch-thick PVC roof membrane and associated flashings and strippings in lieu of the specified .060-inch-thick PVC roof system

(NON WAGE SCALE) (\$ \_\_\_\_\_)

\_\_\_\_\_ Dollars  
(written in words)

**C. Unit Prices**

- 1. For scraping and priming of more/less surface rusted areas of steel deck and framing than the two thousand (2,000) square feet carried in the Base Bid as outlined in Division 05 Section "Steel Decking."

ADD/ DEDUCT (WAGE SCALE) \_\_\_\_\_/per square foot  
 (NON WAGE SCALE) \_\_\_\_\_/per square foot

- 2. For removal and replacement of more/less steel deck than the eight hundred (800) square feet carried in the Base Bid as outlined in Division 05 Section "Steel Decking."

ADD/ DEDUCT (WAGE SCALE) \_\_\_\_\_/per square foot  
 (NON WAGE SCALE) \_\_\_\_\_/per square foot

- 3. For removal and replacement of more/less steel plate than the two hundred (200) square feet carried in the Base Bid as outlined in Division 05 Section "Steel Decking."

ADD/ DEDUCT (WAGE SCALE) \_\_\_\_\_/per linear foot  
 (NON WAGE SCALE) \_\_\_\_\_/per linear foot

Unit Prices shall be used should the work be increased or decreased during construction. The unit prices will be the basis of compensation for additions or reductions to the quantity of work covered by the allowances.

Final contract price will be adjusted at completion of work to give the Owner credit for any unused quantities of Unit Price items. Credit shall be given at same prices quoted above. Any additional quantities required, over and above quantities stated in this Proposal, will be added to the contract by Change Order, at the Unit Prices quoted above.

**MANUFACTURER AND TRADE NAME OF ROOF SYSTEM OFFERED:**

**ROOF SYSTEM OFFERED**

\_\_\_\_\_

I/We stipulate that the above listed bids are based solely upon materials, systems and equipment required by the Bidding Documents. The following listed substitutions are proposed for use in the Work, if approved by the Consultant and accepted by the Owner.

<b><u>PROPOSED SUBSTITUTION</u></b>	DEDUCT	NO CHARGE
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____

\_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_

Attach additional sheets as necessary and affix signature(s).

**BID BOND**

I/We enclose herewith Surety Bonds for \_\_\_\_\_ being 5% of the Base Bid herewith submitted.

**SUBCONTRACTORS**

Bidders are hereby required to name the subcontractors as part of their bid package.

Carpentry \_\_\_\_\_  
Sheet Metal \_\_\_\_\_  
Plumbing \_\_\_\_\_  
Debris Hauling \_\_\_\_\_  
Masonry \_\_\_\_\_  
Other \_\_\_\_\_  
\_\_\_\_\_

**REFERENCES**

Bidders are hereby required to list three references for whom similar work has previously been performed within the last three years:

Name: \_\_\_\_\_

Address of Site: \_\_\_\_\_

Nature of Job: \_\_\_\_\_

Person to contact: \_\_\_\_\_

Telephone: \_\_\_\_\_

Name: \_\_\_\_\_

Address of Site: \_\_\_\_\_

Nature of Job: \_\_\_\_\_

Person to contact: \_\_\_\_\_

Telephone: \_\_\_\_\_

Name: \_\_\_\_\_

Address of Site: \_\_\_\_\_

Nature of Job: \_\_\_\_\_

Person to contact: \_\_\_\_\_

Telephone: \_\_\_\_\_

**COMPANY INFORMATION**

\_\_\_\_\_  
Name of company \_\_\_\_\_ years in business

\_\_\_\_\_  
Street Address

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

\_\_\_\_\_  
Telephone # \_\_\_\_\_ Fax # \_\_\_\_\_

**CONTRACT ADMINISTRATOR**

Name \_\_\_\_\_ Title \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

\_\_\_\_\_  
Cell phone \_\_\_\_\_ e-mail \_\_\_\_\_

**ADDENDA**

Receipt of the following Addenda is acknowledged:

Addendum No. \_\_\_\_\_ dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ dated \_\_\_\_\_

**PROJECT SCHEDULE AND LIQUIDATED DAMAGES**

"I/We agree to begin and complete the Work in strict accordance with the Contract Documents; I/We understand that the facility will be available for commencement of phase 1 work on or about June 21, 2023, barring any unforeseen circumstances. Phase 1 work shall be completed and all debris removed from the site no later than August 25, 2023. Phase 2 work shall commence on or about June 20, 2024, barring any unforeseen circumstances and be completed and all debris removed from the site no later than August 23, 2024. The Owner may assess liquidated damages in the amount of One Thousand Dollars (\$1,000) for each calendar day beyond the contract completion date."

**CONTRACT**



If the undersigned receives written notice of the acceptance, at this designated address, within sixty (60) days after bid opening (or later if bid has not been withdrawn), the undersigned agrees to execute and deliver a Contract and Bonds in accordance with the bid as accepted, within seven (7) days after receiving notice, or forfeit the amount of the Bid Bond.

### **WARRANTY TO THE LUMP SUM**

The undersigned affirms that the Lump Sum Bid represents the entire cost of the Project in accordance with the Bid Documents and that no claim will be made on account of any increase in wage scales, material prices, taxes, insurance, cost indexes or any other rate affecting the construction industry and/or this project.

### **BASIS OF AWARD**

The undersigned understands that the lowest responsive bid will be determined by the Owner, using the Base Bid (A) Amount.

### **AFFIDAVIT**

Special Instructions: An authorized representative of the bidder needs to complete the following affidavit and insert an answer to paragraphs 1, 3, and 5.

#### STATUTORY AFFIDAVIT AND NON-COLLUSION CERTIFICATION

I, \_\_\_\_\_, being duly sworn, depose and state:

1. I am the \_\_\_\_\_ (officer) and duly authorized representative of the firm of the building construction organization named \_\_\_\_\_ whose address is \_\_\_\_\_ and that I possess the authority to make this affidavit and certification of behalf of myself and the firm for which I am acting.
2. Except as described in Paragraph 3 below, neither I, nor to the best of my knowledge, the above firm nor any of its officers, directors, or partners, or any of its employees who are directly involved in obtaining or performing contracts with any public bodies has:
  - a. been convicted of bribery, attempted bribery, or conspired to bribe, under the laws of any state or of the federal government;
  - b. been convicted under the laws of the state, another state or the United States of: a criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract; or fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property;
  - c. been convicted of a criminal violation of an antitrust statute of the State of Maryland, another state, or the United States;
  - d. been convicted of a violation of the Racketeer Influenced and Corrupt Organization Act, or the Mail Fraud Act, for acts in connection with the submission of bids or proposals for a public or private contract;
  - e. been convicted of any felony offenses connected with obtaining, holding, or maintaining a minority business enterprise certification, as prohibited by Section 14-308 of the State Finance and Procurement Article;
  - f. been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction under any of the laws or statutes described in Paragraphs (a) through (e) above; or

g. been found civilly liable under an antitrust statute of this State, another state, or the United States for acts or omissions in connection with the submission of bids or proposals for a public or private contract.

3. The only conviction, plea, or admission by any officer, director, partner, or employee of this firm to involvement in any of the conduct described in Paragraph 2 above is as follows:

If none, write "None" below. If involvement, list the date, count, or charge, official or administrative body, the individuals involved, their position within the firm and the sentence or disposition of the charge.

---

(you may attach any explanation necessary)

4. I affirm that this firm will not knowingly enter into a contract with a public body under which a person or business debarred or suspended under Maryland State Finance and Procurement Title 16, Subtitle 3, Annotated Code of Maryland, as amended, will provide, directly or indirectly, supplies, services, architectural services, construction-related services, leases of real property, or construction.

5. I affirm that this proposal or bid to the Board of Education of Howard County is genuine and not collusive or a sham; that said bidder has not colluded, conspired, connived and agreed, directly or indirectly, with any bidder or person to put in a sham bid or to refrain from bidding and is not in any manner, directly or indirectly sought by agreement of collusion or communication or conference, with any person to fix any overhead, profit, or cost element of said bid price, or that of any bidder, or to secure an advantage against the Board of Education of Howard County or any other person interested in the proposed contract; and that all statements in the proposal or bid are true. I acknowledge that, if the representations set forth in this affidavit are not true and correct, the Board of Education of Howard County may terminate any contract awarded and take any other appropriate action.

6. I affirm that this firm will not knowingly employ an individual to work at a school if the individual is a Registered Sexual Offender, pursuant to section 11-722 ( C ) of the Criminal Procedure Article of the Annotate Code of Maryland. A firm or person who violates this section is guilty of a misdemeanor and on conviction is subject to imprisonment not exceeding 5 years or a fine not exceeding \$5,000 or both.

**The statements contained in this affidavit shall be incorporated into the awarded contract as material provisions and shall be effective throughout the life of the contract. The firm has a continuing obligation through the life of the contract to submit a revised affidavit should the firm discover information, or events occur, which render the contents of this affidavit erroneous or incomplete or which would result in the firm providing a different response. The firm's failure to submit a revised affidavit within three (3) working days of either its awareness of any error, change of circumstances, incompleteness, etc., or request by the owner shall constitute breach of contract. Upon submission of a revised affidavit, the owner has the right to take such actions as may be necessary, in the judgment of the owner, to maintain and enforce the provisions of the affidavit, including termination of the contract.**

**I DO SOLEMNLY DECLARE AND AFFIRM** under the penalties of penalties that the contents of these affidavits (Statutory and Non-Collusion) are true and correct, that I am executing this Affidavit in compliance with Section 16-311 of the State Finance and Procurement Article, Annotated Code of Maryland, and the Non-Collusion Certification in compliance with requirements of the Board of Education of Howard County Maryland, and that I am executing and submitting this Form of Proposal on behalf of and with full authority by the bidder named below.

\_\_\_\_\_  
(Signature of Bidder)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Print Name of Bidder)

\_\_\_\_\_  
(Title of Bidder)

SUBSCRIBED AND SWORN to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

NOTARY PUBLIC

Name \_\_\_\_\_

Seal:

My Commission Expires \_\_\_\_\_

\_\_\_\_\_  
(Legal Name of Company)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(City)

\_\_\_\_\_  
(State)

\_\_\_\_\_  
(Zip)

\_\_\_\_\_  
(Telephone)

\_\_\_\_\_  
(Fax)

\_\_\_\_\_  
(E-mail address)

Contractor's License Number # \_\_\_\_\_

We are/I am licensed to do business in the State of Maryland as a:

( ) Corporation      ( ) Partnership      ( ) Individual      ( ) Other

\_\_\_\_\_  
eMaryland Marketplace Advantage (eMMA) Vendor No.

**END OF FORM**

**CERTIFIED MINORITY BUSINESS ENTERPRISE  
UTILIZATION AND FAIR SOLICITATION AFFIDAVIT**

***NOTE: You must include this document with your bid or offer. If you do not submit the form with your bid or offer, the procurement officer shall deem your bid non-responsive or your offer not reasonably susceptible of being selected for award.***

\* \* \* \* \*

**Part I.**

I acknowledge the:

- Overall certified MBE subcontract participation goal of 29 %. and
- The subgoals, if applicable, of:
  - 8 % for certified African American-owned businesses and
  - 11 % for certified Women-owned businesses.

I have made a good-faith effort to achieve this goal. If awarded the contract, I will continue to attempt to increase MBE participation during the project.

**Part II.**

Check ONE Box

**NOTE: FAILURE TO CHECK ONE OF BOXES 1, 2, or 3 BELOW WILL RENDER A BID NON-RESPONSIVE OR AN OFFER NOT REASONABLY SUSCEPTIBLE OF BEING SELECTED FOR AWARD**

**NOTE: INCONSISTENCY BETWEEN THE ASSERTIONS ON THIS FORM AND THE INFORMATION PROVIDED ON THE *MBE PARTICIPATION SCHEDULE* (ATTACHMENT B) MAY RENDER A BID NON-RESPONSIVE OR AN OFFER NOT REASONABLY SUSCEPTIBLE OF BEING SELECTED FOR AWARD**

1  I have met the overall MBE goal and MBE subgoals for this project. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B], which details how I will reach that goal.

**or**

2  After having made a good-faith effort to achieve the overall MBE goal and MBE subgoals for this project, I can achieve partial success only. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B], which details the MBE participation I have achieved.

I request a partial waiver as follows:

- Waiver of overall MBE subcontract participation goal: \_\_\_\_ %
- Waiver of MBE subcontract participation subgoals, if applicable:
  - \_\_\_\_ % for certified African American-owned businesses and
  - \_\_\_\_ % for certified Asian American-owned businesses.

Within 10 days of being informed that I am the apparent awardee, I will submit *MBE Waiver Documentation* [Attachment F] (with supporting documentation).

**Attachment A (page 2 of 2)**

**or**

- 3  After having made a good faith effort to achieve the overall MBE goal and MBE subgoals for this project, I am unable to achieve any portion of the goal or subgoals. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B].

I request a full waiver.

Within 10 days of being informed that I am the apparent awardee, I will submit *MBE Waiver Documentation* [Attachment F] (with supporting documentation).

**Part III.**

I understand that if I am the apparent awardee or conditional awardee, I must submit **within 10 working days** after receiving notice of the potential award or within 10 days after the date of conditional award – whichever is earlier – the:

- *Outreach Efforts Compliance Statement* (Attachment C)
- *Subcontractor Project Participation Statement* (Attachment D)
- *Minority Subcontractors Unavailability Certificate* (Attachment E) (if applicable)
- Any other documentation the Procurement Officer requires to ascertain my responsibility in connection with the MBE participation goal and subgoals

I acknowledge that if I fail to timely return complete documents, the Procurement Officer may determine that I am not responsible and therefore not eligible for contract award. If the contract has been awarded, the award is voidable.

I acknowledge that the MBE subcontractors/suppliers listed in the *MBE Participation Schedule* and any additional MBE subcontractor/suppliers identified in the *Subcontractor Project Participation Statement* will be used to accomplish the percentage of MBE participation that I intend to achieve.

In the solicitation of subcontract quotations or offers, MBE subcontractors were provided the same information and amount of time to respond as were non-MBE subcontractors.

The solicitation process was conducted in such a manner so as to not place MBE subcontractors at a competitive disadvantage to non-MBE subcontractors.

**I solemnly affirm under the penalties of perjury that this Affidavit is true to the best of my knowledge, information, and belief.**

\_\_\_\_\_  
Bidder/Offeror Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address (continued)

\_\_\_\_\_  
Affiant Signature

\_\_\_\_\_  
Printed Name & Title

\_\_\_\_\_  
Date

1. Prime Contractor's Name	2. Prime Contractor's Address/Telephone Number
3. Project/School Name	4. Project/School Location
5. LEA Name: PSC Number:	6. Base Bid Amount \$ _____ Acceptance Alternates \$ _____ Total \$ _____

7a.  
 Minority Firm Name: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

7b.  
 Minority Firm Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

7c.  
 Minority Firm Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

8. MBE Total Amount	9. Total MBE Percent of Entire Contract
---------------------	---

10. Form Prepared by: Name: _____ Title: _____ Date: _____	11. Reviewed and Accepted by Board of Edu. MBE Liaison Name: _____ Title: _____ Date: _____
---	--

Total MBE Participation: \$ \_\_\_\_\_ %  
 Total African-American Participation: \$ \_\_\_\_\_ %  
 Total Women Owned MBE Participation: \$ \_\_\_\_\_ %  
 Total Other Participation: \$ \_\_\_\_\_ %

# AIA<sup>®</sup> Document A310™ – 2010

## **Bid Bond**

**CONTRACTOR:**

*(Name, legal status and address)*

*(Row deleted)*

As Principal, hereinafter called the Principal, and a corporation duly organized under the laws of the State of as Surety, hereinafter called the Surety, are held and firmly bound unto

As Oblige, hereinafter called the Oblige, in the sum of Dollars (\$ )  
\$....., for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, or heirs, executors, administrators, successors and assigns jointly and severally firmly by these presents.

OWNER  
Howard County Public School System  
10910 Clarksville Pike  
Ellicott City, MD, 21042

WHEREAS the Principal has submitted a bid for

**PROJECT:**

*(Name, location or address, and Project number, if any)*

NOW, Therefore, if the Oblige shall accept the bid of Principal and the Principal shall enter into a Contract with the Oblige in accordance with the term of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to Oblige the difference not to exceed the penalty thereof between the amount specified in said bid and such larger amount for which the Oblige may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

*(Paragraph deleted)*

**ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

Init.

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**User Notes:**

(1129211223)





# AIA<sup>®</sup> Document A101<sup>®</sup> – 2017

## **Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum**

AGREEMENT made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 2021  
*(In words, indicate day, month and year)*

BETWEEN the Owner:  
*(Name, address and other information)*

\_\_\_\_\_ and the Contractor:  
*(Name, address and other information)*

for the following Project:  
*(Name, location and detailed description)*

The Architect:  
*(Name, address and other information)*

The Owner and Contractor agree as follows.  
**TABLE OF ARTICLES**

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS
- 10 INSURANCE AND BONDS

### **ARTICLE 1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications

### **ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101@-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201@-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

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User Notes:

(1416974200)

issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

**ARTICLE 2 THE WORK OF THIS CONTRACT**

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

Contract Package:

Alternate No.:

**ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

§ 3.1 The date of commencement of the Work shall

*(Paragraphs deleted)*

be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

*(Paragraphs deleted)*

§ 3.2 The Contract Time shall be measured from the date of commencement, that shown on the Progress Schedule.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than ..... The respective dates applicable to this Contract as indicated on the Progress Schedule. The fully developed Progress Schedule issued by Architect/Owner, and hereby fully incorporated into this Agreement, contains

**Portion of Work**  
100 % Complete

, subject to adjustments of this Contract Time as provided in the Contract Documents.  
. Liquidated Damages in the sum of one thousand (\$1000.00) for each calendar day shall be assessed for any delays in achieving Substantial Completion, except as noted in Article 8 of the General Conditions of the Contract for Construction. "Substantial Completion" as defined in Article 9.8 of the General Conditions of the Contract for Construction. In addition to Liquidated Damages for delay, as provided above, the Owner shall be entitled to such other damages for breach of contract as more fully provided in the General Conditions for Contract for Construction.

*(Paragraph deleted)*

*(Table deleted)*

*(Paragraphs deleted)*

**ARTICLE 4 CONTRACT SUM**

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract including Alternates and Substitutions the Contract Sum shall be:

\$... .. (\$),

subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

Alternate Numbers:

N/A

init.

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

(Table deleted)  
(Paragraphs deleted)  
(Table deleted)  
(Paragraph deleted)

**§ 4.3** Unit prices, if any:  
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

**Item**  
As listed in the Form of Proposal;

(Paragraphs deleted)  
(Table deleted)  
(Paragraphs deleted)

## **ARTICLE 5 PAYMENTS**

### **§ 5.1 PROGRESS PAYMENTS**

**§ 5.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

Contractor shall submit to the Architect on the last day of each month a draft of a Standard Monthly Contractors Requisition for Payment, on AIA Document G702 – 1992 and AIA Document G703 – 1992

(Paragraphs deleted)

**§ 5.1.5** Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**§ 5.1.6** Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ten percent ( 10 % )
- .2 Portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ten percent ( 10 % );

(Paragraphs deleted)

### **§ 5.1.7 Deleted**

(Paragraphs deleted)

**§ 5.1.8** Reduction or limitation of retainage, if any, shall be as follows:  
As described in the General Conditions for the Contract of Construction.

Init.

§ 5.1.9 Deleted

§ 5.2 FINAL PAYMENT

§ 5.2.1 1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor in accordance with Paragraph 9.10 of the General Conditions for Contract.

§ 5.2.2 Deleted

*(Paragraphs deleted)*

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1

*(Paragraphs deleted)*

As specified in Contract Documents

*(Paragraphs deleted)*

§ 6.2 Deleted

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-2007 and modifications made by Howard County Public School System.

*(Paragraphs deleted)*

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007 and modifications made by Howard County Public School System.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201-2007 and modifications made by Howard County Public School System or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

*(Paragraphs deleted)*

§ 8.4 The Contractor's representative:

*(Name, address and other information)*

§ 8.5 The Contractor's representative shall not be changed without ten days' written notice to the Owner

*(Paragraphs deleted)*

§ 8.6 Delete:

Init.

*(Paragraphs deleted)*

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is the executed Standard Form of Agreement Between Owner and Contractor, AIA Document A101-1997 and modifications made by Howard County Public School System.

§ 9.1.2 The General Conditions are the 2007 edition of the General Conditions of the Contract for Construction, AIA Document A201-2007 and modifications made by Howard County Public School System.

§ 9.1.3 Delete

§ 9.1.4 The Specifications:

*(Paragraph deleted)*

The Specifications are those contained in the Project Manual, and are as follows:

Title of Specifications exhibit: As listed in Table of Contents of Project Manual dated:

§ 9.1.5 The Drawings:

The Drawings are as follows, and are dated \_\_\_\_\_ unless a different date is shown below:

*(Table deleted)*

Title of Drawings exhibit: As listed in the Schedule of Drawings of the Contract Title of Drawings exhibit:

*(Table deleted)*

§ 9.1.6 The Addenda, if any:

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

*(Paragraph deleted)*

As listed in the Project Manual.

**ARTICLE 10 INSURANCE AND BONDS**

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201-2007.

**Type of insurance or bond**  
As listed in the Project Manual

*(Paragraphs deleted)*

Init.

This Agreement is entered into as of the day and year first written above and is executed in at least four original copies of which one is to be delivered to the Contractor, one each to the Construction Manager and Architect for use in the administration of the Contract, and the remainder to the Owner.

**OWNER**

Board of Education of Howard County

(A Body Politic and Corporate)

**CONTRACTOR**

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Signature)*

Chao Wu, Chair (SEAL) \_\_\_\_\_

\_\_\_\_\_  
(SEAL)

*(Printed name and title)*

Approved by:

\_\_\_\_\_  
Michael J. Martirano, Ed. D., Superintendent of Schools

Init.

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(1416974200)



**SECTION 00601**  
**INSURANCE REQUIREMENTS**

**1 - General Insurance Requirements:**

1.1 - The Contractor shall not commence Work until he has obtained at his own expense all of the insurance as required hereunder and such insurance has been approved by the Board of Education of Howard County Maryland; nor shall the Contractor allow any Subcontractor to commence Work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved by the Contractor. Approval of insurance required of the Contractor will be granted only after submission to the Board of Education of Howard County Maryland of original, signed certificates of insurance or, alternately, at the Board of Education of Howard County Maryland's request, certified copies of the required insurance policies.

1.2 - The Contractor shall require all Subcontractors to maintain during the term of this agreement, commercial general liability insurance, business automobile liability insurance, and Workers' Compensation and employers' liability insurance, in the same manner as specified for the Contractor. The Contractor shall furnish Subcontractors' certificates of insurance to the Board of Education of Howard County Maryland immediately upon request.

1.3 - All insurance required hereunder shall include the following provision: "It is agreed that this policy is not subject to cancellation, non-renewal, material change, or reduction in coverage until sixty (60) days prior written notice has been given to the Board of Education of Howard County Maryland."

The phrases "endeavor to" and "... but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" are to be eliminated from the cancellation provision of standard ACORD certificates of insurance.

1.4 - No acceptance and/or approval of any insurance by the Board of Education of Howard County Maryland shall be construed as relieving or excusing the Contractor, or the Surety, or his bonds, from any liability or obligation imposed upon either or both of them by the provisions of the Contract Documents.

1.5 - The Board of Education of Howard County Maryland and its elected or appointed officials, agents and employees are to be named as an additional insured under all coverages except Workers compensation and business automobile liability, and the certificate of insurance, or the certified policy, if requested, must so state this. Coverage afforded under this paragraph shall be primary as respects the Board of Education of Howard County Maryland, its agents and employees.

1.6 - The Contractor shall be responsible for the Work performed under the Contract Documents and every part thereof, and for all materials, tools, equipment, appliances, and property of any and all description used in connection with the Work. The Contractor assumes all risk for direct and indirect damage or injury to the property or persons used or employed on or in connection with the Work contracted for, and of all damage or injury to any person or property wherever located, resulting from the action, omission, commission or operation under the contract, or in connection in any way whatsoever with the contracted Work, until final acceptance of the Work by the Board of Education of Howard County Maryland.

1.7 - Insurance coverage required in these specifications shall be in force throughout the contract term. Should the Contractor fail to provide acceptable evidence of current insurance within seven days of written notice at any time during the contract term, the Board of Education of Howard County Maryland shall have the absolute right to terminate the contract without any further obligation to the Contractor, and the Contractor shall be liable to the Board of Education of Howard County Maryland for the entire additional cost of procuring performance and the cost of performing the incomplete portion of the contract at time of termination.

1.8 - Contractual and other liability insurance provided under this contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the Board of Education of Howard County Maryland from supervising or inspecting the project as to the end result. The Contractor shall assume all

on-the-job responsibilities as to the control of persons directly employed by it and of the Subcontractors and any persons employed by the Subcontractor.

1.9 - Nothing contained in the specifications shall be construed as creating any contractual relationship between any Subcontractor and the Board of Education of Howard County Maryland. The Contractor shall be fully responsible to the Board of Education of Howard County Maryland for the acts and omissions of the Subcontractors and of persons employed by them as it is for acts and omissions of persons directly employed by it.

1.10 - Precaution shall be exercised by the Contractor at all times for the protection of persons, (including employees) and property. All existing structures, utilities, roads, services, trees and shrubbery shall be protected against damage or interruption of service at all times by the Contractor and its Subcontractors during the term of the contract, and the Contractor shall be held responsible for any damage to property occurring by reason of its operation on the property.

1.11 - If the Contractor does not meet the insurance requirements of the specifications, alternate insurance coverage, satisfactory to the Board of Education of Howard County Maryland, may be considered. Written requests for consideration of alternate coverages must be received by the Board of Education of Howard County Maryland at least ten Working days prior to the date set for receipt of bids or proposals. If the Board of Education of Howard County Maryland denies the request for alternate coverages, the specified coverages will be required to be submitted.

1.12 - All required insurance coverages must be acquired from insurers allowed to do business in the State of Maryland and acceptable to the Board of Education of Howard County Maryland. The insurers must also have a policyholders' rating of "A-" or better, and a financial size of "Class VII" or better in the latest edition of Best's Insurance Reports, unless the Board of Education of Howard County Maryland grants specific approval for an exception.

1.13 - The Board of Education of Howard County Maryland will consider any deductible amounts as part of its review of the financial stability the Contractor. Any deductibles shall be disclosed by the Contractor, and deductible amounts are the responsibility of the Contractor.

## **2 - Contractor's Liability Insurance - "Occurrence" Basis:**

2.1 - The Contractor shall purchase the following insurance coverages:

2.1.1 - Commercial general liability with a minimum limit of \$1,000,000 per occurrence, \$1,000,000 annual aggregate including all of the following:

- i. General aggregate limit is to apply per project;
- ii. Premises/operations;
- iii. Actions of independent Contractors;
- iv. Products/completed operations to be maintained for two years after completion of the Work;
- v. Contractual liability including protection for the Contractor from claims arising out of liability assumed under this contract;
- vi. Personal injury liability including coverage for offenses related to employment;
- vii. Explosion, collapse, or underground (XCU) hazards (confirmation of underground hazard coverage must be confirmed by either certificate of insurance or in writing by Contractor's agent, broker or insurer);

2.1.2 - Business automobile liability including coverage for any owned, hired, or non-owned motor vehicles and automobile contractual liability with a limit of \$1,000,000 per accident; uninsured motorist coverage at minimum statutory limits.

2.1.3 - Workers compensation with statutory benefits as required by Maryland law or the U. S. Longshoremen's and Harbor Workers' Compensation Act, or other laws as required by labor union agreements, including standard other states coverage; employers' liability coverage with limits of \$100,000 per accident, \$100,000 per employee for disease, and a \$500,000 disease policy limit.

2.1.4 - Total limit requirements of 2.1.1, 2.1.2 and 2.1.3 may be met by a combination of primary and umbrella excess liability coverage.

### **3 - Commercial General or Other Required Liability Insurance - "Claims Made" Basis**

3.1 - If commercial general or other liability insurance purchased by the Contractor has been issued on a "claims made" basis, the Contractor must comply with the following additional conditions:

- i. Agree to provide certificates of insurance evidencing the above coverages for a period of two years after final payment for the contract. Such certificates shall evidence a retroactive date, no later than the beginning of the Contractors' or Subcontractors' Work under this contract, or
- ii. Purchase an extended (minimum two years) reporting period endorsement for the policy or policies in force during the term of this contract and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself.

# AIA<sup>®</sup> Document A312™ – 2010

## Performance Bond

**CONTRACTOR:**  
(Name, legal status and address)

**SURETY:**  
(Name, legal status and principal place of business)

---

**OWNER:**  
(Name, legal status and address)

### CONSTRUCTION CONTRACT

**Date:**  
**Amount: \$**  
**Description:**  
(Name and location)

**BOND**  
**Date:**  
(Not earlier than Construction Contract Date)

**Amount: \$**  
**Modifications to this Bond:**  **NONE**  **SEE SECTION 16**

<b>CONTRACTOR AS PRINCIPAL</b>	<b>SURETY</b>
<b>COMPAN (CORPORATE SEAL)</b>	<b>COMPAN (CORPORATE SEAL)</b>
<b>Y:</b>	<b>Y:</b>
<b>SIGNATU</b>	<b>SIGNATU</b>
<b>RE:</b>	<b>RE:</b>
<b>NAME</b>	<b>NAME</b>
<b>AND</b>	<b>AND</b>
<b>TITLE:</b>	<b>TITLE:</b>

**IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS PREPARED BY:**  
(HERE INSERT FULL NAME AND ADDRESS OR LEGAL TITLE OF ARCHITECT)

(Table deleted)

**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

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User Notes:

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

Which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

PERFORMANCE BOND

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The surety hereby waives notice of any alteration of extension of time made by the Owner.

Whenever Contractor shall be, and declare by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

1. Complete the contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for competing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this day of

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Principal)

(Seal)

\_\_\_\_\_  
(Witness)

(Title)

*(Table deleted) (Paragraphs deleted)*

Init.

 **AIA**® Document A312™ – 2010

**Payment Bond**

**CONTRACTOR:**  
*(Name, legal status and address)*

**SURETY:**  
*(Name, legal status and principal place of business)*

**OWNER:**  
*(Name, legal status and address)*

**CONSTRUCTION CONTRACT**  
Date:

Amount: \$

Description:  
*(Name and location)*

**BOND**  
Date:  
*(Not earlier than Construction Contract Date)*

Amount: \$

Modifications to this Bond:  None  See Section 18

**CONTRACTOR AS PRINCIPAL**  
Company *(Corporate Seal)*

Signature

Name \_\_\_\_\_  
and Title: \_\_\_\_\_  
*(Any additional signatures appear on the last page of this Payment Bond.)*

**SURETY**  
Company *(Corporate Seal)*

*(Row deleted)*

Signature

Name \_\_\_\_\_  
and Title: \_\_\_\_\_

**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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User Notes:

(1748452473)

Drawings and Specifications prepared by:  
(Architect name and address)

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

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

Which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

### **LABOR AND MATERIAL PAYMENT BOND**

Now therefore, the condition of this obligation is such that, if Principal shall promptly make payment to all claimants as hereinafter defined. For all labor and material used or presumably required for use in the performance of the Contract, then this obligation shall be void: otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, prosecute the suit for final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
  - a) Unless claimant, other than on having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety(90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
  - b) After the expiration of one (1) year following the date on which Principal ceased Work on seaside Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
  - c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, or in the United

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User Notes:

(1748452473)

States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens with may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

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

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_  
(Corporate Seal)

**SURETY**

Company: \_\_\_\_\_  
(Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_

Address:

Address:

*(Table deleted)(Paragraphs deleted)*

Init.



# AIA<sup>®</sup> Document A201<sup>®</sup> – 2007

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

[REDACTED]

THE OWNER:

(Name and address)

[REDACTED]

THE ARCHITECT:

(Name and address)

[REDACTED]

### TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 BASIC DEFINITIONS**

#### **§ 1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

#### **§ 1.1.2 THE CONTRACT**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### **§ 1.1.3 THE WORK**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### **§ 1.1.4 THE PROJECT**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

#### **§ 1.1.5 THE DRAWINGS**

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

#### **§ 1.1.6 THE SPECIFICATIONS**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### **§ 1.1.7 INSTRUMENTS OF SERVICE**

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### **§ 1.1.8 INITIAL DECISION MAKER**

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

### **§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Wherever in the Specifications there appears a reference to a "Contractor" or the "Subcontractor" or a reference to a Contractor, installer or supplier of a particular trade, or for a particular type of Work, such reference, regardless of the language hereof shall be deemed a reference to the Contractor and shall not be construed as relieving the Contractor from the duty to perform all of the Work and other obligations provided under the Contract.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### § 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

### § 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### § 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings.. Unless otherwise indicated, the Architect shall be deemed the author of the Specifications and other documents prepared by the Architect. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Owners copyrights or other reserved rights. The Drawings, Specifications, and other documents are and shall always be the property of the Owner, and the Owner shall retain all common law, statutory, and other reserved rights in addition to copyright.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

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**ARTICLE 2 OWNER**

**§ 2.1 GENERAL**

**§ 2.1.1** The Owner is the Board of Education of Howard County Maryland identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

**§ 2.1.2** The Contractor understands that the Board of Education of Howard County, Maryland, is a public agency, and no mechanics' liens are permitted against its property.

**§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

**§ 2.2.1** Deleted

**§ 2.2.2** Except for permits and fees, including those required under Section 3.7.1, which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction,

**§ 2.2.3** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site to the extent reasonably required for execution of the Work and requested by the Contractor in writing within one (1) month of the date of Contract. The Owner does not warrant or undertake responsibility for the location of utilities or the accuracy of tests concerning the soil, surface, and subsurface conditions.

**§ 2.2.4** Information or services under the Owner's control shall, be furnished by the Owner after receipt from the Contractor of a written request for such information or services..

*(Paragraph deleted)*

**§ 2.2.5** Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, Three (3) sets of copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

**§ 2.3 OWNER'S RIGHT TO STOP THE WORK**

**§2.3.1** If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. This right shall be in addition to an not in restriction or derogation of the Owners' rights under Section 4.3.4 and under Article 14 of the General Conditions.

**§2.3.2** If unforeseen conditions occur or are encountered which may substantially impair the quality of the Work unless the Work is suspended, the Owner may suspend the Work by notice in writing to the Contractor. In the event of such a suspension, Contractor shall be entitled only to payment for work actually completed up to and including the date on which the work was suspended by the Owner. In any event where the Contractor reasonably determines that a suspension is required in such circumstances, the Contractor shall promptly notify in writing the Owner and Architect of such determination. In the event the Owner agrees to suspend the work, the Contractor shall only be entitled to payment for work actually completed up to and including the date on which the work was suspended.

**§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK**

**§ 2.4.1** If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, upon written notice to the Contractor at the

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conclusion of the above referenced seven day period without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. , upon written notice to the Contractor at the conclusion of the above referenced seven-day period, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's and their respective consultants' additional services and expenses made necessary by such default, neglect or failure. At the election of the Owner, the first written notice to the Contractor to correct defective work may also contain written notice that if the defective work or other specified cause for termination is not corrected, cured, or remedied to Owner's satisfaction, then Owner may issue a written notice to Contractor at the end of the above reference seven (7) day period terminating the Contractor's employment under the Contract pursuant to Article 14 of these General Conditions. In the event the Owner elects to terminate the Contractor's employment under this Contract, the Contractor shall only be entitled to payment for work under the Agreement actually completed by the Contractor up to the date of Contractor's termination, less deductions for: (1) the cost of correcting any deficient or defective work, including compensation for the Architect and their respective consultant's additional services and expenses made necessary by the Contractor's defective work, default, neglect, or failure to perform under this Contract; (2) damages incurred by the Owner as a result of the Contractor's breach, including but not limited to costs to finish the work and damages for delay, if any, in completing the work under the Contract; and (3) actual reasonable attorney's fees incurred by the Owner in obtaining legal advice, counsel, and/or representation relating to the issues of Contractor's breach of contract, defective work, default neglect, or failure to perform and Owner's legal options relating thereto as well as any other reasonable attorney's fees due to Owner under other provisions of this Contract; and (4) such other amounts due and owing to Owner under the terms and conditions of the Contract documents. In the event the Contractor is terminated pursuant to Article 14.2, the Contractor shall not be entitled to any remaining funds under the Contract after the date of termination except as specifically provided above, and subject to the availability of funds after all work is completed. All remaining unpaid funds in the Contract as of the Contractor's termination date shall be the sole and exclusive property of the Owner, and the Contractor shall be paid by the Owner at the conclusion of all work under the Contract as provided above, but only to the extent that there are funds remaining after all payments have been made to complete the work under the Contract and to compensate the Owner as provided above in the four (4) enumerated deductions in this Article 2.4.1. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

### **ARTICLE 3 CONTRACTOR**

#### **§ 3.1 GENERAL**

**§ 3.1.1 .1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative. When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the contractor who executes each separate Contractor Agreement.

**§ 3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.

**§ 3.1.3** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

#### **§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

**§ 3.2.1** The Contractor warrants that it has made itself familiar with the Project site and obtained all information required by the Contractor concerning the conditions of the Project site including but not limited to soil, surface, and subsurface conditions, legal descriptions and surveys of the Project site, and the location of utilities and the improvements to be constructed. The Contractor shall continue to carefully study and compare the Contract Documents with each other and with information obtained by Contractor by his own investigation and tests and shall at once report to the Owner and Architect errors, inconsistencies, or omissions discovered. These obligations are for

the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered by the Contractor shall be reported promptly to the Architect as a request for information in such form as the Architect may require. If the Contractor performs any construction activity with either actual knowledge or constructive knowledge that it involves an error, inconsistency, or omission in the Contract Documents, the Contractor shall assume liability for such performance and costs for correction.

§ 3.2.2 Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Architect. If the Contractor performs any construction activity with either actual knowledge or constructive knowledge that it involves an error, inconsistency, or omission in the Contract Documents, the Contractor shall assume liability for such performance and costs for correction.

§ 3.2.3 Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Architect. If the Contractor performs any construction activity with either actual knowledge or constructive knowledge that it involves an error, inconsistency, or omission in the Contract Documents, the Contractor shall assume liability for such performance and costs for correction.

§ 3.2.4 Delete.

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, . The Contractor shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

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

§ 3.3.4 All inspections required by law shall be obtained by the Contractor, including but not limited to those required by law to be obtained by the Owner, and no failure of the Owner to obtain such inspection shall constitute a waiver of Contractor's obligation hereunder. The Contractor shall notify the Owner of any application for inspection required to be executed by the Owner.

### § 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Delete

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§3.4.4 By law, all school sites are drug, alcohol, and tobacco free, and Contractor shall ensure that all workers on the job site comply with the said law.

### § 3.5 WARRANTY

§ 3.5.1 The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of excellent quality and new unless otherwise required or permitted by the Contract Documents, that the Work shall be performed in an excellent manner and shall be free from defects, and that the Work shall conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

### § 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received, whether or not yet effective or merely scheduled to go into effect.

### § 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received. The Owner will not reimburse the Contractor for the cost of elective permits, which the Contractor chooses to secure in conjunction with its means and methods of executing the work, or for any offsite permits.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 The Contractor shall review the Contract Documents to ascertain that the Contract Documents are to the best of the Contractor's knowledge in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. The Contractor shall promptly notify the Architect and Owner in writing, of any variance therewith, and necessary changes shall be accomplished by appropriate Modification.

§ 3.7.4 If the Contractor performs Work contrary to laws, statutes, ordinances, building codes, and rules and regulations, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

*(Paragraph deleted)*

### § 3.8 Deleted

*(Paragraphs deleted)*

### § 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Project conference meeting minutes shall constitute Owner's request in writing. The Owner shall have the right to require the Contractor

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to replace any superintendent whose performance the Owner deems to be unsatisfactory, and the Contractor's failure to do so within seven (7) days of having received written notice from the Owner as to the Superintendent's unsatisfactory performance shall constitute a breach of Article 14.2.1, thereby giving the Owner the right to terminate the Contractor's employment under this Contract.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

#### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall promptly prepare and submit for the Owner's and Architect's approval a proposed Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, but shall not extend the original completion date and shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare and keep current, for the Architect's/Owners review, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

*(Paragraph deleted)*

#### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record field changes and selections made during construction, and one record copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner in good condition upon completion of the Work and before final payment is made and shall be executed by the Contractor certifying that they have been kept in accordance with the provisions of this subparagraph and accurately reflect the construction of the Work as built.

#### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect without action.

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§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services which constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

### § 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### § 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor

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except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

### **§ 3.15 CLEANING UP**

**§ 3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

*(Paragraph deleted)*

**§3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

### **§ 3.16 ACCESS TO WORK**

The Contractor shall provide the Owner and Architect and Owner engaged Testing Agencies access to the Work in preparation and progress wherever located.

### **§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

### **§ 3.18 INDEMNIFICATION**

**§ 3.18.1** To the fullest extent permitted by law and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor. The Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to reasonable attorneys' fees and litigation expenses incurred by the Owner, and arising out of or resulting from performance of the Work, defective work, default, neglect, and or failure to perform under the Contract. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

**§ 3.18.2** In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

## **ARTICLE 4 ARCHITECT**

### **§ 4.1 GENERAL**

**§ 4.1.1** The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Engineer or the Architect's or Engineer's authorized representative.

**§ 4.1.2** Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted

**§ 4.1.3** If the employment of the Architect is terminated, the Owner shall employ a new Architect whose status under the Contract Documents shall be that of the former Architect.

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## § 4.2 ADMINISTRATION OF THE CONTRACT

*(Paragraph deleted)*

§ 4.2.1. The Architect will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the one or two year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

## § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's/Owner's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive, review for completeness and forward to the Owner, records, written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

**§ 4.2.10 Delete**

§ 4.2.11 The Architect will interpret and decide matters concerning performance under and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing with reasonable promptness

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and initial decisions, the Architect will endeavor to secure faithful performance by the Contractor

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

**ARTICLE 5 SUBCONTRACTORS**

**§ 5.1 DEFINITIONS**

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor. . Under no circumstances shall the Contractor subcontract any portion of the work under the Contract Documents to any person or entity in which the Contractor (including any officer and/or stockholder of the Contractor) has an ownership interest. Under no circumstances shall the Contractor assign or otherwise contract with another person or entity to assume the Contractor's obligations and duties as Contractor under these Contract Documents

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

**§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

§ 5.2.1 Within thirty (30) days of the award of the Contract, the Contractor shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection. Subcontractors, required to be named on the Bidding Documents, shall be used on the Work for which they are proposed, unless reasonable objection is indicated by the Owner, or the Architect.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

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§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not change a Subcontractor, person or entity previously selected without approval of the Owner.

### § 5.3 SUBCONTRACTUAL RELATIONS

§5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

- 1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2, or stoppage of the Work pursuant to Article 2.3, and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing;

*(Paragraphs deleted)*

### §5.5 PAYMENTS TO SUBCONTRACTORS

§5.5.1 The Contractor shall pay each subcontractor upon receipt of payment from the Owner, an amount equal to the percentage of completion allowed to the Contractor on account of each Subcontractor's work less the percentage retained for payments to the Contractor. The Contractor shall also require each Subcontractor to make similar payments to its Sub-subcontractors.

§5.5.2 If the Owner fails to approve a Requisition for Payment for a cause which the Owner determines is the fault of the Contractor and not the fault of a particular Subcontractor, or if the Contractor fails to make a payment which is properly due to a particular Subcontractor, the Owner may pay each Subcontractor directly less the amount to be retained under the Subcontract. Any amount so paid by the Owner shall be repaid to the Owner by the Contractor in the manner set forth in Subparagraph 2.4

§5.5.3 The Owner shall have no obligation to pay or see to the payment of any monies to any Subcontractor. Nothing contained in Article 5.5 shall be deemed to create any rights in any Subcontractor against the Owner.

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### § 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

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§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

*(Paragraph deleted)*

## § 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate contractor because of delays, improperly timed activities or defective construction of the Contractor.

§ 6.2.4 The Contractor shall promptly remedy damage caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

*(Paragraph deleted)*

## § 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall not relieve the Contractor of obligations under the contract.

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§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

## § 7.2 CHANGE ORDERS

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

- .1 The change in the Work;
- .2 an amount of the adjustment, if any, in the Contract Sum; and
- .3 the extent of an adjustment, if any, in the Contract Time.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3.

## § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

*(Paragraphs deleted)*

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

## § 7.4 CHANGE ORDERS

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

- .1 change in the Work; and/ or
- .2 an amount of the adjustment, if any, in the Contract Sum; and/or
- .3 the extent of an adjustment, if any, in the Contract Time.

§ 7.4.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3.

## § 7.5 MINOR CHANGES IN THE WORK

§ 7.5.1 The Architect with concurrence from the Owner will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the purposes of the building and the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

## ARTICLE 8 TIME

### § 8.1 DEFINITIONS

§ 8.1.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

### § 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by the Contract Documents or a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 Should the progress of the Work be delayed by any fault, neglect, act or omission of the Contractor or any person or firm employed by him or should it be necessary to complete the Work within the time permitted for the Contractor's work, the Contractor shall, at its own cost and expense, work such overtime as may be necessary to make up for all time lost and to avoid delay in completion of the Work. The Contractor shall compensate the Owner for and hold him harmless against any and all costs, expenses, reasonable attorney's fees, losses, liability, and damages that the Owner may sustain or incur by reason of such delay.

### § 8.3 DELAYS AND EXTENSIONS OF TIME

*(Paragraph deleted)*

§ 8.3.1. Requests for extension of completion time due to conditions over which the Contractor has no control, will be reviewed by the Owner after written application is made to the Architect for a time extension. Any request for any extension of time is to be made within 21 days of occurrence of conditions which, in the opinion of the Contractor

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warrant such an extension, with reasons clearly stated and detailed proof given for all delays beyond the Contractor's control. No time extension will be allowed except by written and specific approval of the Owner. Delays beyond the Contractor's control may include: an act or neglect of the Owner's own forces, Architect, any of the other Contractors, or an employee of any of them, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, or other causes beyond the Contractor's control, or by delay authorized by the Owner.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

*(Paragraph deleted)*

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

### § 9.2 SCHEDULE OF VALUES

§ 9.2.1 Before the first Requisition for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Requisitions for Payment.

### § 9.3 REQUISITION FOR PAYMENT

§ 9.3.1 The Contractor shall prepare and submit three original copies to the Architect on the 25<sup>th</sup> day of each month itemized "Requisition for Payment" (IAC PSCP Form 306.4 Standard Contractor's Requisition for Payment and such other forms as may be designated by Owner) for operations completed in accordance with the Schedule of Values for the value of the work completed or anticipated to be completed through the last day of such month, including the value of material suitably stored at the Project Site or other approved locations as provided in Subparagraph 9.3.2, less the aggregate of any previous payments and retainages and less retainages required by the Contract Documents. No change in the Contract Sum shall be made by Contractor on any Requisition for Payment without an approved Change Order. Faxed Requisitions for payment will NOT be accepted.

At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents.

*(Paragraphs deleted)*

§ 9.3.2 As provided in Section 7.3.8, such Requisitions may include requests for payment on account of changes in the Work which have been properly authorized by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.3 Such Requisitions may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.

9.3.4 Upon completion of fifty percent (50%) of the work and provided that the Contract work is on schedule and the Contractor's performance is deemed by the Owner to be satisfactory, the Owner may at his discretion decline to withhold further retainage on the remainder of the work to be billed. If Project schedules are not pursued diligently, or if the Contractor's work is at any time deemed by the Owner to be unsatisfactory, the withholding of the further retainage up to ten percent (10%) of the Contract value may be reinstated by the Owner at its discretion. If the Contractor intends to request a reduction of retainage as stated above, the Contractor must submit a request 30 days prior to invoicing the Owner for a reduction. A consent of surety to a reduction of retention along with a justification of the progress on the job in relation to the overall Project must be submitted. A complete labor and material schedule of values for all aspects of the work must also be submitted with the request for approval.

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§ 9.3.5 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site. . When the Requisition for Payment includes material or equipment stored off the Project site, the Contractor shall include with the requisition a certified statement including

1. Description of items,
2. Bill of Sale,
3. Location of storage facility and delivery receipt,
4. Items are currently covered by all contractual requirements, including liability and fire insurance,
5. Items, or any part thereof will not be installed in other construction projects other than work under this Contract.

§ 9.3.6 The Contractor warrants that title to all Work covered by a Requisition for Payment shall pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of a Requisition for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work. Contractor shall indemnify and hold Owner harmless from any liens, claims, security interests, or encumbrances claimed by Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and/or equipment relating to the Work and from all costs and expenses, including reasonable attorney's fees, incurred by Owner in connection therewith.

§ 9.3.7 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

#### § 9.3.8 Deleted

§ 9.3.9 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

### § 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Requisition for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The Architect shall endeavor to obtain approval by the Owner, and Contractor of the draft Requisition for Payment. If approval is obtained, the Architect shall notify the Owner, and Contractor, and shall issue a Project Certificate of Payment. The Contractor shall then submit five (5) copies of the agreed upon Requisition for Payment to the Architect which shall be signed by the Contractor, Owner, and Architect, and shall be notarized. If approval is not obtained of the draft Requisition for Payment, the Architect shall notify the Contractor of non-approval. The Architect shall issue a Project Certificate for Payment to the Owner with a copy to the Contractor for such amounts as the Architect, and Owner determine are properly due.. The Contractor shall then submit a Requisition for Payment pursuant to such Project Certificate for Payment, if any, in five (5) copies based on the Architect's determination. The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner,

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based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has

- (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work,
- (2) reviewed construction means, methods, techniques, sequences or procedures,
- (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or
- (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.4.3 In any event, where the Owner, and Architect do not certify payment or withhold certification to any extent, the Contractor shall nonetheless continue to perform the Work fully.

## § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

*(Paragraphs deleted)*

§9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

*(Paragraph deleted)*

## § 9.6 PROGRESS PAYMENTS

*(Paragraphs deleted)*

§ 9.6.1 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.2 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.3 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.4 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.1, 9.6.2 and 9.6.3.

§ 9.6.5 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.6 Under no circumstances shall the Contractor assign to any person or entity the Contractor's right to receive payment under the Contract Documents, unless the Contractor has received express, prior written consent of the Owner, which consent specifically identifies the identity of such assignee. Nothing contained in these Contract Documents shall require the Owner to approve such an assignment of payments by the Contractor to a third party.

§ 9.6.7 Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

#### § 9.7 FAILURE OF PAYMENT

§ 9.7.1 If the Architect should fail to issue notice of approval or disapproval within fourteen (14) days of Owner's receipt of the Contractor's draft Requisition for Payment, or if, through no fault of the Contractor, the Architect does not issue a Project Certificate for Payment within seven (14) days after receipt of the Owner's approval or disapproval of the draft Requisition for Payment, the Contractor may file a claim against the Owner for payment as provided in Article 15.

#### § 9.8 SUBSTANTIAL COMPLETION

*(Paragraph deleted)*

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use; i.e., when the Owner is granted a "Use and Occupancy Permit" by Howard County and other Authorities having jurisdiction.

§ 9.8.2 When the Architect, and Owner agree that the project has reached "Substantial Completion" as set forth in Paragraph 9.8.1 and is on schedule, and it appears that there are no complications or problems in completing the job, the retainage may be reduced to five percent (5%) at the Owner's discretion.

9.8.3 Except as stated in Paragraph 9.8.2 after the payment due the Contractor at Substantial Completion has been made by the Owner, no other payment shall be made until the Project has been fully completed and the Contract fully performed.

*(Paragraph deleted)*

§ 9.8.4 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

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§ 9.8.5 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.6 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.7 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

#### § 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

#### § 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Requisition for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect

- (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied,
- (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner,
- (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents,
- (4) consent of surety, if any, to final payment with AIA Form; and
- (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner and release of liens on the "Contractor's Affidavit of Release of Liens and Payment of Debts and Claims" AIA Form;

(6) all records, Drawings and Specifications, Addenda, Change Orders, and other modifications maintained at the site under the Subparagraph 3.11 all warranties, instructions, and maintenance manuals required.

If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien or claim. If such lien or claim remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien or claim, including all costs and reasonable attorneys' fees incurred by Owner. Final payment to the Contractor shall not become due until all close-out documents have been properly submitted to and received by the Architect through the Construction Manager and certified to the Architect and delivered by the Architect to the Owner and all warranty work has been fully completed.

**§ 9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**§ 9.10.4**

*(Paragraphs deleted)*

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**§ 9.10.5** Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Requisition for Payment.

The making of final payment shall, after the Date of Substantial Completion of the Project, constitute a waiver of all claims by the Owner except those arising from:

1. Unsettled claims,
2. Faulty or defective work appearing after Substantial Completion of work,
3. Failure of the work to comply with the requirements of the Contract Documents,
4. Terms of any special warranties required by the Contract Documents; and
5. Reasonable attorney's fees, court costs, and litigation expenses incurred by the Owner in prosecuting any such claims against the Contractor or in defending against any claims against the Owner arising out of the Contract and the work thereunder.

**ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

**§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS**

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

**§ 10.2 SAFETY OF PERSONS AND PROPERTY, INJURY OR DAMAGE TO PERSON OR PROPERTY**

**§ 10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

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§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2., except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not load or permit any part of the construction site to be loaded so as to endanger its safety or the safety of persons or property. The Contractor shall protect adjoining properties, streets, walkways, sidewalks, and paths.

10.2.8 The Contract shall protect excavation and structures from damage by rain, water, ground water, or water from any other source. The Contract shall use tarpaulins, pumps, or other temporary protection to afford protection.

10.2.9 The Contractor shall provide constant protection to maintain work, materials, apparatus, and fixtures free from injury and damage by rain, snow, wind, storms, frost, or heat and shall cover work likely to be damaged at the end of each day's work.

10.2.10 The Contractor shall remove work damaged due to failure to provide specified protection and replace such removed work at no additional cost to the Owner.

10.2.11 Material Safety Data Sheets: Contractor shall provide Material and Data Safety Sheets on all items prior to commencement of Work. The Contractor shall designate a common location on the construction site where all independent contractors or employers shall have a chemical information list before the commencement of work.

#### § 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

*(Paragraph deleted)*

#### § 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 The Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. The Contract Time shall be extended appropriately.

§ 10.3.3 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents.

*(Paragraphs deleted)*

#### § 10.4 EMERGENCIES

*(Paragraph deleted)*

§ 10.4.1 In any case of an emergency, the Contractor shall immediately notify the Architect and the Owner by the most expeditious means available, followed by a Fax, or written notice, explaining the situation and actions taken.

§ 10.4.2 Additional compensation or extension of time will not be considered or permitted for emergencies arising from delay, damage, or loss as stipulated in 8.2.4 and 10.2.5 or other applicable provisions.

### ARTICLE 11 INSURANCE AND BONDS

#### § 11.2 GENERAL INSURANCE REQUIREMENTS

§11.2.1 The Contractor shall not commence Work until the Contractor has obtained at the Contractor's own expense all of the insurance as required under this Contract and until such insurance has been approved by the Owner. The Contractor shall not allow any Subcontractor to commence work on any subcontract until all insurance required of the Subcontractor has been so obtained and approved by the Contractor. Approval of insurance required of the Contractor will be granted only after submission to the Owner of original certificates of insurance signed by authorized representatives of the insurers or, at the Owners request, certified copies of the required insurance policies. **Additionally, the Contractor must submit with the original certificates or certified policies, the enclosed Contractor's Insurance Checklist form (See Construction Insurance Check List attached to and incorporated into this Contract as Exhibit A.) completed by the Contractor and each of the Contractor's Insurance Agents or Contractor's Insurers (one form for each agent or insurer if multiple agents or insurers write the Contractor's coverages).**

§11.2.2 Insurance as required under this Contract shall be in force throughout the term of this Contract and for two years after final acceptance of the Project by Owner. Original certificated signed by authorized representatives of the insurers or, at the Owner's request, certificated copies of insurance policies, evidencing that the required insurance is in effect, shall be maintained with the Owner throughout the term of the Contract and for two years after final acceptance of the Project by Owner.

§11.2.3 The Contractor shall require all Subcontractors to maintain during the term of the Contract commercial general liability insurance, business auto liability insurance, and workers compensation and employers liability insurance and umbrella excess or excess liability insurance to the same extent required of Contractor in Sections 11.3.1.1 through 11.3.1.4 of this Contract unless any such requirement is expressly waived or amended by the Owner in writing. The Contractor shall furnish Subcontractor's certificates of insurance to the Owner immediately upon request.

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**§11.2.4** All insurance policies required under this Contract shall be endorsed to provide that the policy is not subject to cancellation, non-renewal, or material reduction in coverage until sixty (60) days prior written notice has been given to the Owner. Therefore, the phrases "endeavor to" and "...but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" are to be eliminated from the cancellation provision of standard ACORD certificates of insurance.

**§11.2.5** Acceptance and/or approval of any insurance by the Owner shall not be construed as relieving or excusing the Contractor or the Contractor's Surety from any liability or obligation imposed upon either or both of them by the provisions of this Contract or the Contract documents.

**§11.2.6** If the contractor does not meet the insurance requirements of this Contract, the Contractor shall be in default under this Contract, and all default remedies shall be available to the Owner; moreover, no Work shall commence without such insurance, and, if Work has commenced, it shall cease immediately until the insurance requirements have been met or unless the Owner orders in writing that Work shall commence with specified alternate insurance as determined in the sole and absolute discretion of the Owner and set forth in the written order to commence or return to work signed by the Owner. The Contractor may forward a written request to the Owner for a waiver in writing of the insurance requirement(s) not met or for approval in writing of alternate insurance coverage, self-insurance, or group self-insurance arrangements. If the Owner denies the request, the Contractor shall comply with the insurance requirements as specified in this Contract or be held in default under this Contract. The Owner shall have the sole and absolute discretion to grant or deny such a request for a waiver, and the Owner's decision shall be final and binding upon all parties and shall not be subject to appeal or review.

**§11.2.7** All required insurance coverages must be underwritten by insurers licensed to do business in the State of Maryland and acceptable to the Owner. The insurers must also have a policyholders' rating of "A" or better, and a financial size of "Class VII" or better in the latest evaluation by A.M. Best company, unless Owner grants specific written approval for an exception. The Owner hereby grants specific approval for the acquisition of workers compensation and employers liability insurance from the Injured Workers Insurance Fund of Maryland.

**§11.2.8** Any deductibles or retentions in excess of \$10,000 shall be disclosed by the Contractor and shall be subject to Owner's written approval. Any deductible or retention amounts elected by the Contractor or imposed by the Contractor's insurer(s) shall be the sole responsibility of the Contractor.

**§11.2.9** Any and all return premiums and/or dividends for insurance or coverage directly charged to the Owner by the Contractor in connection with this Contract shall belong to and be payable to the Owner.

**§11.2.10** If the Owner is damaged by the failure or neglect of the Contractor to purchase and maintain insurance as described and required in this Contract, then the Contractor shall be in default under this Contract, shall bear all liability for all damages incurred, and shall be subject to the remedies under Article 14.

### **§ 11.2.11 Owner's Liability Insurance**

**§11.2.11.1** Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance, or solely at the Owner's option, the Owner may self-insure the Owner's liability exposures.

### **§11. 3 Contractor's Liability Insurance**

**§ 11.3.1** The Contractor shall purchase and maintain the following insurance coverages which will insure against claims which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone, directly or indirectly, employed by any of them, or by anyone for whose acts any of them may be liable. Insurance shall be written for not less than the limits specified below or required by law, whichever is greater.

**§11.3.2** Commercial general liability insurance or its equivalent for bodily injury, personal injury and property damage including loss of use, with minimum limits of:

- \$ 1,000,000 each occurrence;
- \$ 1,000,000 personal and advertising injury;
- \$ 2,000,000 general aggregate; and

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\$ 2,000,000 products/completed operations  
aggregate.

This insurance shall include coverage for all of the following:

- i. General aggregate limit applying on a per project basis;
- ii. Liability arising from premises and operations;
- iii. Liability arising from the actions of independent contractors;
- iv. Liability arising from products and completed operations with such coverage to be maintained for two years after final acceptance of the project by the Owner;
- v. Contractual liability including protection for the Contractor from bodily injury and property damage claims arising out of liability assumed under this Contract; and
- vi. Liability arising from the explosion, collapse, or underground (XCU) hazards.

*(Paragraph deleted)*

**§11.3.3** Business auto liability insurance or its equivalent with a minimum limit of \$1,000,000 per accident and including coverage for all of the following:

- i. Liability arising out of the ownership, maintenance, or use of any auto; and
- ii. Automobile contractual liability.

**§11.3.4** Workers compensation insurance or its equivalent with statutory benefits as required by any state or Federal law, including standard "other states" coverage; employers liability insurance or its equivalent with minimum limits of:

- \$ 100,000 each accident for bodily injury by accident
- \$ 100,000 each employee for bodily injury by disease; and
- \$ 500,000 policy limit for bodily injury by disease.

*(Paragraphs deleted)*

**§11.3.5** Contractor's pollution liability insurance or its equivalent for bodily injury, property damage, including loss of use, and clean-up costs on and off the Project site, with minimum limits of:

- \$ 1,000,000 each pollution incident; and
- \$ 1,000,000 annual aggregate.

The insurance shall include coverage for all of the following:

- i. Liability arising from activities of the Contractor or of others for whom the Contractor is legally obligated whether on or off the Project site; and
- ii. Contractual liability including protection for the Contractor from claims for bodily injury, property damage, and clean-up costs arising out of liability assumed under this Contract.

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**11.3.6** Umbrella excess liability or excess liability insurance or its equivalent with minimum limits of:

- \$ 5,000,000 occurrence;
- \$ 5,000,000 aggregate for other than products/completed operations and auto liability; and
- \$ 5,000,000 products/completed operations aggregate

and including all of the following coverages on the applicable schedule of underlying insurance:

- i. Commercial general liability;
- ii. Business auto liability; and
- iii. Employer's liability.

**§11.3.7** Owner and Owner's elected and appointed officials, officers, consultants, agents and employees shall be named as additional insureds on the Contractor's commercial general liability insurance and umbrella excess or excess liability insurance policies with respect to liability arising out of the Contractor's products, installation, and/or services provided under this Contract. Such coverage shall extend to cover the additional insured(s) for liability arising out of the following:

- i. On-going operations;
- ii. Owner's general supervision of installation and/or services as provided by the Contractor and/or its agents and subcontractors pursuant to this Contract; and
- iii. Products and completed operations.

The commercial general liability policy and the umbrella excess liability or excess liability policies must include additional insured language, which shall afford liability coverage for all of the exposures listed above in i., ii., and iii., as follows:

"This policy is amended to include as insureds Owner and Owner's elected and appointed officials, officers, consultants, agents, and employees, but only for liability arising out of "your product" and "your work" for Owner by or for you."

**Special Note: ISO forms CG 2009 and CG 2010 entitled "Additional Insured – Owners, Lessees or Contractors – Scheduled Person or Organization" (previously Forms A and B respectively) and CG 2033 entitled "Additional Insured – Owners, Lessees or Contractors – Automatic Status When Required in Construction Agreement with You" are NOT ACCEPTABLE. A manuscript endorsement with the above wording is required.**

*(Paragraph deleted)*

**§ 11.3.8** Insurance or self-insurance provided to the Owner and Owner's elected and appointed officials, officers, consultants, agents and employees under the Contractor's liability insurance or self-insurance required in this Contract, including, but not limited to, umbrella and excess liability or excess liability policies, shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of insurance or self-insurance. (Any cross suits or cross liability exclusion shall be deleted from Contractor's liability insurance policies required herein.)

**§11.3.9** Any insurance or self-insurance required to be provided by the Owner and Owner's elected and appointed officials, officers, consultants, agents, and employees shall be primary, and any other insurance, self-insurance, coverage or indemnity available to the Owner and Owner's elected and appointed officials, officers, consultants, agents, and employees shall be excess of and non-contributory with insurance or self-insurance provided to the Owner and Owner's elected and appointed officials, officers, consultants, agents, and employees.

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*(Paragraph deleted)*

**§11.3.10** If any liability insurance purchased by the Contractor has been issued on a "claims made" basis, the Contractor shall comply with the following additional conditions:

- i. The Contractor shall agree to provide certificates of insurance evidencing the above coverages for a period of two years after final payment for the Contract. Such certificates shall evidence a retroactive date no later than the beginning of the Work under this Contract; or
- ii. The Contractor shall purchase an extended (minimum two years) reporting period endorsement for each such "claims made" policy in force as of the date of final acceptance of the project by the Owner and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself. Such certificate or copy of the endorsement shall evidence a retroactive date no later than the beginning of the Work under this Contract.

*(Paragraph deleted)*

**§ 11.4 Builders Risk Insurance (Owner to Purchase)**

**§ 11.4.1** The Owner shall purchase and maintain builders risk insurance on a replacement cost basis with a limit at least equal to the initial Contract Sum. This insurance shall be maintained until final acceptance of the Project by the Owner or until no person or entity other than the Owner has an insurable interest in the covered property, whichever is earlier. This builders risk insurance shall include the interests of the Owner, Subcontractors and Sub-subcontractors in the Project.

*(Paragraphs deleted)*

**§11.4.2** Insurance shall be on an "all-risk" or equivalent policy form and shall insure against the perils of fire, extended coverage, theft, vandalism, malicious mischief, collapse and windstorm. Coverage is to apply for debris removal, including demolition occasioned by a covered loss. This insurance shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such covered loss. Coverage for other perils such as flood and earthquake or for loss caused by the enforcement of any applicable ordinance or law shall not be required unless otherwise provided in the Contract.

**§ 11.4.3** This builders risk insurance shall cover all of the following types of property:

- i. All structures to be constructed, under construction, and/or already constructed;
- ii. All materials, equipment, machinery and supplies which are to be incorporated into the Project;
- iii. Temporary structures of any nature whatsoever; and
- iv. Underground property, including but not limited to, foundations, pump stations, pumps, pipes, drains, tanks and connections.

*(Paragraph deleted)*

**§11.4.4** The Contractor shall be responsible for payment of any deductibles applicable under this builders risk insurance, boiler and machinery insurance, or other property insurance applicable to the Project.

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§ 11.4.5 Unless otherwise provided in the Contract Documents, this builders risk insurance shall cover materials to be incorporated into the Project, which are either on or off the site, and also such materials in transit.

*(Paragraph deleted)*

§ 11.4.6 This builders risk insurance shall insure (or shall be amended to insure) against loss or damage caused by the boiler and machinery perils with limits and scope of coverage that are deemed by the Owner to be satisfactory. This insurance shall also include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project.

*(Paragraph deleted)*

§ 11.4.7 The Owner and Contractor waive all rights against each other and against the Construction Manager, Owner's other Contractors and own forces described in Article 6, if any, and the subcontractors, sub-subcontractors, (elected and appointed officials, officers, directors, trustees, agents, employees and consultants) of any of them for property damage to or loss of use of the Work to the extent that such property damage or loss of use is covered by this builders risk insurance, boiler and machinery insurance, or other property insurance applicable to the Work. The policies shall provide such waivers of subrogation by endorsement or otherwise.

*(Paragraph deleted)*

§ 11.4.8 Any loss covered under this builders risk insurance, boiler and machinery insurance, or other property insurance applicable to the Work shall be payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to any mortgagee clause. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

*(Paragraph deleted)*

§ 11.4.9 Owner, as fiduciary, shall have the power to adjust and settle a loss with insurers.

*(Paragraphs deleted)*

§ 11.4.10 Partial occupancy or use in accordance with the provisions of the Contract that pertain to partial occupancy or use shall not commence until the builders risk insurer has granted permission by endorsement or otherwise for the Owner to partially occupy or use any completed or partially completed portion of the Work at any stage of construction. The Owner and Contractor shall take reasonable steps to obtain such permission.

*(Paragraphs deleted)*

§ 11.4.11 The insurance required by this Paragraph 11.4 is not intended to cover machinery, tools, or equipment owned or rented by the Contractor or its Subcontractors, which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor and its Subcontractors shall, at their own expense, purchase and maintain property insurance coverage for owned, leased, or rented machinery, tools or equipment. The Contractor and its Subcontractors hereby waive all rights against the Owner and its elected and appointed

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officials, officers, agents, employees, and consultants for property damage to or loss of use of such machinery, tools, or equipment. The policies shall provide such waivers of subrogation by endorsement or otherwise.

### **§11.5 Miscellaneous Insurance**

**§11.5.1** The Contractor shall comply with the provisions of Federal law governing Social Security and with State and/or Federal laws regarding Unemployment Insurance, and all other State and/or Federal laws regarding insurance, as may be now and hereafter in force. The Contractor shall bear exclusive and sole liability for and will hold the Owner harmless against any and all demands for any required payments, taxes, or withholdings (including any interest or penalties assessed thereon) for the Contractor's (or any of its Subcontractor's) failure or refusal to comply with any such laws. Failure to comply shall be deemed a default subject to the remedies of Article 14.2.

### **§ 11.6 PERFORMANCE BOND AND PAYMENT BOND**

**§ 11.6.1** The Contractor shall furnish a Performance Bond and Labor and Materials Payment Bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder and complying with the requirements of Maryland Law. Both bonds shall be in the amount of one hundred percent (100%) of the Contract amount and shall name the Howard County Board of Education as Obligee.

#### **§ 11.6.2**

Bonds shall be written by a bonding company that must be licensed with the Maryland Insurance Administration to do business in the State of Maryland and otherwise acceptable to the Howard County Public School System. The Contractor shall use Bond Forms provided by the Owner AIA 312 Performance Bond and AIA 312 Labor and Material Payment Bond, in order to satisfy the Bond requirements referenced in this Article.

**§ 11.6.3** Firms issuing said bonds must be licensed to write bonds in the State of Maryland. The Contractor shall pay the premiums for required bonds. Obtainage of the required bonds by Contractor shall be a condition precedent to effectuation of the Contract between Owner and Contractor. If additional work is authorized, the amounts of the bonds shall be increased to cover the value of the increased Contract sum. All bonds shall conform to the requirements of the Maryland Little Miller Act. All bonds shall be subject to Owner's approval.

**§ 11.3.4** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

*(Paragraphs deleted)*

**§ 11.3.5** Owner reserves the right to request from Contractor financial statements for the Contractor for up to 3 prior fiscal years.

**§ 11.3.6** To protect the public interest the Owner will request a D & B report on the Contractor at any time during the term of the project. Should the D & B rating fall below the awarded rating, Contractor shall advise Owner of their corrective measures.

## **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

### **§ 12.1 UNCOVERING OF WORK**

**§ 12.1.1** If any portion of the Work is covered contrary to the request of the Architect, or the requirements specifically expressed in the Contract Documents, it must, if required in writing by either, the Owner or any other government agency, be uncovered for their observation and shall be replaced at the Contractor's expense without change in the Contract Time If a portion of the Work is covered contrary to the Architect's request or to requirements specifically

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expressed in the Contract Documents, it must, if required in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense.

## § 12.2 CORRECTION OF WORK

§12.2.1 Defective work shall include but not be limited to Work which may be caused by deterioration or failure to perform due to premature wear (not occasioned by abuse) or inherent defects in materials, workmanship of manufacturer or fabrication or improper execution of work

§12.2.2 Cost of correcting such rejected work also includes all contingent damages arising there from including damages to other work (whether installed by the Contractor or another) and to other property of the Owner.

§12.2.3 Such warranties as provided herein do not deprive the Owner of the Owner's right to prosecute any claim for breach of contract and/or any other claim for appropriate relief and damages.

§12.2.4 Any defective or nonconforming work during this period causing a hazard to life, safety, property, or use causing the Owner a financial loss shall be corrected immediately without regard to normal working hours. The Owner will immediately endeavor to provide telephone notice to the Contractor on the next normal working day.

§ 12.2.5 The Owner shall direct, if endeavors to contact the Contractor fail, certain telephone notification to Subcontractors in order to expedite emergency repairs. The Contractor shall not be relieved of responsibility by the procedure, and the Contractor shall supervise and direct correction of defects as required by the Contract Documents.

§12.2.6 The manufacturer of a product may be specifically mentioned as a party to a warranty. Then in such cases, it shall be the Contractor's obligation to produce the required warranty of the manufacturer and submit it to the Architect for examination and approval. Inclusion of a manufacturer as a party to a warranty does not relieve the Contractor from the requirements of the Contract Documents.

§12.2.7 Warranties on operating systems, equipment, or components placed in operation prior to Substantial Completion or acceptance shall begin on the date of Substantial Completion.

## § 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

## § 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition.

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During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

*(Paragraphs deleted)*

§ 12.2.2.4 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.2.5 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.2.6 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

#### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

### ARTICLE 13 MISCELLANEOUS PROVISIONS

#### § 13.1 GOVERNING LAW

The Contract shall be governed by the laws of the State of Maryland and shall be construed in accordance with such laws.

#### § 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

#### § 13.3 WRITTEN NOTICE

§13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

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§13.3.2 All Contractor proposals, approvals, instruction, requests, claims, demands, and other notices shall be made in writing on Contractor's stationery; meeting minutes and FAX transmissions will not be considered written notice from Contractor.

## § 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

*(Paragraph deleted)*

§13.4.2 In any claim and/or litigation filed by the Owner against the Contractor to enforce any provision of this Contract, the Owner shall be entitled to all reasonable attorney's fees, expenses, damages, litigation expenses, and court costs incurred in and/or resulting from any such claim and/or litigation. In any claim and/or litigation brought by the Contractor against the Owner and/or its agents, the Contractor shall bear the Owner's court costs, expenses, and reasonable attorney's fees incurred, unless the Court specifically determines as a matter of fact and law that the Owner, knowingly, willfully, and intentionally breached a provision of this Contract giving rise to Contractor's claim and resulting damages

§ 13.4.3 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

## § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

§ 13.6.1 No interest shall be paid by the Owner to the Contractor.

§ 13.7 TIME LIMITS ON CLAIMS, COMMENCEMENT OF STATUTORY LIMITATION PERIOD

§ 13.7.1 Contractor recognized and agrees that Owner is a governmental agency and that the statute of limitations is not applicable to claims and/or litigation filed by the Owner. Limitations as to time for filing of any claims, disputes, and/or litigation by the Contractor, or any person or entity claiming by, through, or on behalf of the Contractor, shall be as specified in Article 15.

13.8 BUY AMERICAN STEEL

§13.8.1 Contractor shall comply with the Buy American Steel Act Sections 17-301 to 17-306 of the Finance and Procurement Article of the Annotated Code of Maryland.

§13.8.2 Contractor shall be required to use or supply the domestic steel products unless the cost is unreasonable or inconsistent with the public interest.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

*(Paragraphs deleted)*

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed.

*(Paragraph deleted)*

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contractor's employment under this Contract if the Contractor:

- .1 persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents such as, but not limited to:
  - (1) Failure to maintain progress in accordance with project schedule;
  - (2) Prevents other Contractors from meeting their scheduled progress;
  - (3) Performs work in a negligent or defective manner or in a manner contrary to the Contractor Documents;
  - (4) Failure to provide and maintain the required insurance coverage and the required bonds;
  - (5) Filing of bankruptcy proceedings by or against the Contractor and/or the filing of an assignment for the benefit of Contractor's creditors; and/or
  - (6) Breach of any provision of the Contract Documents.

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§ 14.2.2 When any of the above reasons exist, the Owner, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 accept assignment of subcontracts pursuant to Section 5.4; and
- .3 finish the Work by whatever reasonable method the Owner may deem expedient.

.4 When the Owner terminated the Contractor for one of the reasons stated in Subparagraph 14.2.1 and invokes the Performance Bond to complete the Work, the surety shall not without the written consent of the Owner, retain the Contractor for the Work, and the Contractor shall not without written consent of the Owner perform any of the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. In the event the Owner elects to terminate the Contractor's employment under this Contract, the Contractor shall only be entitled to be paid for work under the Contract actually completed by the Contractor up to the date of Contractor's termination less deductions for

(1) the cost of correcting any deficient or defective work, including compensation for the Construction Manager and Architect and their respective consultants' additional services and expenses made necessary by the Contractor's defective work, default, neglect, or failure to perform under this Contract;

(2) damages incurred by the Owner as a result of the Contractor's breach, including but not limited to the costs to finish the work and damages for delay, if any, in completing the work under the Contract;

(3) actual reasonable attorney's fees incurred by the Owner in obtaining legal advice, counsel, and/or representation relating to the issues of Contractor's breach of contract, defective work, default, neglect, or failure to perform and Owner's legal options relating thereto as well as any other reasonable attorney's fees due to Owner under other provisions of this Contract; and

(4) such other amounts due and owing to Owner under the terms and conditions of the Contract documents. In the event the Contractor is terminated pursuant to Article 14.2, the Contractor shall not be entitled to any remaining funds under the Contract, except as specifically provided above and subject to the availability of funds after all work is completed.

All remaining unpaid funds in the Contract as of the date of Contractor's termination shall be the sole and exclusive property of the Owner, and the Contractor shall be paid by the Owner at the conclusion of all work under the Contract as provided above, but only to the extent that there are funds remaining after all payments have been made first to complete the work under the Contract and to compensate the Owner as provided above in the (4) enumerated deductions in this Article 14.2.3. Any funds still remaining after payment for all work and after payment of the Contractor as provided above shall be the sole and exclusive property of the Owner.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and payment of the four (4) enumerated deductions in Article 14.2.3 other damages incurred by the Owner and not expressly waived, such excess shall be the sole and exclusive property of the Owner. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor if any, for work completed by the Contractor less the deductibles provided in Paragraph 14.2.3) shall be determined by the Owner, and this obligation for payment shall survive termination of the Contract.

#### § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

*(Paragraphs deleted)*

#### § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

### ARTICLE 15 CLAIMS AND DISPUTES

#### § 15.1 CLAIMS

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor (and any person or entity claiming by, through, or on behalf of Contractor) arising out of or relating to the Contract. Claims must be initiated by written notice, on Contractor's stationary, Meeting minutes and Fax transmissions from the Contractor will not be considered written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Decision of Architect. Any claim, dispute, or other matter in question between the Contractor and the Owner shall be made in writing to the Architect except those relating to artistic effect as provided in Subparagraph 4.2.13 and those which have been waived by the making or acceptance of final payment as provided in Article 9. The Architect shall provide each party with ample opportunity to present its evidence with respect to the claim made, and the Architect shall render his decision on the claim not less than ten (10) days after the close of evidence before the Architect. The decision of the Architect may be appealed by litigation in the Circuit Court of Howard County as provided below. However, no litigation of any such claim, dispute or other matter may be made until the earlier of (1) the date on which the Architect has rendered a written decision, or (2) the eleventh day after the parties have presented their evidence to the Architect or have been given a reasonable opportunity to do so, if the Architect has not rendered a written decision by that date. With respect to all claims and/or disputes, the final written decision of the Architect shall be final and binding on the parties and on those claiming by, through, and/or on behalf of any such party, person, or entity who had the right to do so, and failed to do so, unless the final written decision of the Architect as to any such claim and/or dispute is appealed to the Circuit Court for Howard County by a party within thirty (30) days after having received the Architect's final written decision. In any such appeal of the Architect's final written decision, it shall be presumed that the Architect's decision is correct, and the Architect's decision shall be treated and regarded in the same manner in which an arbitrator's award would be treated and regarded by a Maryland court under Maryland's Uniform Arbitration Act, subject, however, to the procedural requirements specified in the Contract documents. The failure to appeal the Architect's final written decision within the aforementioned thirty (30) day period shall result in the said decision becoming final and binding on all parties as provided above. The Circuit Court for Howard County, Maryland, shall be the sole and exclusive jurisdiction for appealing any final written decision of the Architect. If the Architect renders a decision after litigation proceedings have been filed, such decision may be entered as evidence but will not supersede any litigation proceedings unless the decision is acceptable to all parties concerned.

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§ 15.1.3 Time Limits on Claims. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Architect and the other party.

§ 15.1.4 Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. Except the Owner may withhold payment to the extent reasonably necessary to secure or compensate for a claim. This Article 15.1.4 shall not apply if the Owner has terminated the Contractor's employment pursuant to

§ 15.1.5 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject to further proceedings pursuant to Section 4.4.

*(Paragraphs deleted)*

§ 15.1.6

*(Paragraphs deleted)*

Claims for Additional Cost. If the Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4

§ 15.1.7 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Section 15.1

§ 15.1.8 Claims for Additional Time

§ 15.1.8.1 If the Contractor wishes to make Claim for an increase in the Contract Time, written notice shall be made in writing to the Architect not more than twenty-one (21) days after the commencement of the delay, otherwise it shall be waived.

§ 15.1.8.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction. . In establishing the time of construction completion, the weather conditions as recorded by the National Oceanic Atmospheric Administration (NOAA) at the National Climatic Data Center, Ashville, North Carolina over the past five (5) years will be taken into consideration. No extension of time, due to weather conditions, will be considered unless accompanied by NOAA documentary evidence showing by comparison that such weather is abnormal to the statistical mean of the past five (5) years and that such abnormality caused the delay.

§ 15.1.8.3 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible,

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written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

## § 15.2 RESOLUTION OF CLAIMS AND DISPUTES

### § 15.2.1 Litigation

§ 15.2.1 Any Claim arising out of or related to the Contract. Any controversy or Claim arising out of or related to the Contract, or the breach thereof, shall be resolved finally by litigation in the Circuit Court of Howard County, Maryland, provided, however, that the provisions of this Article 15.2.1 authorizing litigation in court shall not be exercised by any party until the provisions of Article 15.1.2 shall have been complied with and exhausted. No party shall be entitled to litigate any dispute and/or claim unless and until that party has fully complied with the provisions of Article 15.1.1. The failure of any party to adhere to and comply with the provisions of Article 15.1.1 shall serve as a bar to that party's litigating a claim and/or dispute in court.

§ 15.2.2 Claims and Timely Assertion of Claims. Since the Owner is a public body, politic and corporate, its claims shall not be barred by any contractual period of limitations or by any statute of limitations. Claims by the Contractor shall be filed as provided in Article 15 (Claims and Disputes), and the time limits prescribed in Article 15 shall serve as a limitation upon filing of any and all claims and/or litigation by the Contractor and/or any person or entity claiming by, through, or on behalf of the C§15.2 Policies of Employment.

### 15.3 Policies of Employment.

*(Paragraphs deleted)*

#### §15.3.1 The Contractor shall maintain policies on employment as follows:

1. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin or age. The Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, sex, national origin, or age. Such action shall include but not be limited to the following:

Employment, upgrading demotion or transfer, recruitment or recruitment advertising layoff or termination rates or pay or other forms of compensation and selection for training including apprenticeship.

The Contractor shall post in conspicuous places available to employees and applicants for employment notices setting forth the policies of non-discrimination.

§15.3.2 The Contractor and all Subcontractors shall in all solicitations or advertisements for employees placed by them or on their behalf state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin, or age.

§15.3.3 Minority Business Enterprise (MBE) Requirements are a part of the Conditions of the Contract, including Exhibits A, B, and C included with Form of Proposal.

## ARTICLE 16 CONTRACTOR PERFORMANCE EVALUATION SCORECARD

Upon completion of a project or at any time during the project, the awarded contractor shall receive a performance evaluation scorecard rating the contractor's performance on the project. The evaluation scorecard will become part of the contractor's permanent file. A sample Contractor Performance/Evaluation Scorecard is included with the bid documents.

The evaluation scorecard shall include the following performance indicators; Quality of Work, Responsiveness, Professionalism, Resources, Schedule Management, Quality Control, Deficiency Resolution, Submittal Management, Training, Appearance, Security, Safety, Utility Conservation, Disruptions, Quality of Materials, Emergency

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Contractual Liability	yes	no
60 days notice of cancellation, nonrenewal, etc.	yes	no
Amount of Retention or Deductible		
Specify if Retention or Deductible applies per accident or claim		

**3. Workers Compensation and Employers Liability**

Insurer (precise name as per policy, not group name)		
Best's Rating and Financial Size		
Statutory benefits as required by state or Federal law	yes	no
"Other States" coverage	yes	no
Employers liability	yes	no
Each accident limit		
Each employee limit-disease		
Policy limit-disease		
60 days notice of cancellation, etc.	yes	no
Amount of Retention or Deductible		
Specify if Retention or Deductible applies per accident or claim		

**4. Contractors Pollution Liability**

Insurer (precise name as per policy, not group name)		
Best's Rating and Financial Size		
Each Pollution Incident Limit		
Annual Aggregate Limit		
Other Limit(s)		
Coverage Form:	Claims Made	Occurrence
Covers Operations of Both Contractor and Subcontractors	yes	no
Contractual Liability	yes	no
60 days notice of cancellation, nonrenewal, etc.	yes	no
Amount of Retention or Deductible		
Specify if Retention or Deductible applies per occurrence or claim		

**5. Umbrella Excess or Excess Liability**

Insurer (precise name as per policy, not group name)		
Best's Rating and Financial Size		
Coverage Form:	Umbrella and Excess	Straight Excess
Each Occurrence Limit		
General Aggregate Limit (for other than products/completed operations and auto liability)		
Products/Completed Operations Aggregate Limit		

Underlying Schedule of Insurance includes:

Commercial General Liability	yes	no
Business Auto Liability	yes	no
Employers Liability	yes	no

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Owner included as an additional insured	yes	no
Individuals related to Owner included as additional insureds	yes	no
Manuscript additional insured wording per insurance requirements	yes	no
If no, additional insured coverage extends to cover liability arising out of:		
Owner's general supervision	yes	no
Products and completed operations	yes	no
Specimen of additional insured wording attached if other than manuscript wording in the insurance requirements	yes	no
No cross suits or cross liability exclusion	yes	no
Coverage for additional insureds is primary to Owner's coverage	yes	no
60 days notice of cancellation, nonrenewal, etc.	yes	no
Amount of Retention		
Retention applies per occurrence	yes	no

**INSURANCE AGENT'S OR INSURER'S STATEMENT**

I have reviewed the Contract's insurance requirements with the contractor named below. I hereby verify the above responses.

Name of Agent or Insurer:

Agency or Insurer Name:

Authorized Signature and Date:

Phone #:

Fax #:

E-mail:

**CONTRACTOR'S STATEMENT**

If awarded the contract, I will comply with the Contract's insurance requirements. I further agree to maintain property insurance on the machinery, tools and equipment which are owned, rented or leased by my firm and which are utilized in the performance of the services rendered under this Contract.

Contractor's Name:

Authorized Signature and Date:

Phone #:

Fax #:

E-mail:

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EXHIBIT A  
CHANGE ORDER REQUEST FORMAT

PROJECT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

GENERAL CONTRACTOR: \_\_\_\_\_

SUBCONTRACTOR: \_\_\_\_\_

SUB-SUBCONTRACTOR: \_\_\_\_\_

C.O.R. ITEM OR WORK: \_\_\_\_\_

- I. DIRECT PAYROLL LESS FRINGES, INSURANCE, TAXES\*: \_\_\_\_\_
- II. FRINGES, TAX, INSURANCE BURDEN \_\_\_ % OF PAYROLL: \_\_\_\_\_
- III. TOTAL MATERIAL COSTS\*\*:
- IV. MATERIAL SALES TAX:
- V. EQUIPMENT RENTALS (ATTACH COPY OF INVOICE):
- VI. CONTRACTOR-OWNED EQUIPMENT\*\*:
- VII. PROFIT AND OVERHEARD 20% OF LINES I & III:
- VIII. 8% OF LINE V (ONLY WITH INVOICE COPY):
- IX. TOTAL ALL LINES:
- X. SUBCONTRACTORS COSTS (ATTACH BREAKDOWN):
- XI. 8% PROFIT & OVERHEAD ON SUBCONTRACTORS:
- XII. TOTAL LINES IX, X, & XI:
- XIII. BOND \_\_\_ % OF LINE XII:
- XIV. TOTAL COST OF WORK:

\*Provide Itemization of Labor Hours and Worker Classification

\*\*Provide Itemization.

Change Order Request Format is Required for each Portion of Change Order Request Submission.

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## EXHIBIT A

### DESCRIPTION

All change orders shall be submitted in the change order request format (see Exhibit A) as set forth below:

1. Attach an itemization of labor hours. A certified payroll affidavit may be required to substantiate labor rates. The cost of foreman and superintendents may be added only when the change order makes necessary the hiring of additional supervisory personnel or makes their employment for time in addition to that required by the basic contract.
2. Labor burden percentage costs shall include all fringes, taxes, insurance, liabilities, workmen's compensation, unemployment, and any additional cost associated as labor burdens. Labor burden percentage rates are subject to approval of the Owner and is not subject to profit and overhead.
3. Attach an itemization of all materials used listing unit prices and extended prices.
4. Attach an itemization of equipment used and rental rates. If equipment is a rental, attach copy of the rental invoice. Rental equipment and contractor-owned equipment costs shall include all costs associated with the equipment, i.e. transportation, set-up, gas, and oil. Rental rates shall not exceed rates established by local rental companies and "MEANS DATA" rates.
5. Profit and overhead shall be considered full reimbursement for any additional expenses caused by the change order work. The Contractor shall agree to 20% profit and overhead markup on work by his own forces and 8% profit and overhead mark up on Subcontractors work. Allowances for overhead shall include but not limited to the costs for use of, small tools and consumables; trucks and trucking costs; maintenance and/or operations of Contractor's regular established office, branch office, and other facilities; resident and/or non-actively engaged supervision; time keepers; clerk; stenographer; watchmen; cost of correspondence; increased item of warranty under the change.
6. Profit and overhead at 8% may be added to equipment which is rented.
7. Only the actual added costs of the bond may be added to the change order amount. No further markup shall be allowed.
8. Change order requests shall not be considered unless they are submitted in proper format with all required and requested supporting documentation. All portions of the change shall use the change order request format.
9. For all work to be performed by a Subcontractor/Subcontractors, the Contractor shall furnish the Subcontractors itemized proposal which shall contain original signatures by an authorized representative of the Subcontracting firm. If requested by the Owner or Architect, proposals from suppliers or other supporting data to substantiate the Contractor's or Subcontractor's cost shall be furnished.
10. On changes resulting in a credit to the Owner, the credit shall be the net cost without profit overhead and profit.
11. Change order costs shall not exceed unit pricing as provided if applicable by Contract Documents.

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Upon completion of a project or at any time during the project, the awarded contractor shall receive a performance evaluation scorecard rating the contractor's performance on the project. The evaluation scorecard will become part of the contractor's permanent file. A sample Contractor Performance/Evaluation Scorecard is included with the bid documents.

The evaluation scorecard shall include the following performance indicators; Quality of Work, Responsiveness, Professionalism, Resources, Schedule Management, Quality Control, Deficiency Resolution, Submittal Management, Training, Appearance, Security, Safety, Utility Conservation, Disruptions, Quality of Materials, Emergency Response, Hazardous Materials, Innovation, Teamwork, Cost Management, Billing, Compliance.

A contractor shall have up to 3 weeks after notification to appeal, challenge or otherwise dispute the scorecard results. After the 3-week period, the scorecard shall be considered final and accepted by the contractor.

A contractor receiving a 70% or less overall evaluation scorecard rating for a project may be disqualified for bidding on any future projects with the HCPSS for a period of three (3) years and/or for the remaining contract term including renewal options.

**Name of Contractor:** \_\_\_\_\_

**Name of Project:** \_\_\_\_\_ **Contract/Bid Number:** \_\_\_\_\_

**Reviewed by:** \_\_\_\_\_ **Department:** \_\_\_\_\_

Please take a moment to tell us about this contractor's performance. We will summarize all the information we obtain about each contractor and provide it to them. Supporting documentation shall be required to support any scores noted on the performance evaluation scorecard.

**HOW SATISFIED.** Please tell us **how satisfied** you are with the **performance** of the contractor named above. Circle a 10 if you are highly satisfied with their performance on a measure. Circle a 1 if you are highly dissatisfied with their performance on a measure. Circle a number in between to show different degrees of satisfaction. Circle **N/A** for any performance indicators that do not apply to the project. There are no right or wrong answers; just tell us how you feel.

**A contractor receiving a 70% or less overall evaluation scorecard rating for a project may be disqualified for bidding on any future projects with the HCPSS for a period of three (3) years and/or for the remaining contract term including renewal options. The contractor shall be notified of their performance status after each project.**

**Satisfaction** with the contractor's performance:

**Highly Dissatisfied** **Highly Satisfied**

- |   |                          |
|---|--------------------------|
| 1. <b>Quality of Work.</b> The contractor's ability to do the job right the first time.   | 1 2 3 4 5 6 7 8 9 10 N/A |
| 2. <b>Responsiveness.</b> The contractor's ability to adapt to changes and meet unusual needs.  | 1 2 3 4 5 6 7 8 9 10 N/A |
| 3. <b>Professionalism.</b> The courtesy and standards of conduct maintained by the contractor and his or her employees.                 | 1 2 3 4 5 6 7 8 9 10 N/A |
| 4. <b>Resources.</b> The contractor's ability to provide his or her employees with the tools, parts, and supplies needed to do the job. | 1 2 3 4 5 6 7 8 9 10 N/A |
| 5. <b>Schedule Management.</b> The contractor's ability to show up when scheduled and complete the work on time.                        | 1 2 3 4 5 6 7 8 9 10 N/A |
| 6. <b>Quality Control.</b> The contractor's ability to identify problems and deficiencies before you do.                                | 1 2 3 4 5 6 7 8 9 10 N/A |

7. <b>Deficiency Resolution.</b> The contractor's ability to rapidly correct deficiencies in his or her work.	1	2	3	4	5	6	7	8	9	10	N/A
8. <b>Submittal Management.</b> The contractor's ability to provide submittals in a timely and efficient manner.	1	2	3	4	5	6	7	8	9	10	N/A
9. <b>Training.</b> The contractor's ability to provide employees well-trained in all aspects of their jobs.	1	2	3	4	5	6	7	8	9	10	N/A
10. <b>Appearance.</b> The contractor's ability to keep uniforms, tools, and vehicles clean so as to portray a positive image.	1	2	3	4	5	6	7	8	9	10	N/A
11. <b>Security.</b> The contractor's ability to safeguard your facilities and assets.	1	2	3	4	5	6	7	8	9	10	N/A
12. <b>Safety.</b> The contractor's ability to keep the workplace safe and comply with OSHA requirements.	1	2	3	4	5	6	7	8	9	10	N/A
13. <b>Utility Conservation.</b> The contractor's ability to use only the water, gas, electricity, and air conditioning needed to do the job.	1	2	3	4	5	6	7	8	9	10	N/A
14. <b>Disruptions.</b> The contractor's ability to keep interruptions to the operations of your firm or agency to a minimum.	1	2	3	4	5	6	7	8	9	10	N/A
16. <b>Quality of Materials.</b> The contractor's ability to use high quality parts and supplies.	1	2	3	4	5	6	7	8	9	10	N/A
17. <b>Emergency Response.</b> The contractor's ability to rapidly restore normal operations after an emergency, power outage, or severe weather.	1	2	3	4	5	6	7	8	9	10	N/A
18. <b>Hazardous Materials.</b> The contractor's ability to properly handle hazardous materials.	1	2	3	4	5	6	7	8	9	10	N/A
19. <b>Innovation.</b> The contractor's ability to use new materials and adopt new methods to increase effectiveness.	1	2	3	4	5	6	7	8	9	10	N/A
20. <b>Teamwork.</b> The contractor's ability to be a team player in order to assist in accomplishing the objectives of your firm or agency.	1	2	3	4	5	6	7	8	9	10	N/A
21. <b>Cost Management.</b> The reasonableness of the contractor's costs, especially for contract changes.	1	2	3	4	5	6	7	8	9	10	N/A
22. <b>Billing.</b> The contractor's ability to present correct and properly documented invoices.	1	2	3	4	5	6	7	8	9	10	N/A
23. <b>Compliance.</b> The contractor complied with all rules, requests, regulations and requirements. This includes compliance with instructions regarding interactions with students, staff and others.	1	2	3	4	5	6	7	8	9	10	N/A



## SECTION 00730

### MINORITY BUSINESS ENTERPRISE (MBE) REQUIREMENTS

#### 1.0 PURPOSE

The purpose of the Procedures is to fulfill the intent of the law by setting goals for minority business enterprise participation in every contract that includes State funding through the Public School Construction Program. Local Educational Agencies (LEAs) shall attempt to achieve the result that a minimum of 29 percent of the total dollar value of all construction contracts is made directly or indirectly with certified minority business enterprises when State Public School Construction Program (PSCP) funds are utilized, with a minimum of 0 percent from certified African American-owned businesses, a minimum of 0 percent from certified Asian American-owned businesses, and the balance from any certified minority business enterprises. All general contractors, including certified MBE firms, when bidding as general or prime contractors are required to attempt to achieve the MBE subcontracting goals from certified MBE firms.

#### 2.0 EFFECTIVE DATE

These procedures have been adopted for use in Howard County and supersede previously utilized MBE procedures, and will take effect on or after September 18, 2008.

#### 3.0 DEFINITIONS

1. **Certification** means the determination that a legal entity is a minority business enterprise consistent with the intent of Subtitle 3 of the State Finance and Procurement Article.
2. **Certified Minority Business Enterprise** means a minority business that holds a certification issued by the Maryland State Department of Transportation (MDOT).
3. **Corporation**, as defined by MDOT, is an artificial person or legal entity created by or under the authority of the laws of any state of the United States, the District of Columbia or a territory or commonwealth of the United States and formed for the purpose of transacting business in the widest sense of that term, including not only trade and commerce, but also manufacturing, mining, banking, insurance, transportation and other forms of commercial or industry activity where the purpose of the organization is profit. For eligibility for certification, disadvantaged and/or minority individuals must own at least 51 percent of the voting stock and at least 51 percent of the aggregate of all classes of stock that have been issued by the corporation. (Note: stock held in trust is not considered as stock held by the disadvantaged businesspersons when computing the business person(s) ownership.)
4. **Managerial Control**, as defined by MDOT, means that a disadvantaged or minority owner(s) has the demonstrable ability to make independent and unilateral business decisions needed to guide the future and destiny of a business.

Control may be demonstrated in many ways. For a minority owner to demonstrate control, the following examples are put forth, but are not intended to be all inclusive:

- a. Articles of Incorporation, Corporate Bylaws, Partnership Agreements and other agreements shall be free of restrictive language which would dilute the minority owner's control thereby preventing the minority owner from making those decisions which affect the destiny of a business;
  - b. The minority owner shall be able to show clearly through production of documents the areas of the disadvantaged business owner's control, such as, but not limited to:
    - 1) Authority to sign payroll checks and letters of credit;
    - 2) Authority to negotiate and sign for insurance and/or bonds;
    - 3) Authority to negotiate for banking services, such as establishing lines of credit; and
    - 4) Authority to negotiate and sign for contracts.
  - c. Agreements for support services that do not lessen the minority owner's control of the company are permitted as long as the disadvantaged or minority business owner's authority to manage the company is not restricted or impaired.
5. **Minority Business Enterprise (MBE)** means any legal entity, except a joint venture, that is (a) organized to engage in commercial transactions, and (b) at least 51 percent owned and controlled by one or more individuals who are socially and economically disadvantaged including:
- African Americans;
  - American Indian/Native Americans;
  - Asians;
  - Hispanics;
  - Physically or mentally disabled individuals;
  - Women; or
  - A non-profit entity organized to promote the interests of physically or mentally disabled individuals.
6. **Minority Business Enterprise Liaison** means the employee of the school system designated to administer the Minority Business Enterprise Procedures for State funded public school construction projects.
7. **Operational Control**, as defined by MDOT, means that the disadvantaged or minority owner(s) must possess knowledge necessary to evaluate technical aspects of the business entity. The primary consideration in determining operational control and the extent to which the disadvantaged or minority owner(s) actually operates a business will rest upon the specialties of the industry of which the business is a part. The minority owner should have a working knowledge of the technical requirements needed to operate in his/her industry. Specifically, in the construction industry and especially among small (one to five person firms) contractors, it is reasonable to expect the disadvantaged or minority owner(s) to be knowledgeable of all aspects of the business. Accordingly, in order to clarify the level of operational involvement which a minority owner must have in a business for it to be considered eligible, the following examples are put forth, but are not intended to be all inclusive:
- a. The minority owner should have experience in the industry for which certification is being sought; and
  - b. The minority owner should demonstrate that basic decisions pertaining to the daily operations of the business are independently made. This does not necessarily preclude the disadvantaged or minority owner(s) from seeking paid or unpaid advice and assistance. It does mean that the minority owner currently



must possess the knowledge to weigh all advice given and to make an independent determination.

8. **Ownership**, as defined by MDOT, means that:
  - a. The minority owner(s) of the firm shall not be subject to any formal or informal restrictions, which limit the customary discretion of the owner(s). There shall be no restrictions through, for example, charter requirements, by-law provisions, partnership agreements, franchise or distributor agreements or any other agreements that prevent the minority owner(s), without the cooperation or vote of any non-minority, from making a business decision of the firm.
  - b. This means that the disadvantaged or minority persons, in order to acquire their ownership interests in the firm, have made real and substantial contributions of capital, expertise or other tangible personal assets derived from independently owned holdings without benefit of a transfer of assets, gift or inheritance from non-minority persons. Examples of insufficient contributions include a promise to contribute capital, a note payable to the firm or its owners who are not minority persons or the mere participation as an employee rather than as a manager. If the ownership interest held by a disadvantaged or minority person is subject to formal or informal restrictions, such as options, security interests, agreements, etc., held by a non-minority person or business entity, the options, security interests, agreements, etc., held by the non-minority person or business entity must not significantly impair the disadvantaged or minority person's ownership interest.
9. **Partnership** means an unincorporated association of two or more persons to carry on as co-owners of a business for profit. For a partnership to be deemed eligible for certification under the MDOT Program, the disadvantaged or minority person's interest must be at least 51 percent of the partnership capital.
10. **Socially and Economically Disadvantaged** means a citizen or lawfully admitted permanent resident of the United States who is socially disadvantaged and economically disadvantaged. The law establishes the level of personal net worth at \$1,500,000, above which an individual may not be found to be socially and economically disadvantaged.
11. **Sole Proprietorship**, as defined by MDOT, is a for-profit business owned and operated by a disadvantaged or minority person in his or her individual capacity. For a sole proprietorship to be deemed eligible for certification under the DBE/MBE Program, the disadvantaged or minority person must be the sole proprietor.

#### 4.0 MBE GOAL SETTING PROCEDURES

1. The MBE program requires that all race-neutral measures be considered before making use of race-based measures. Using a combination of race-neutral and race-based measures for each specific school construction project will help ensure that certified MBE firms are afforded the opportunity to submit bids and be utilized to the greatest extent possible.
2. Race-neutral measures include any action taken by the LEA to make it easier for all contractors, including MBEs, to compete successfully for public school construction project contracts.
3. Race-based measures include setting an overall MBE goal and MBE subgoals, if applicable, based upon race, gender, ethnicity, etc., for a specific project.

4. The overall MBE goal and the subgoals, if applicable, should be set for each specific project, considering but not limited to, the following factors:
  - a. The extent to which the work to be performed can reasonably be segmented to allow for MBEs to participate in the project;
  - b. A determination of the number of certified MBEs that potentially could perform the identified work;
  - c. The geographic location of the project in relationship to the identified certified MBEs;
  - d. Information obtained from other State departments/agencies related to establishing a MBE goal and/or subgoals for similar construction projects or work in the jurisdiction;
  - e. Information obtained from other State departments/agencies related to MBE participation in similar construction projects or work in the jurisdiction; and
  - f. Any other activities or information that may be identified as useful and productive.
  
5. The Superintendent or designee shall establish one or more procurement review groups (PRG). The PRG must include at a minimum the MBE liaison and the procurement officer (PO) or a representative from the procurement office. The PRG could also include a capital improvement project manager, the project architect, the cost estimator, the construction manager, and/or other individuals selected by the superintendent or designee.
  - a. The PRG should communicate and/or meet as needed to consider the MBE subcontracting goal and subgoals, if applicable, for individual projects or groups of projects.
  - b. The PRG should consider the factors cited in 4 above when establishing the MBE goal and subgoals, if applicable, for each project or segmented piece of a project that are reasonable and attainable.
  - c. The PRG must complete and submit a written analysis for each state funded school construction project with an estimated cost that is expected to exceed \$200,000.
    - i.. For state-funded projects that require review of construction documents (CD), the written analysis shall be submitted with the CD documents to the department of general services, and will be reviewed by DGS for submission, appropriate signatures, and correspondence between the goal and subgoals, if applicable, indicated in the analysis and those of the procurement documents.
    - ii. For state-funded projects that do not require review of construction documents, the written analysis shall be submitted to the public school construction program, and will be reviewed by the PSCP for submission and appropriate signatures.
    - iii. For locally funded projects that are anticipated to be requested for state approval of planning and funding, the written analysis shall be submitted with the CD documents to the Maryland state department of education, and will be reviewed by MSDE for submission, appropriate signatures, and correspondence between the goal and subgoals, if applicable, indicated in the analysis and those of the procurement documents. Submission of this document is a pre-condition for recommendation for state approval of planning and funding when submitted in an annual CIP.

- d. For projects estimated to cost between \$50,000 and \$200,000 the same analysis form is to be completed and submitted. This could be a responsibility of the PRG, but could be performed by others as well.
    - i. For state-funded projects that require review of construction documents (CD), the written analysis shall be submitted with the CD documents to the department of general services, and will be reviewed by DGS for submission, appropriate signatures, and correspondence between the goal and subgoals, if applicable, indicated in the analysis and those of the procurement documents.
    - ii. For state-funded projects that do not require review of construction documents, the written analysis shall be submitted to the public school construction program, and will be reviewed by the PSCP for submission and appropriate signatures.
  - e. If the project cost is estimated to exceed \$200,000 then a copy of the written analysis shall also be sent to GOMA at the same time that the written analysis is submitted to the DGS or the PSCP.
  - f. The PRG should consult with local counsel for the board of education as needed.
5. It is recognized that by utilizing the factors cited in 4 above, the MBE goal and/or subgoals, if applicable, for a specific project or portion thereof may be significantly higher than the overall goals of the program (29% overall, with 0% from African American-owned businesses and 0% from Asian American-owned businesses). It is also recognized and possible that there will be MBE goals set that are lower than those stated above or even that no MBE goal and/or subgoals will be set for a specific project or the segmented piece of the project.
  6. Assistance in reviewing the factors cited in 4 above and setting a goal and/or subgoals, if applicable, for specific projects or a segmented piece of a project can be obtained by contacting the Public School Construction Program and/or the Governor's Office of Minority Affairs.

## **5.0 IMPLEMENTING PROCEDURES - Over \$50,000**

For construction projects estimated to cost in excess of \$50,000, the following procedures will be utilized:

1. All advertisements, solicitations, and solicitation documents shall include the following statements:
  - a. "Certified Minority Business Enterprises are encouraged to respond to this solicitation notice."
  - b. "The contractor or supplier who provides materials, supplies, equipment and/or services for this construction project shall attempt to achieve the specific overall MBE goal of \_\_\_\_ percent established for this project. All prime contractors, including certified MBE firms, when submitting bids or proposals as general or prime contractors, are required to attempt to achieve this goal from certified MBE firms."
  - c. If subgoals have been established for this project then one of the following should be included:
    - 1) "The subgoals established for this project are \_\_\_\_ percent from African American-owned businesses and \_\_\_\_ percent from Asian American-owned businesses."

- 2) "The subgoal established for this project is \_\_\_\_ percent from African American-owned businesses."
  - 3) "The subgoal established for this project is \_\_\_\_ percent from Asian American-owned businesses."
- d. "The bidder or offeror is required to submit with its bid or proposal a completed Attachment A - Certified MBE Utilization and Fair Solicitation Affidavit and Attachment B - MBE Participation Schedule, as described in the solicitation documents.
  - e. If there is no overall MBE goal or MBE subgoals established for the project, then only 1.A. above is to be included.
2. Other Advertisement and Outreach Requirements
- a. To encourage greater MBE participation the staff of the school system should send out notices of potential projects to MBEs or solicit bids or proposals directly from minority business enterprise contractors that are certified.
  - b. A copy of the solicitation notice, preferably electronically, shall be sent to the Governor's Office of Minority Affairs at the same time the advertisement for the solicitation is released.
  - c. Upon request for a specific project, the school system shall provide one set of drawings and specifications (and addenda when issued) to minority business enterprise associations recognized by the Governor's Office of Minority Affairs. They will be available free of charge to be picked up at a location designated by the LEA. A review of the bid or proposal activity by an association's members may be initiated to justify continuation of this service.
  - d. When a pre-bid or pre-proposal conference is held, the MBE Liaison or designated representative shall explain the MBE goal and subgoals, if applicable; the MBE provisions of the solicitation; the documentation required at the time of submission; its relationship to the responsiveness of the bidder or offeror; how to complete the required attachments, particularly A, B, and C; and additional information and supporting documentation that may be required after the bid or proposal opening. All contractors who attend the pre-bid or pre-proposal conference should receive a list or information explaining how to obtain a listing of certified MBE firms who could perform the work or have expressed an interest in performing the school construction work required for the specific project in the jurisdiction.
  - e. The names of prime contractors obtaining drawings and specifications will be shared with certified MBEs and MBE associations, upon request.
  - f. The MBE liaison, in conjunction with the procurement officer or project staff, should respond to all applicable questions and concerns relating to the project's MBE requirements completely and in a timely fashion to ensure that all potential contractors and subcontractors can compete effectively.
3. All Solicitation Documents Shall Include the Following:
- a. "Certified Minority Business Enterprises are encouraged to respond to this solicitation notice".
  - b. "The contractor or supplier who provides materials, supplies, equipment and/or services for this construction project shall attempt to achieve the result that a minimum of \_\_ percent of the total contract value is with certified Minority Business Enterprises, with a minimum of \_\_ percent from certified African American-owned businesses, a minimum of \_\_ percent from certified Asian American-owned businesses, and the balance from any certified Minority Business Enterprises. All contractors, including certified MBE firms, when submitting bids or proposals as prime contractors, are required to attempt to

achieve the MBE goal and subgoals, if applicable, from certified MBEs". Note: see 6.1.C. above for variations that may be required.

- c. Each bid or offer submitted, including a submittal from a certified MBE in response to this solicitation, shall be accompanied by a completed Attachment A - Certified MBE Utilization and Fair Solicitation Affidavit and a completed Attachment B - MBE Participation Schedule. These two attachments must be accurate and consistent with each other.
  - 1) Attachment A and Attachment B shall be submitted with the sealed bid price or proposal at a place, date, and time specified in the solicitation document.
  - 2) As an alternative, and at the discretion of the school system, Attachment A could be submitted with the sealed bid price or proposal at a place, date, and time specified in the solicitation document. The sealed bids or proposals received by the time specified could be held, unopened for a maximum of 30 minutes. Within that time (30 minutes) each bidder or offeror must submit Attachment B, in a separate sealed envelope. The sealed price envelopes from each bidder or offeror who submits both the sealed bid or proposal and the envelope with Attachment B will then be opened and reviewed and recorded as a viable submission. Any contractor that fails to submit the second envelope, with Attachment B, prior to the specified time allowed (30 minutes) after the submittal of the sealed bid or proposal will be deemed non-responsive and the sealed bid or proposal will not be opened or considered.
- d. The submittal of a completed and signed Attachment A - Certified MBE Utilization and Fair Solicitation Affidavit and a completed and signed Attachment B - MBE Participation Schedule indicates the bidder's or offeror's recognition and commitment to attempt to achieve the MBE goal and/or MBE subgoals, if applicable, for the specific project.
  - 1) The bidder or offeror recognizes that their efforts made to initiate contact, to solicit, and to include MBE firms in this project will be reviewed carefully and evaluated based upon the actions taken by them prior to and up to 10 days before the bid or proposal opening. Follow-up actions taken by the bidder or offeror within the 10 days prior to the bid opening will also be considered.
  - 2) Based upon this review and evaluation it will be determined, by the MBE liaison, procurement officer, or a designated person, if a good faith effort was made by the apparent low bidder or apparent successful offeror.
- e. The bidder or offeror must check one of the three boxes on Attachment A, which relates to the level of MBE participation achieved for the project. The bidder's or offeror's signature indicates that in the event that they did not meet the MBE goal or subgoals, if applicable, that:
  - 1) They are therefore requesting a waiver, and
  - 2) Documentation of their good faith efforts will be provided to the school system staff within 10 days of being notified that they are the apparent low bidder or apparent successful offeror.
- f. The bidder or offeror must submit Attachment B (as and when described above), which lists and provides information related to each certified MBE firm that the bidder or offeror will utilize on this project. A completed and accurate Attachment B is required. All of the work specified to be performed by each MBE firm, the contact information, MDOT certification number, minority code, the dollar values, and percentages must be correct.
- g. Attachment B should be completed and submitted with all calculations utilizing the base bid or offer only. A revised Attachment B should be submitted by the

successful bidder or offeror once a determination is made as to the acceptance and/or rejection of any alternates.

- h. If a request for a waiver has been made, the appropriate box on Attachment A has been checked and the attachment signed, then the LEA should obtain and review the apparent low bidder's or successful offeror's supporting documentation of the good faith efforts to justify the granting of the waiver, prior to submitting the contract award for approval to the board of education.
- i. The following documentation shall be considered as part of the contract, and shall be furnished by the apparent low bidder or successful offeror to the MBE Liaison or designated person, within ten (10) working days from notification that the firm is the apparent low bidder or successful offeror:

- 1) A completed Attachment D - Minority Business Enterprise Subcontractor Project Participation Statement shall be completed and signed by the prime contractor and each MBE firm listed on Attachment B - MBE Participation Schedule and Attachment C - Outreach Efforts Compliance Statement shall be signed and completed by the bidder or offeror.
- 2) Notification for purposes of this procedure means the earliest of the following methods of communication: orally in person, orally by telephone, orally by a telephone message, a faxed communication, a letter by date received or an electronic communication.
- 3) The ten (10) working days do not include the day the notification is received, weekends or holidays (State or Federal), but the material submitted must be received by the close of business on the tenth day.
- 4) The requirement to submit the above-listed documentation within the time frame specified will be considered by the IAC in its review of the request for contract award for the project. Failure to submit the required documentation within the time frame specified may result in a delay of the approval of the award of the contract, or the materials being returned without the approval of the award of the contract.

#### 4. Waiver Procedures

- a. If the apparent low bidder or successful offeror has determined that they are unable to meet the overall MBE goal or subgoals, if applicable, for the project at the time of submission of a bid or offer, they must check either of the two boxes on Attachment A. The signature recognizes and acknowledges that a request for a waiver is being made. The apparent low bidder or successful offeror will therefore be required to submit information and substantiating documentation that will be reviewed to justify the granting of a waiver.
- b. If the apparent low bidder or successful offeror is unable to achieve the overall MBE contract goal and/or the MBE subgoals, if applicable, from certified African American-owned businesses and/or from certified Asian American-owned businesses, the apparent low bidder or successful offeror shall submit, within 10 working days from notification that the firm is the apparent low bidder or successful offeror, a completed Attachment C - Outreach Efforts Compliance Statement, Attachment E - Minority Subcontractors Unavailability Certificate, and Attachment F - MBE Waiver Documentation which shall include the following:
  - 1) A detailed statement of the efforts made by the bidder or offeror to identify and select portions of the work proposed to be performed by subcontractors in order to increase the likelihood of achieving the stated goal;
  - 2) A detailed statement of the efforts made by the bidder or offeror prior to and up to at least ten (10) days before the bid or proposal opening to solicit minority business enterprises through written notices that describe the categories of work for which subcontracting is being solicited, the type of

work to be performed and specific instructions on how to submit a bid or proposal;

- 3) Follow-up actions taken by the bidder or offeror within the 10 days prior to the bid or proposal opening will also be considered.
  - 4) A detailed statement of the bidder's or offeror's efforts to make personal contact with MBE firms identified for item (2) above;
  - 5) A record of the name, address, telephone number and dates contacted for each MBE identified under items (2) and (3) above;
  - 6) A description of the information provided to MBEs regarding the drawings, specifications and the anticipated time schedule for portions of the work to be performed;
  - 7) Information on activities to assist minority business enterprises to fulfill bonding requirements or to obtain a waiver of these requirements;
  - 8) Information on activities to publicize contracting opportunities to minority business enterprises, attendance at pre-bid or pre-proposal meetings or other meetings scheduled by the MBE Liaison or designated representative; and
  - 9) As to each MBE that placed a subcontract quotation or offer which the apparent low bidder or successful offeror considers not to be acceptable, a detailed statement of reasons for this conclusion.
- c. In addition to any waiver documentation the apparent low bidder or successful offeror shall submit one completed Attachment D - Minority Business Enterprise Subcontractor Project Participation statement for each MBE firm that will participate in the project consistent with the information previously provided at the time of the submission of Attachment B or the revised Attachment B.
- d. A waiver of an MBE contract goal or subgoal, if applicable, may be granted by the school system only upon receipt of Attachment C - Outreach Efforts Compliance Statement, Attachment E - Minority Subcontractors Unavailability Certificate, and Attachment F - MBE Waiver Documentation as described above in items 1) through 9)
- 1) The MBE Liaison will review and accept or reject the minority business enterprise material that is submitted, and could obtain legal advice or assistance from their attorney.
  - 2) The MBE waiver request may not be considered unless all of the documentation specified above has been submitted in a timely fashion by the apparent low bidder or successful offeror.
  - 3) Assistance in the review of a request for a waiver (the documentation and justifications) may be requested from the Public School Construction Program and/or the Governor's Office of Minority Affairs.
  - 4) If a determination is made that the apparent low bidder or successful offeror did make a good faith effort, based upon a review of the documentation submitted, then the waiver must be granted. The award of contract shall then be made. The material and information submitted, including the LEA's review and analysis notes and conclusion shall be retained in the project file.
  - 5) If a determination is made that the apparent low bidder or successful offeror did not make a good faith effort, based upon a review of the documentation submitted, then the waiver should not be granted. The material and information submitted, including the LEA's review and analysis notes and conclusion, shall be retained in the project file. The award of contract shall then be made to the next lowest bidder or offeror, who meets the contractual requirements, including the MBE requirements.
  - 6) When a waiver is granted, a copy of Attachment F - MBE Waiver Documentation, accepted and signed by a school system representative and with the reasons for the determination, shall be forwarded to the Governor's

Office of Minority Affairs and the Public School Construction Program within ten (10) days after approval of the contract award by the board of education. Failure to submit the required documentation within the time frame specified may result in delayed approval of the award of contract by the IAC.

5. All Contracts Shall Include The Following:

- a. "The contractor shall perform the contract in accordance with the representations made in Attachment A - Certified Minority Business Enterprise Utilization and Fair Solicitation Affidavit and Attachment B - MBE Participation Schedule, submitted as part of the bid or proposal".
- b. "Failure to perform the contract as specified and presented in the bid or proposal submission without prior written consent of the owner shall constitute a violation of a material term of the contract".
  - 1) The contractor shall structure his/her operations for the performance of the contract to attempt to achieve the MBE goals as stated in the solicitation document.
  - 2) The contractor agrees to use his/her best efforts to carry out these requirements consistent with the efficient and effective performance of the contract.
  - 3) The contractor must ensure that all certified MBEs shall have the maximum practical opportunity to compete for additional subcontract work under the contract, even after the award of the contract.
  - 4) The contractor shall submit monthly to the MBE Liaison or the school system's designated representative a report listing any unpaid invoices, over 30 days old, received from any certified MBE subcontractor, the amount of each invoice and the reason payment has not been made.
  - 5) The contractor shall included in its agreements with its certified MBE subcontractors, a requirement that those subcontractors submit monthly to the MBE Liaison or appropriate representative a report that identifies the prime contract and lists all payments received from the contractor in the preceding 30 days, as well as any outstanding invoices, and the amount of those invoices.
  - 6) The contractor shall cooperate in any reviews of the contractor's procedures and practices with respect to minority business enterprises, which the MBE Liaison, the Public School Construction Program, and/or the Governor's Office of Minority Affairs may, from time to time, conduct.
  - 7) The contractor shall maintain such records as are necessary to confirm compliance with its MBE participation obligations. These records must indicate the identity of certified minority and non-minority subcontractors employed on the contract, the type of work performed by each, and the actual dollar value of work performed. Subcontract agreements documenting the work performed by all MBE participants must be retained by the contractor and furnished to the MBE Liaison and or appropriate representative on request.
  - 8) All records concerning MBE participation must be retained by the contractor for a period of five years after final completion of the contract, and will be available for inspection by the MBE Liaison, representatives from the Public School Construction Program and/or other designated official entities.
  - 9) At the option of the MBE Liaison or appropriate agency representative, upon completion of the contract and before final payment and/or release of retainage, the contractor shall submit a final report in affidavit form and under penalty of perjury, of all payments made to, or withheld from MBE subcontractors.



- 10) If at any time after submission of a bid or proposal and before execution of a contract, the apparent successful bidder or offeror determines that a certified MBE listed on Attachment B - MBE Participation Schedule has become or will become unavailable, then the apparent successful bidder or offeror shall immediately notify the procurement officer and provide such officer with a reason(s) why the change has occurred. Any desired change in Attachment B - MBE Participation Schedule shall be approved in advance by the procurement officer and shall indicate the contractor's efforts to substitute another certified MBE subcontractor to perform the work. Desired changes occurring after the date of contract execution may occur only upon written approval by the LEA.
- 11) A business that presents itself as a minority business may participate in a project but the contract value may not be counted toward the MBE goal or subgoals, if applicable, until the business is certified by MDOT. If it is not certified at the time of contract award it may not be counted toward the goal or subgoals, if applicable, at that time. Only the funds paid after MDOT certification can be counted toward meeting the MBE goal or subgoals, if applicable. If a certified MBE fails to meet the standards specified in State Finance and Procurement Article.14-301, Annotated Code of Maryland, the payments made to the MBE can be recorded and counted under a contract entered into when the MBE was eligible and certified. Ineligibility of an MBE to participate in the MBE program may not be the sole cause of the termination of the MBE contractual relationship for the remainder of the term of the contract.
- 12) Contractors are encouraged to seek additional MBE participation in their contracts during the life of the project. Any additional MBE participation from certified MBEs should be reported to the MBE liaison and should be included in subsequent monthly requisitions for payment.
- 13) The contractor shall complete the Standard Monthly Contractor's Requisition for Payment (IAC/PSCP Form 306.4), specifically page 3 of 16, *Minority Business Enterprise Participation*, with each requisition submitted for payment. This submittal should accurately reflect the payments to be made that month to MBEs, and the cumulative total for the period specified. Any and all MBE firms that are identified on Attachment B – MBE Participation Schedule should be included on page 3 of the first and all subsequent requisitions for payment. Any MBEs identified during the life of the project should be added as soon as the contractor engages them.
- 14) At the completion of the project the contractor shall prepare a written summary of the final certified MBE participation in the contract as compared to the proposed participation at the time of contract award. This should include the name of each certified MBE, the amount that was anticipated to be paid at the time of contract award, the amount actually paid, and an explanation of any differences that have occurred. Special attention should be given to any situations where the final payments to any MBE was below the level of commitment at the time of contract award.

#### 6. Projects Utilizing a Construction Manager Delivery Method

This section of the procedure has been prepared based upon the utilization of Construction Manager Agency method of delivery. If another alternative method of project delivery is being considered, then these procedures would need to be adapted in consultation with the PSCP before proceeding.

- a. For projects that are being designed and solicited utilizing a Construction Manager Agency delivery method with multiple prime contracts, the school

system can structure its procedures to attain the overall MBE goal and subgoals, if applicable, for the project as presented below:

- b. The MBE liaison and other school system staff should work with the project's construction manager, cost estimator, and architect, along with any other individuals who could provide assistance, to determine the overall MBE utilization strategy for the work required, appropriate bid packages, and an appropriate overall MBE goal and subgoals, if applicable, for each specific bid or proposal package.
- c. The overall MBE goal and subgoals, if applicable, for the project shall represent the aggregate of the individual goals and subgoals, if applicable, set for each bid or proposal package.
- d. In setting the specific goals and subgoals, if applicable, for each solicitation package consideration should be given to the potential for MBE participation to the maximum extent possible. The information and procedures provided in section 4.0 MBE Goal Setting Procedures should be consulted and followed for these types of projects.
- e. Prior to submitting the construction documents for State review and authorization to solicit bids or proposals, the school system's representative will prepare a complete list of the individual solicitation packages and indicate the MBE goal and subgoals, if applicable, for each solicitation package. This would include the overall MBE goal and subgoals, if applicable, established in the solicitation documents, the estimated cost for each solicitation package, and the estimated MBE dollar amounts for each solicitation package. A copy of this list should be submitted with the construction documents. The list should be retained as a record by the school system for comparison to the actual contracts awarded with MBE participation, and the final actual MBE participation at the completion of the project.
- f. Contractors submitting bids or proposals for solicitation packages that do not include a MBE goal and subgoals, if applicable, would not be required to submit any of the MBE attachments that are otherwise required nor would they be required to indicate that they are requesting a waiver. The school system representative would, however, request information from the contractor at the completion of the project to determine if any certified MBE firms had participated in the contract.
- g. All other submittals of MBE materials and reporting requirements are applicable for the project, including the submittal of attachments a and b as described above in section 6.0. this includes the documentation for a request for a waiver, if applicable and appropriate.

## **6.0 RECORDS AND REPORTS**

1. The MBE Liaison shall maintain such records as are necessary to confirm compliance with its Minority Business Enterprise Procedures and activities. The records shall be maintained until the project is audited by the Public School Construction Program. These records shall include by project:
  - a. The contractor report submitted at the completion of the project;
  - b. The identity of the minority contractors employed on the project;
  - c. The type of work performed;
  - d. The actual dollar value of the work, services, supplies or equipment; and
  - e. The MBE percentage of the total contract.
2. The MBE Liaison will maintain a record of all waivers approved for each project or solicitation package where the prime contractor was unable to achieve the established overall goal or subgoals, if applicable. The MBE Liaison will, however, report to the PSCP all MBE participation by MDOT certified firms who are prime

contractors, subcontractors, suppliers, or otherwise making an economically viable contribution to each project. This information shall be reported to PSCP within ten (10) days after approval of the award of the contract by the board of education.

3. The LEA shall submit the "Certified Minority Business Enterprise Participation Standard Monthly Contractor's Requisition for Payment" (IAC/PSCP Form 306.4 page 3 of 16, located in the Administrative Procedures Guide), which is Attachment G in this procedure, to the PSCP Director of Fiscal Services as part of the regular monthly request for payment for the project.
4. The LEA shall submit the "Close-Out Cost Summary" (IAC/PSCP Form 306.6 located in the Administrative Procedures Guide), which is Attachment H of this procedure, along with the "Certified Minority Business Enterprise Participation Standard Monthly Contractor's Requisition for Payment" (IAC/PSCP Form 306.4) to the PSCP Director of Fiscal Services within 180 days of completion of the project.
5. Each fiscal year end, PSCP Fiscal Services will create a report "Payments Made To Contractors during The Fiscal Year" and maintain such records as are necessary to confirm compliance with its minority business enterprise procedures and activities.
6. Each fiscal year end, PSCP Fiscal Services will create a report "Projects Completed During the Fiscal Year" and maintain such records as are necessary to confirm compliance with its Minority Business Enterprise Procedures and activities. This report will compare the overall MBE goal and subgoals, if applicable, for each specific project with the MBE participation anticipated at the time of contract award and the actual MBE participation at the completion of the project.

## **7.0 MONITORING**

1. The LEA's procurement personnel or project staff shall verify that the certified MBE's listed in the MBE participation schedule are actually performing the work.
2. The LEA's procurement personnel shall ensure that MBE subcontractors are receiving compensation as set forth in the MBE participation schedule by ensuring that the contractor submits monthly reports, listing any unpaid invoices over 30 days old received from any certified MBE subcontractor, the amount of each invoice, and the reason payment has not been made.
3. The MBE Liaison and/or the Public School Construction Program will conduct reviews as deemed necessary to confirm compliance with the minority business enterprise participation requirements.
4. The MBE Liaison will maintain appropriate records, and shall assist the Public School Construction Program in on-site or post-audit reviews upon request.
5. Auditors from the Public School Construction Program will have access to and the ability to audit MBE participation for specific projects, information retained by the LEA, and/or submitted to the IAC in reports/forms filed by the LEA as referenced above.

**Attachment A (page 1 of 2)**

**CERTIFIED MINORITY BUSINESS ENTERPRISE  
UTILIZATION AND FAIR SOLICITATION AFFIDAVIT**

***NOTE: You must include this document with your bid or offer. If you do not submit the form with your bid or offer, the procurement officer shall deem your bid non-responsive or your offer not reasonably susceptible of being selected for award.***

\* \* \* \* \*

**Part I.**

I acknowledge the:

- Overall certified MBE subcontract participation goal of 29%. and
- The subgoals, if applicable, of:
  - \_\_\_\_\_ % for certified African American-owned businesses and
  - \_\_\_\_\_ % for certified Women-owned businesses.

I have made a good-faith effort to achieve this goal. If awarded the contract, I will continue to attempt to increase MBE participation during the project.

**Part II.**

Check ONE Box

**NOTE: FAILURE TO CHECK ONE OF BOXES 1, 2, or 3 BELOW WILL RENDER A BID NON-RESPONSIVE OR AN OFFER NOT REASONABLY SUSCEPTIBLE OF BEING SELECTED FOR AWARD**

**NOTE: INCONSISTENCY BETWEEN THE ASSERTIONS ON THIS FORM AND THE INFORMATION PROVIDED ON THE *MBE PARTICIPATION SCHEDULE* (ATTACHMENT B) MAY RENDER A BID NON-RESPONSIVE OR AN OFFER NOT REASONABLY SUSCEPTIBLE OF BEING SELECTED FOR AWARD**

- 1  I have met the overall MBE goal and MBE subgoals for this project. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B], which details how I will reach that goal.
- or**
- 2  After having made a good-faith effort to achieve the overall MBE goal and MBE subgoals for this project, I can achieve partial success only. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B], which details the MBE participation I have achieved.

I request a partial waiver as follows:

- Waiver of overall MBE subcontract participation goal: \_\_\_\_\_ %
- Waiver of MBE subcontract participation subgoals, if applicable:
  - \_\_\_\_\_ % for certified African American-owned businesses and
  - \_\_\_\_\_ % for certified Woman-owned businesses.

Within 10 days of being informed that I am the apparent awardee, I will submit *MBE Waiver Documentation* [Attachment F] (with supporting documentation).

or

- 3  After having made a good faith effort to achieve the overall MBE goal and MBE subgoals for this project, I am unable to achieve any portion of the goal or subgoals. I submit with this Affidavit [Attachment A] the *MBE Participation Schedule* [Attachment B].

I request a full waiver.

Within 10 days of being informed that I am the apparent awardee, I will submit *MBE Waiver Documentation* [Attachment F] (with supporting documentation).

### Part III.

I understand that if I am the apparent awardee or conditional awardee, I must submit **within 10 working days** after receiving notice of the potential award or within 10 days after the date of conditional award – whichever is earlier – the:

- *Outreach Efforts Compliance Statement* (Attachment C)
- *Subcontractor Project Participation Statement* (Attachment D)
- *Minority Subcontractors Unavailability Certificate* (Attachment E) (if applicable)
- Any other documentation the Procurement Officer requires to ascertain my responsibility in connection with the MBE participation goal and subgoals

I acknowledge that if I fail to timely return complete documents, the Procurement Officer may determine that I am not responsible and therefore not eligible for contract award. If the contract has been awarded, the award is voidable.

I acknowledge that the MBE subcontractors/suppliers listed in the *MBE Participation Schedule* and any additional MBE subcontractor/suppliers identified in the *Subcontractor Project Participation Statement* will be used to accomplish the percentage of MBE participation that I intend to achieve.

In the solicitation of subcontract quotations or offers, MBE subcontractors were provided the same information and amount of time to respond as were non-MBE subcontractors.

The solicitation process was conducted in such a manner so as to not place MBE subcontractors at a competitive disadvantage to non-MBE subcontractors.

**I solemnly affirm under the penalties of perjury that this Affidavit is true to the best of my knowledge, information, and belief.**

\_\_\_\_\_  
Bidder/Offeror Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address (continued)

\_\_\_\_\_  
Affiant Signature

\_\_\_\_\_  
Printed Name & Title

\_\_\_\_\_  
Date

October 2017

1. Prime Contractor's Name	2. Prime Contractor's Address/Telephone Number
3. Project/School Name	4. Project/School Location
5. LEA Name: PSC Number:	6. Base Bid Amount \$ _____ Acceptance Alternates \$ _____ Total \$ _____

7a.  
 Minority Firm Name: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

7b.  
 Minority Firm Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

7c.  
 Minority Firm Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
 Minority Firm Address: \_\_\_\_\_ NAICS Code: \_\_\_\_\_  
 MDOT Firm Certification Number: \_\_\_\_\_  
 African American  Asian American  Native American  Women  Hispanic  Disabled

Subcontractor Firm (Select One)	Allowable Percentage	Percentage of Total Contract	Subcontractor Dollar Amount	Participation Amount
MDOT Certified Firm	100%		\$ _____	\$ _____
MDOT Certified Prime Contractor	50% of established goal OR		\$ _____	\$ _____
	100% of one subgroup contract subgoal			
MDOT Certified Supplier, Wholesaler and Regular Dealer	60%		\$ _____	\$ _____

8. MBE Total Amount	9. Total MBE Percent of Entire Contract
---------------------	---

10. Form Prepared by: Name: _____ Title: _____ Date: _____	11. Reviewed and Accepted by Board of Edu. MBE Liaison Name: _____ Title: _____ Date: _____
---	--

Total MBE Participation: \$ \_\_\_\_\_ %  
 Total African-American Participation: \$ \_\_\_\_\_ %  
 Total Women Owned MBE Participation: \$ \_\_\_\_\_ %  
 Total Other Participation: \$ \_\_\_\_\_ %

## Outreach Efforts Compliance Statement

**\*\*Complete and submit this form within 10 business days of notification of apparent award  
\*\***

In conjunction with the bid or offer submitted in response to the solicitation for <<*project name*>> / <<*Solicitation No.*>>, I affirm the following:

1. Bidder/Offeror identified opportunities to subcontract in these specific work categories (extend list as needed):
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  - f. \_\_\_\_\_
  
2. Attached to this form are copies of written solicitations (with bidding instructions) used to solicit certified MBEs for these subcontract opportunities.
  
3. Bidder/Offeror made the following attempts to contact personally the solicited certified MBEs (extend list as needed):
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  
4. Select ONE of the following:
  - a.  This contract does not involve bonding requirements.

**OR**

  - b.  Bidder/Offeror assisted certified MBEs to fulfill or seek waiver of bonding requirements (*describe efforts*).
  
5. Select ONE of the following:
  - a.  Bidder/Offeror did/did not attend the pre-bid/proposal conference.

**OR**

  - b.  No pre-bid/proposal conference was held.

\_\_\_\_\_  
Bidder/Offeror Printed Name

By: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attachment D

MINORITY BUSINESS ENTERPRISES SUBCONTRACTOR PROJECT PARTICIPATION STATEMENT

PROJECT/ SCHOOL NAME: \_\_\_\_\_

PROJECT/ SCHOOL LOCATION: \_\_\_\_\_

LEA: \_\_\_\_\_

NAME OF PRIME CONTRACTOR: \_\_\_\_\_

NAME OF MBE SUBCONTRACTOR: \_\_\_\_\_

MDOT Certification Number

NAICS Code

1. Work/Services to be performed by MBE Subcontractor: \_\_\_\_\_

2. Subcontract Amount: \$ \_\_\_\_\_ Participation Amount \$ \_\_\_\_\_

3. Bonds - Amount and type required of Subcontractor if any: \_\_\_\_\_

4. MBE Anticipated or Actual Commencement Date: \_\_\_\_\_ Completion Date: \_\_\_\_\_

5. This MBE subcontract represents the following percentage of the total contract cost: \_\_\_\_\_

6. This is an African American Firm: Yes \_\_\_\_\_ No \_\_\_\_\_

7. This is an Asian American Firm: Yes \_\_\_\_\_ No \_\_\_\_\_

8. This is a Native American, Hispanic or Disabled Firm: Yes \_\_\_\_\_ No \_\_\_\_\_

(Circle One)

\*\*\*\*\*

The undersigned subcontractor and prime contractor will enter into a contract for the work/service indicated above upon the prime contractor's execution of a contract for the above referenced project with the Board of Education. The undersigned subcontractor is a MDOT certified Minority Business Enterprise. The terms and conditions stated above are consistent with our agreements.

Signature of Subcontractor: \_\_\_\_\_

Date: \_\_\_\_\_

The term and conditions stated above are consistent with our agreements.

Signature of Prime Contractor: \_\_\_\_\_

Date: \_\_\_\_\_



# MINORITY SUBCONTRACTOR UNAVAILABILITY CERTIFICATE

1. It is hereby certified that the firm of \_\_\_\_\_  
(Name of Minority firm)

located at \_\_\_\_\_  
(Number) (Street)  
 \_\_\_\_\_  
(City) (State) (Zip)

was offered an opportunity to bid on the \_\_\_\_\_ school project  
 in \_\_\_\_\_ County by \_\_\_\_\_  
(Name of Prime Contractor's Firm)

\*\*\*\*\*

2. \_\_\_\_\_ (Minority Firm), is either unavailable for the  
 work/service or unable to prepare a bid for this project for the following reason(s):

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

Signature of Minority Firm's MBE Representative	Title	Date
MDOT Certification #	Telephone #	

.....

3. To be completed by the prime contractor if Section 2 of this form is not completed by the minority firm.  
 To the best of my knowledge and belief, said Certified Minority Business Enterprise is either unavailable for the work/service for this project, is unable to prepare a bid, or did not respond to a request for a price proposal and has not completed the above portion of this submittal.

Signature of Prime Contractor	Title	Date
-------------------------------	-------	------

**Attachment F**

**MBE WAIVER DOCUMENTATION**

**Project Name:** \_\_\_\_\_ **PSC No.** \_\_\_\_\_

**Base Contract Amount** \$ \_\_\_\_\_

**Plus Accepted Alternates** \$ \_\_\_\_\_

**Equals Total Contract Amount** \$ \_\_\_\_\_

I have previously requested that a waiver be granted to the overall MBE goal for this project of \_\_\_\_ percent, with a minimum of \_\_\_\_ percent from certified African American-owned businesses, a minimum of \_\_\_\_ percent from certified Asian American-owned businesses, and the balance from all certified minority business enterprises, if applicable. This would include the total dollar value of all materials, supplies, equipment, and services, including construction services directly or indirectly, from Minority Business Enterprises (MBE) which are currently certified by the Maryland Department of Transportation (MDOT).

**I** \_\_\_\_\_, hereby certify that my position is  
(Name of Company Representative)

\_\_\_\_\_, and I am the duly authorized representative of  
(Position Title)

\_\_\_\_\_.  
(Company Name)

I further certify that I have submitted a *Schedule for Participation of Certified Minority Business Enterprises* which reflects the percentage and dollar value of certified Minority Business Enterprise participation which my company expects to achieve for this contract. Therefore, the request for the waiver is as follows:

**Summary MBE Participation Schedule from Attachment B**

Minority Group	MBE GOAL		Actual MBE Participation		Request For Waiver	
	Dollar Value of Total Contract*	Percent of Total Contract	Dollar Value	Percent of Total Contract	Dollar Value	Percent of Total Contract
a. Sub Goal African American						
b. Sub Goal Asian American						
c. Other * in Sub Goal group a/b above						
<b>TOTALS</b>						

\* with accepted/rejected alternates

To support this request for a waiver, I include the following information as attachments which I certify to be true to the best of my knowledge.

1. A detailed statement of the efforts made by the contractor to identify and select portions of the work proposed to be performed by subcontractors in order to increase the likelihood of achieving the stated goal;
2. A detailed statement of the efforts made by the contractor prior to and up to 10 days before the bid opening to solicit minority business enterprises through written notices that describe the categories of work for which subcontracting is being solicited, the type of work to be performed, and specific instructions on how to submit a bid;
3. A detailed statement of the contractor's efforts to make personal contact with MBE firms identified for Item 2. above;
4. A record of the name, address, telephone number, and dates contacted for each MBE identified under items 2. and 3. above;
5. A description of the information provided to MBE's regarding the plans, specifications and the anticipated time schedule for portions of the work to be performed;
6. Information on activities to assist minority business enterprises to fulfill bonding requirements, or to obtain a waiver of these requirements;
7. Information on activities to publicize contracting opportunities to minority business enterprises, attendance at pre-bid meetings, or other meetings scheduled by the MBE Liaison or designated representative;
8. As to each MBE that placed a subcontract quotation or offer which the apparent low bidder or successful offeror considers not to be acceptable, a detailed statement of reasons for this conclusion; and
9. A list of minority subcontractors found to be unavailable. This shall be accompanied by a Minority Subcontractor Unavailability Certificate signed by the minority business enterprise or from the apparent low bidder or successful offeror indicating that the minority business did not provide the written certification.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Company Representative Name)

Sworn and subscribed before me this \_\_\_\_\_ day.  
of \_\_\_\_\_ in the year \_\_\_\_\_ Notary Public \_\_\_\_\_

-----

Reviewed and accepted by the \_\_\_\_\_ County Board of Education MBE  
Liaison.  
(County Name)

Signature \_\_\_\_\_ Date \_\_\_\_\_  
(County Representative Name)

MBE Request For Waiver Master Form (July 2002)



# CERTIFIED MINORITY BUSINESS ENTERPRISE PARTICIPATION STANDARD MONTHLY CONTRACTOR'S REQUISITION FOR PAYMENT

## Instructions for Completion of IAC/PSCP Form 306.4 Page 3

### THIS FORM TO BE COMPLETED BY PRIME CONTRACTOR ONLY

1. **LEA** – Enter full name of LEA.
2. **Facility Name** – Enter full name of school/facility.
3. **Scope of Work** – Enter type of work being performed (i.e. New, Renovation, Roof, HVAC, ASP – Flooring, QZAB – Media Center, etc.).
4. **Date** – Date of Requisition.
5. **PSC NO** – Enter full PSC Number as assigned by PSCP.
6. **REQ NO** – Enter the number of the corresponding Requisition for Payment.
7. **Name of MBE Sub-Contractor** – Enter full name of MBE Sub-Contractor.
8. **MDOT Certification Number & Classification** – Enter the 5 digit MDOT Certification number and corresponding MDOT Classification for each MBE Sub-Contractor. MDOT Classifications and the MDOT website are listed at the bottom of this form.
9. **TOTAL MBE Contract Amount** – Enter ORIGINAL Total MBE Contract Amount as stated on MBE Attachments B and D. This amount should NOT be altered with change order amounts, changes to scope of work, etc. which may affect contract amount.
10. **Amount to be Paid This Requisition** – Enter the amount to be paid to the MBE Sub-Contractor for work applicable to this requisition.
11. **TOTAL Paid to Date** – Enter the TOTAL amount paid to date to the MBE Sub-Contractor – this amount should NOT include the amount being paid on this requisition, only the total of prior payments.
12. **MBE has Received FINAL Payment** – Enter “YES” if the MBE Sub-Contractor has been paid in full. Enter “NO” if the MBE Sub-Contractor has NOT been paid in full.
13. **If amount paid is LESS than TOTAL MBE Contract Amount, EXPLAIN VARIANCE** – Enter a brief reason for the MBE Sub-Contractor NOT being paid equal to or greater than the ORIGINAL Total MBE Contract Amount as stated on this form and MBE Attachments B & D. Additional documentation may be required to be submitted for variance explanations.
14. **Name of Contractor Firm** – Enter full name of Prime Contractor.
15. **Authorized Contractor Signature/Date** – The authorized individual employed by the Prime Contractor who filled this form out should date and sign here.
16. **Contractor Federal Tax ID #** – Enter the Federal Tax ID Number of the Prime Contractor.
17. **Contractor MBE Classification #** - Enter the MDOT MBE Classification Number if the Prime Contractor is a MDOT certified MBE Company.
18. **Name of LEA MBE Liaison** – PRINT the name of the LEA MBE Liaison (or other LEA authorized employee) responsible for VERIFYING ALL INFORMATION filled out by the Prime Contractor on this form.
19. **Signature of LEA MBE Liaison/Date** – Signature of the person VERIFYING ALL INFORMATION filled out by the Prime Contractor on this form (signature of person stated in Step #18.)

## INFORMATIONAL WAGE RATES

The wage rates listed below are published by the State of Maryland, Division of Labor and Industry, Prevailing Wage Unit.

The wage rates posted on this site are provided for **informational** purposes ONLY.

The wage and fringe rates may change between the time of issuance of the wage determinations and the award of the public works contract. Therefore, prior to the award of the public works contract, verification must be made with the public body, to insure that the rates contained in this determination are still prevailing.

These **Informational Prevailing Wage Rates** may not be substituted for the requirements of pre-advertisement for bids or onsite job posting for a public work contract that exceeds \$250,000 in value and either of the following criteria are met: (1) the contracting body is a unit of State government or an instrumentality of the State and there is any State funding for the project; or (2) the contracting body is a political subdivision, agency, person or entity (such as a county) and the State funds 25% or more of the project.

HOWARD COUNTY	BUILDING CONSTRUCTION				Print Date Sep 27, 2022
CLASSIFICATION	MODIFICATION REASON	BASIC HOURLY RATE	BORROWED FROM	FRINGE BENEFIT PAYMENT	
BALANCING TECHNICIAN	AD	\$28.60		\$8.64	
BRICKLAYER	AD	\$34.00		\$12.84	
CARPENTER	AD	\$30.34		\$13.96	
CARPENTER - SHORING SCAFFOLD BUILDER	AD	\$30.34		\$13.96	
CARPET LAYER	AD	\$30.71		\$13.87	
CEMENT MASON	AD	\$25.00	005	\$7.35	
COMMUNICATION INSTALLER TECHNICIAN	AD	\$21.75	005	\$1.09	
DRYWALL - SPACKLING, TAPING, & FINISHING	AD	\$30.34		\$13.96	
ELECTRICIAN	AD	\$40.50		\$18.55	
ELEVATOR MECHANIC	AD	\$50.04		\$36.36	
FIREPROOFER - SPRAYER	AD	\$31.89	005	\$0.00	
FIRESTOPPER	AD	\$29.41		\$8.98	
GLAZIER	AD	\$38.87	003	\$12.70	
INSULATION WORKER	AD	\$39.27		\$18.92	
IRONWORKER - FENCE ERECTOR	AD	\$27.44	510	\$9.42	
IRONWORKER - ORNAMENTAL	AD	\$30.77		\$23.16	
IRONWORKER - REINFORCING	AD	\$29.20	003	\$23.17	
IRONWORKER - STRUCTURAL	AD	\$30.77		\$23.16	
LABORER - AIR TOOL OPERATOR	AD	\$19.72		\$6.14	
LABORER - ASPHALT PAVER	AD	\$19.72		\$6.14	
LABORER - ASPHALT RAKER	AD	\$20.10		\$6.14	
LABORER - BLASTER - DYNAMITE	AD	\$19.72		\$6.14	
LABORER - BURNER	AD	\$19.72		\$6.14	
LABORER - COMMON	AD	\$20.10		\$6.14	
LABORER - CONCRETE PUDDLER	AD	\$20.10		\$6.14	
LABORER - CONCRETE SURFACER	AD	\$19.72		\$6.14	
LABORER - CONCRETE TENDER	AD	\$20.10		\$6.14	
LABORER - CONCRETE VIBRATOR	AD	\$20.10		\$6.14	
LABORER - DENSITY GAUGE	AD	\$20.10		\$6.14	
LABORER - FIREPROOFER - MIXER	AD	\$20.10		\$6.14	
LABORER - FLAGGER	AD	\$20.10		\$6.14	

LABORER - GRADE CHECKER	AD	\$20.10		\$6.14
LABORER - HAND ROLLER	AD	\$20.10		\$6.14
LABORER - HAZARDOUS MATERIAL HANDLER	AD	\$19.72		\$6.14
LABORER - JACKHAMMER	AD	\$20.10		\$6.14
LABORER - LANDSCAPING	AD	\$20.10		\$6.14
LABORER - LAYOUT	AD	\$20.10		\$6.14
LABORER - LUTEMAN	AD	\$20.10		\$6.14
LABORER - MASON TENDER	AD	\$19.72		\$6.14
LABORER - MORTAR MIXER	AD	\$20.10		\$6.14
LABORER - PIPELAYER	AD	\$19.72		\$6.14
LABORER - PLASTERER - HANDLER	AD	\$20.10		\$6.14
LABORER - SCAFFOLD BUILDER	AD	\$19.72		\$6.14
LABORER - TAMPER	AD	\$20.10		\$6.14
MILLWRIGHT	AD	\$33.65		\$17.16
PAINTER	AD	\$25.50		\$11.42
PAINTER-INDUSTRIAL	AD	\$32.70	025	\$13.63
PILEDRIVER	AD	\$33.62	003	\$15.73
PLASTERER - MIXER	AD	\$35.25		\$2.80
PLUMBER	AD	\$40.97		\$17.05
POWER EQUIPMENT OPERATOR - ASPHALT DISTRIBUTOR	AD	\$32.00	005	\$0.00
POWER EQUIPMENT OPERATOR - BACKHOE	AD	\$31.73	510	\$13.27
POWER EQUIPMENT OPERATOR - BOOM TRUCK	AD	\$36.39	005	\$22.69
POWER EQUIPMENT OPERATOR - BROOM / SWEEPER	AD	\$29.78	510	\$13.27
POWER EQUIPMENT OPERATOR - BULLDOZER	AD	\$31.73	005	\$13.27
POWER EQUIPMENT OPERATOR - CONCRETE PUMP	AD	\$40.00	005	\$4.35
POWER EQUIPMENT OPERATOR - CRANE	AD	\$37.70		\$16.15
POWER EQUIPMENT OPERATOR - CRANE - TOWER	AD	\$37.70		\$16.15
POWER EQUIPMENT OPERATOR - DRILL - RIG	AD	\$31.73	510	\$13.27
POWER EQUIPMENT OPERATOR - EXCAVATOR	AD	\$31.73		\$13.27
POWER EQUIPMENT OPERATOR - FORKLIFT	AD	\$31.73	510	\$13.27
POWER EQUIPMENT OPERATOR - GRADALL	AD	\$32.31	005	\$7.59
POWER EQUIPMENT OPERATOR - GRADER	AD	\$36.14	003	\$12.77
POWER EQUIPMENT OPERATOR - HOIST	AD	\$28.68	510	\$10.62
POWER EQUIPMENT OPERATOR - LOADER	AD	\$31.73	510	\$13.27
POWER EQUIPMENT OPERATOR - MECHANIC	AD	\$31.73		\$13.27
POWER EQUIPMENT OPERATOR - MILLING MACHINE	AD	\$39.65	005	\$0.82
POWER EQUIPMENT OPERATOR - PAVER	AD	\$28.15	005	\$12.10
POWER EQUIPMENT OPERATOR - ROCK / STUMP TUB GRINDER	AD	\$30.23	005	\$13.17
POWER EQUIPMENT OPERATOR - ROLLER - ASPHALT	AD	\$28.15	005	\$12.10
POWER EQUIPMENT OPERATOR - ROLLER - EARTH	AD	\$31.73		\$13.27
POWER EQUIPMENT OPERATOR - SCRAPER	AD	\$26.09	005	\$12.10
POWER EQUIPMENT OPERATOR - SCREED	AD	\$21.90	005	\$4.86
POWER EQUIPMENT OPERATOR - SKID STEER (BOBCAT)	AD	\$29.78		\$13.27
POWER EQUIPMENT OPERATOR-VACUUM TRUCK	AD	\$31.13	003	\$10.63
RESILIENT FLOOR	AD	\$30.71		\$13.87
ROOFER/WATERPROOFER	AD	\$29.75	003	\$12.74
SHEETMETAL WORKER (INCLUDING METAL ROOFING)	AD	\$42.67		\$22.75
SPRINKLERFITTER	AD	\$43.80	005	\$11.12
STEAMFITTER/PIPEFITTER	AD	\$41.92		\$22.09
STONE MASON	AD	\$40.81		\$19.59

TILE & TERRAZZO FINISHER	AD	\$25.81		\$11.66
TILE & TERRAZZO MECHANIC	AD	\$31.18		\$12.74
TRUCK DRIVER - DUMP	AD	\$17.64	005	\$1.82
TRUCK DRIVER - DUMP - ARTICULATING	AD	\$27.97	003	\$2.55
TRUCK DRIVER - FLATBED	AD	\$20.94	005	\$5.02
TRUCK DRIVER - TACK/TAR TRUCK	AD	\$25.59	005	\$13.49
TRUCK DRIVER - TANDEM	AD	\$26.75	510	\$11.03
TRUCK DRIVER - WATER	AD	\$24.29	005	\$0.00

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**Incidental Craft Data: Caulker, Man Lift Operator, Rigger, Scaffold Builder, and Welder** receive the wage and fringe rates prescribed for the craft performing the operation to which welding, scaffold building, rigging, operating a Man Lift, or caulking is incidental.

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These **Informational Prevailing Wage Rates** may not be substituted for the requirements of pre-advertisement for bids or onsite job posting for a public work contract that exceeds \$250,000 in value and either of the following criteria are met: (1) the contracting body is a unit of State government or an instrumentality of the State and there is any State funding for the project; or (2) the contracting body is a political subdivision, agency, person or entity (such as a county) and the State funds 25% or more of the project.

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Modification Codes:

- (AD) 17-209 Annual Determination from Survey Wage Data Received
- (CH) 17-211 Commissioners' Hearing
- (CR) 17-208 Commissioners' Review
- (SR) 17-208 Survey Review by Staff

Each "Borrowed From" county is identified with the FIPS 3-digit county code unique for the specific jurisdiction in Maryland.

For additional information on the FIPS (Federal Information Processing Standard) code, see <http://www.census.gov/datamap/fipslist/AllSt.txt>

The Prevailing Wage rates appearing on this form were originally derived from Maryland's annual Wage Survey. The Commissioner of Labor & Industry encourages all contractors and interested groups to participate in the voluntary Wage Survey, detailing wage rates paid to workers on various types of construction throughout Maryland.

A mail list of both street and email addresses is maintained by the Prevailing Wage Unit to enable up-to-date prevailing wage information, including Wage Survey notices to be sent to contractors and other interested parties. If you would like to be included in the mailing list, please forward (1) your Name, (2) the name of your company (if applicable), (3) your complete postal mailing address, (4) your email address and (5) your telephone number to PWMAILINGLIST@dllr.state.md.us. Requests for inclusion can also be mailed to: Prevailing Wage, 1100 N. Eutaw Street - Room 607, Baltimore MD 21201-2201.

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**END OF REPORT**



**HOWARD COUNTY PUBLIC SCHOOL  
SYSTEM**

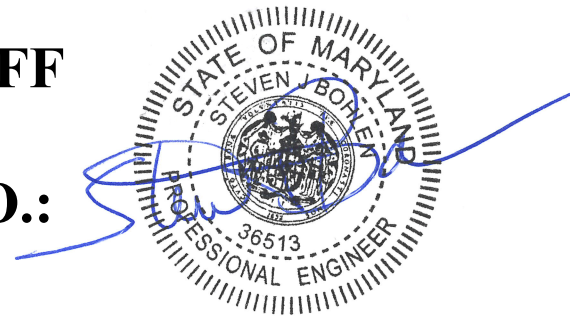
**TRIADELPHIA RIDGE ELEMENTARY  
SCHOOL**

**100% SUBMISSION**

**ROOF REPLACEMENT**

**PSC# 13.073.22 HSFF**

**BID/PROJECT NO.:**



**May 18, 2022**

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

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## SECTION 011100 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section outlines the scope of work included in the roof replacement project at Triadelphia Ridge Elementary School in Ellicott City, MD. Refer to the appropriate specification section for further information about installation methods and components to be provided. In general, the work includes, but is not limited to, the following items:
1. Remove and dispose of existing roofing systems and components, including membrane, insulation, base sheets, flexible and metal flashings, and associated materials and components down to structural deck unless otherwise noted. Remove existing ladders, skylights, and other items indicated on the Drawings (Division 02 Section "Selective Structure Demolition").
  2. Remove and reinstall existing or provide brick masonry units at new throughwall flashing locations (Division 04 Section "Maintenance of Unit Masonry").
  3. Repair or remove and replace existing deteriorated steel deck on a unit price basis (Division 05 Section "Steel Decking").
  4. Provide roof access ladders. Augment/extend existing steel rooftop RTU supports (Division 05 Section "Metal Fabrications").
  5. Provide wood blocking at perimeter edges, walls, fascias, and penetrations (Division 06 Section "Rough Carpentry").
  6. Provide new multi-layered insulation systems throughout the roof areas (Division 07 Section "Roof and Deck Insulation").
  7. Provide adhered thermoplastic membrane roofing system (Division 07 Section "Thermoplastic Roofing").
  8. Provide perimeter and penetration sheet metal flashings and counterflashings, and miscellaneous sheet metal fabrications. Extend and insulate radon slab vents (Division 07 Section "Flashing and Sheet Metal").
  9. Provide metal curbs, roof hatches, and prefabricated mechanical equipment curbs (Division 07 Section "Roof Accessories").
  10. Provide sealant and backer materials at exterior vertical masonry joints (Division 07 Section "Joint Sealants").
  11. Provide new replacement aluminum frame skylights with insulated acrylic glazing units (Division 08 Section "Replacement Skylights").
  12. Prepare, prime, and paint exterior surfaces of steel framing components and interior wall and ceiling finishes replaced or repaired (Division 09 Section "Painting").
  13. Provide roof drain assemblies at existing roof drain locations and leader piping and extensions at existing vent pipes (Division 22 Section "Roof Drains").
  14. Disconnect, raise, and reconnect existing HVAC units (Division 23 Section "Common Work Results for HVAC", "Refrigerant Piping", and "Air Duct Accessories").

- B. The Contract Documents showing the existing construction of the facility were developed from historic documents and from limited field observations by the Architect and its consultants. Actual conditions may vary from those shown. Hidden conditions may be discovered over the course of the work. Further evaluation may uncover conditions which may require remedial attention prior to proceeding with demolition or construction. Contractor shall be aware of the need to proceed with diligence and care and shall notify Architect of conditions which do not reflect those indicated or which require further testing and repair prior to proceeding. Contractor shall correct conditions that are detrimental to timely and proper execution of the Work. Contractor shall not proceed until unsatisfactory conditions have been corrected. Commencement or continuation of work constitutes acceptance of conditions and responsibility for satisfactory performance.

## 1.2 PROJECT CONDITIONS

- A. The building may be occupied during construction. Coordinate with the owner to segregate occupants from the building's interior space directly below and immediately adjacent to the work area(s). Work that will create significant noise or disturbance shall be completed on off hours.
- B. Supply, install, and maintain barriers, protection, warning lines, and personnel required to segregate the interior space directly below and immediately adjacent to the work area(s) to prevent damage to the building and its occupants.
- C. Supply, install, and maintain barriers, warning lines, and personnel required to segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, pedestrians and the surrounding landscaped and paved areas. The Contractor shall observe all applicable OSHA and MOSHA requirements
- D. Schedule and execute work without exposing the building interior to the effects of inclement weather. Protect the building and its occupants against such risks and repair/replace work-related damage to the Owner's satisfaction.
- E. The Contractor shall not be responsible for reported roof related leaks which exist prior to initiating work in the leak areas. The Contractor shall be responsible for all roof related leaks and damage to existing roofing at all locations in which he has initiated work, to include trafficking and materials storage. If damage occurs, the Contractor shall repair damaged areas. Provide and maintain necessary protection and repairs to existing roofing to prevent interior leakage.
- F. Supply labor, equipment, tools and appliances necessary for the proper completion of the work.
- G. Do not install roofing systems or sealants during precipitation, including fog, or when air temperature is below 40° F (4° C) or is expected to go below 40° F (4° C) during application, or when there is ice, frost, moisture, or visible dampness on the roof.
- H. Schedule, execute, and coordinate work on a daily basis so that components are installed completely and permanently as specified.
- I. Schedule, coordinate, and execute work to avoid traffic on completed roof areas. Coordinate work to prevent this situation by working away from completed roof areas, toward roof edges and access ways.

- J. Roofing that is removed shall be made 100% weathertight in the same day's operations.
- K. Supply shoring, supports, and other items or materials necessary to brace and support the structure, fixtures, and facilities affected by the work. This includes, but is not limited to, heating and air handling ducts, lighting, rooftop equipment and other items presently supported by or suspended from the roof decks to be removed, and associated structural members. Supply temporary walkways and ramps necessary to remove existing decking systems and install the replacement deck materials.
- L. Roof construction and materials shall comply with these specifications and the latest editions of the following:
  - 1. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
  - 2. The National Roofing Contractors Association (NRCA) "Roofing and Waterproofing Manual"
  - 3. The Asphalt Roofing Manufacturers Association (ARMA).
  - 4. Factory Mutual Global (FMG) publications "Loss Prevention Data for Roofing Contractors" and "Building Materials Approval Guide"
  - 5. Underwriters Laboratories, Inc. "Roofing Materials and Systems Directory"
  - 6. All work shall be performed in accordance with the International Building Code (IBC) in effect at the time of Bid and applicable Federal, State, and local code amendments, requirements, and publications.
- M. All workmanship and materials shall be of the best construction practice. Should a conflict arise between the specification requirements and those of the referenced publications, the better quality or more stringent requirement will prevail. Specification requirements that exceed the minimum requirements of the Manufacturer shall be complied with by the Contractor.
- N. Coordinate the work in this Section with other Sections, including preparatory work, building protection, daily clean-up, and protection of building and occupants.
- O. Supply labor, vacuums, tools and appliances necessary to keep the interior and exterior building and site areas below and around the construction clean, with as little accumulation of dust and debris as possible on a daily basis.
- P. Work will be observed by an on-site observer paid for by the Owner.

### 1.3 REFERENCES

- A. Applicable publications: Publications listed herein form a part of this Specification to the extent referenced and are indicated in the text by basic designation only. Applicable publications referenced shall be those that were issued and in use at the time of the Bid Submission.

### 1.4 PRECONSTRUCTION CONFERENCE

- A. A preconstruction conference will be held with the Owner, Owner's Representatives, Contractor, and involved trades to discuss all aspects of the project. The Contractor's foreman or field

representative will attend this conference. The foreman must be proficient in reading and writing English and shall be on site at all times that work is performed.

- B. The Owner shall reserve the right to require an alternate superintendent and/or foreman.
- C. The preconstruction conference shall not be held until all specified submittals have been received, reviewed, and accepted as to form by the Owner and Owner's Representative.
- D. Delivery of materials and commencement of construction shall not proceed until the preconstruction conference is held. Delays in obtaining a complete set of submittals shall not extend the contracted completion date.

#### 1.5 EMERGENCY RESPONSE

- A. The Contractor shall provide the Owner with after-hours (24-hour) emergency telephone numbers of the Contractor's superintendent and foreman.
- B. The Contractor must respond to emergency situations or calls within two (2) hours.

#### 1.6 CONSTRUCTION SCHEDULE

- A. The Contractor shall be permitted to perform all aspects of the work when school is not in session based upon the school schedule. The Contractor may be permitted to perform limited aspects of work while school is in session based upon the following conditions:
  - 1. The Owner has reviewed and approved the Contractor's construction schedule.
  - 2. The Owner has sufficient time to control occupancy beneath the scheduled work area.
  - 3. The Owner determines that the disruption to building occupants from the construction is tolerable.
  - 4. The Contractor has taken additional measures necessary to prevent fumes and odors associated with solvents and heated bitumen from entering the occupied space.
- B. Proper coordination of all aspects of the work by the Contractor and any sub-trades is critical to ensure proper installation and performance of the work. The Contractor's Construction Schedule shall clearly outline the coordination between job tasks of all involved disciplines. Subject to review and acceptance by the Owner, this Schedule will be strictly adhered to by the Contractor and sub-trades.
- C. The Contractor's Construction Schedule shall clearly identify the on-site crew foreman and the size of the crew to be utilized. The crew size shall remain consistent and work shall be continuous throughout the project, from start-up to completion.
- D. The Owner shall review the Contractor's Construction Schedule prior to the start of any work. After defining the location(s) of the work progress, the Owner shall arrange to control occupancy in the building to the greatest extent possible. It shall be the responsibility of the Contractor to supply the Owner with written notice, 72 hours in advance, if his work location(s) for a workday is different from the schedule. The Contractor shall update his Construction Schedule weekly and submit a copy to the Owner for review.

- E. The Contractor shall schedule periodic site visits by the Membrane Manufacturer providing the warranty during the construction period. Announce the Manufacturer's site visit (inspection) to the Owner 72 hours prior to its occurrence. Visits by the Manufacturer's representative shall be made prior to project start-up, one week into the start of construction, with inspections prior to the installation of the membrane surfacing, at project completion, and as requested by the Owner. The Contractor shall provide the Owner a copy of the Manufacturer's written report for each inspection, indicating Manufacturer's comments pertaining to installation of materials and any corrective recommendations. In addition, the Contractor is responsible to notify and obtain acceptance from the Membrane Manufacturer on detail changes that may affect the roof system warranty.

#### 1.7 SCHEDULE OF VALUES

- A. Provide a line item breakdown of construction labor and materials costs for each Specification Section included in these Contract Documents. Additionally, provide line item values for Unit Price, Alternate, and Allowance Work included in these Specifications. Utilize AIA Forms G702 and G703, and IAC/PSCP Forms 306.4 to prepare and submit the Schedule of Values.

#### 1.8 WORK HOURS

- A. The Contractor will be allowed to work at the project site between the hours of 7:00 a.m. and 8:00 p.m., local time, Monday through Friday. Work outside these hours may be allowed with 48 hours' minimum notice to the Owner. Work on Saturday or Sunday may be performed from 8:00 a.m. to 5:00 p.m., with prior approval from the Owner. The Owner reserves the right to disapprove or suspend a request to work outside of normal working hours. The Owner also reserves the right to determine when building coverage is necessary or in the best interest of the Owner. The cost of providing building maintenance personnel onsite for weekend work or after hours work shall be borne by the Contractor.

#### 1.9 PROGRESS MEETINGS

- A. Progress meetings shall be scheduled bi-weekly by the Owner or as deemed necessary.

#### 1.10 DIMENSIONS AND QUANTITIES

- A. Verify dimensions and quantities in the field prior to bid submission. The Project Plans and Drawings have been compiled from various sources and may not reflect the actual field conditions at the time of construction.
- B. The Contractor is solely responsible for means and methods of construction. Make necessary investigations to become familiar with the project conditions.
- C. Additional compensation due to unfamiliarity with project conditions will not be considered.
- D. In case of inconsistency between Drawings and Specifications or within either document, the better quality and/or greater quantity of work shall be provided, as determined by the Owner.



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### 1.11 SAFETY DATA SHEETS

- A. Safety Data Sheets (SDSs) shall be submitted in complete sets to the Owner for all products to be used prior to any work being performed.

### 1.12 GUARANTEES AND WARRANTIES

- A. Refer to specific Sections of this specification for systems and product warranty requirements. Verify with Manufacturer of proposed systems and products that specified warranty requirements are acceptable, without exception, prior to selecting materials for use on this project.
- B. Submit a full Contractor's Guarantee of the Work to be free from defect in materials and workmanship upon Substantial Completion, and prior to final payment. This Guarantee shall be for a period of five (5) years from the date of Substantial Completion and shall be signed by a Principal of the Contractor's firm and sealed if a corporation.

### 1.13 CLEAN-UP

- A. Restore property of the Owner to its original condition prior to the start of construction. Refer to Division 01 Section "Temporary Facilities and Controls." General clean-up of the site shall be performed on a daily basis.
- B. Clean, restore, and/or replace items stained, dirtied, discolored, or otherwise damaged due to the Work, as required by the Owner.
- C. Clean roof, building (interior and exterior), landscaped areas, and parking areas so they are free of trash, debris, and dirt caused by or associated with the Work.
- D. Clean out drain leaders and piping to the point where it exits the building. Demonstrate roof drainage systems are operating by running water from a hose for 30 minutes into each drain in the presence of the Owner.
- E. Sweep paved areas clean.

### 1.14 PERMITS

- A. The Contractor will obtain and pay for any and all permits required to perform the work.

### 1.15 OWNER OCCUPANCY

- A. Owner may occupy or partially occupy the premises during the construction period. Contractor shall adequately segregate the work area as required. Coordinate with Owner prior to scheduling operations to minimize conflict with Owner's use of facility.
- B. Predetermine and obtain approval, in advance, from Owner, for vertical and horizontal transportation of labor and construction materials onto and off of the building roof.

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- C. Do not transport labor or construction materials to the roof via the interior of the facility.
- D. Utility Shutdowns: Obtain written approval from the Owner for any required shutdown or outage of any utility. Schedule any outages to minimize impact on existing operations. Comply with all applicable codes and ordinances.

1.16 PRE-JOB DAMAGE SURVEY OF FACILITY

- A. Perform a thorough pre-job survey of property and all affected and adjacent areas of the building with Owner prior to starting the work in order to document existing damage. Contractor shall document the survey on video tape and provide a copy to the Owner prior to commencing work. Damaged items identified during the survey will not be the responsibility of Contractor unless further damaged by Contractor during execution of project.

1.17 CORRECTION OF DAMAGE TO PROPERTY

- A. Consider any damage to building or property not identified in the pre-job damage survey as having resulted from execution of this Contract and correct at no additional expense to Owner.
- B. The Contractor will include in the Base Bid the cost to perform any roof related repair that is due to Contractor's faulty workmanship and/or materials.
- C. Repair, immediately, damages to facility or site that present a safety hazard or danger to the public.

1.18 SUMMARY OF PROJECT REQUIREMENTS

- A. The Work requirements of the Contract are summarized by reference to the Bidding Requirements, the Contract forms, the Conditions of the Contract, the Specification, the Drawings, and Addenda and Contract Modifications, including, but not limited to, the printed matter referenced in these requirements. It is recognized that the Work is affected or influenced by governing regulations, natural phenomenon (including weather conditions), unforeseen conditions uncovered by the Work, and other forces outside of the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011100

## SECTION 012200 - UNIT PRICES

### 1.1 SUMMARY

- A. The Owner may elect certain aspects of the work, whose quantity cannot be determined at this time, to be performed or deleted by the Contractor. If such work items are elected or are not performed, the Contract price will be adjusted accordingly by the Unit Price amount shown for each item in the Bid Forms.

### 1.2 GENERAL CONDITIONS

- A. A Unit price is 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.
- B. By submitting a bid, the Contractor acknowledges acceptance of the established Unit Prices for their use in determining the value of change work. Prices as stated will remain in effect until final completion of the Contract.
- C. Performance of Work not authorized by a Change Order or Field Order, whether or not such work is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment beyond the Contract Sum.

### 1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Prior to commencing removal or replacement of materials set forth in the schedule of Unit Prices, the Contractor shall notify the Owner in sufficient time to permit proper inspection and measurements to be taken. Only quantities that have been approved in writing by the Owner will be considered in determination of adjustments to the Contract Amount.
- C. Unit Prices and quantities are provided to adjust the specific work items because quantity of work is unknown. Work of similar scope as those unit price items contained in and defined by the Construction Documents shall not be considered as Unit Price Work.
- D. Owner reserves 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 inspector acceptable to Contractor.
- E. List of Unit Prices: A list of unit prices and quantities to be provided in the Base Bid is included in Part 3. The quantities shown in the list of unit prices shall include the quantities shown on the drawings. Specification sections referenced in the schedule contain requirements for materials described under each unit price.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

- A. For scraping and priming of more/less surface rusted areas of steel deck and framing than the two thousand (2,000) square feet carried in the Base Bid as outlined in Division 05 Section "Steel Decking".
- B. For removal and replacement of more/less steel deck than the eight hundred (800) square feet carried in the Base Bid as outlined in Division 05 Section "Steel Decking."
- C. For the installation of more or less perimeter steel plate than the two hundred (200) square feet carried in Base Bid amount as outlined in Division 05 Section "Steel Decking."

END OF SECTION 012200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.2 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 to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Shall be an ADD Alternate for the following work;
  - 1. Provide .080-inch thick PVC roof membrane and associated flashings and strippings in lieu of the specified .060-inch thick PVC roof system

END OF SECTION 012300

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

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

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

#### 1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Resubmittal Review: Allow 10 days for review of each resubmittal.
- C. Identification: Provide a title block on each submittal to include the, but not limited to the following:
  - 1. Name of firm or entity that prepared each submittal.
  - 2. Project name.

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3. Date.
4. Name and address of Contractor.
5. Name and address of subcontractor.
6. Submittal number or other unique identifier, including revision identifier.
  - a. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
  - b. Number and title of appropriate Specification Section.
  - c. Drawing number and detail references, as appropriate.
  - d. Location(s) where product is to be installed, as appropriate.
- D. Deviations: Deviations from specifications are considered substitutions. Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals as proposed substitutions. Further identify deviations by providing a written description for each deviation or variation from the contract documents.
- E. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
- F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  1. Note date and content of previous submittal.
  2. Note date and content of revision in title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked "Approved or approved as noted."
- G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- H. Use for Construction: Use only final submittals with mark indicating "Approved or approved as noted" taken by Architect.

## PART 2 - PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required 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 must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.



- b. Manufacturer's product specifications.
  - c. Manufacturer's installation instructions.
  - d. Manufacturer's catalog cuts.
  - e. Compliance with specified referenced 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, unless submittal of Architect's CAD Drawings is otherwise permitted.
- 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Shopwork manufacturing instructions.
    - f. Templates and patterns.
    - g. Schedules.
    - h. Notation of coordination requirements.
    - i. Notation of dimensions established by field measurement.
    - j. Relationship to adjoining construction clearly indicated.
    - k. Seal and signature of professional engineer if specified.
  - 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 40-inches.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
- 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  - 2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of appropriate Specification Section.
  - 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
  - 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: 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.
  - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.
- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.
- F. Construction Schedule: Construction schedule showing sequence and duration of activities.
- G. Schedule of Values: Itemize separately labor and materials for each technical section within the Specification as they will be shown on the Application for Payment (use AIA form G703).
- H. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  1. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
- B. 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 architects and owners, and other information specified.
- C. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- D. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- E. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

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- F. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- I. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. 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.
- J. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.
- K. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
  - 1. Statement on condition of substrates and their acceptability for installation of product.
  - 2. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  - 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
- L. 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, if any, and term of the coverage.
- M. Safety Data Sheets (SDSs): Submit information directly to Owner; do not submit to Architect.
  - 1. Architect will not review submittals that include SDSs and will return them for resubmittal.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

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3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes requirements for the provision and utilization of temporary facilities to protect the Owner's property, the site, and construction materials, and for daily maintenance and cleanup of the site during the project.

#### 1.2 CONTRACTOR'S USE OF EXISTING FACILITIES

- A. Limit use of the premises to the work indicated, so as to allow for the Owner's uninterrupted occupancy and use. Confine operations to the areas indicated under the Contract. Conformance to the regulations set forth by the Owner regarding use of existing facilities is mandatory.
- B. Sanitary facilities shall be provided by the Contractor. Use of the building's sanitary facilities is not permitted.
- C. Owner will assist in controlling occupancy immediately below and adjacent to the work area. Contractor shall provide and place portable barricades, as coordinated with the Owner, under work areas inside the building.
- D. Clean interior and exterior areas affected by the construction on a daily basis. Do not allow construction debris, waste materials, tools, excess packaging materials or other construction related materials to accumulate on the roof, in the facility, or on the exterior grounds and pavements.
- E. See Division 01 Section "Product Delivery Requirements" for product storage facilities and requirements.

#### 1.3 UTILITIES

- A. Electrical service will be provided to the Contractor free of charge by the Owner through exterior electrical outlets if available and operable. Use shall be limited to construction hours. The Owner reserves the right to charge the Contractor for excessive electrical service usage (i.e., wasteful usage). Should charges be considered, the Owner will notify the Contractor in writing of his intent, 48 hours in advance.
- B. Water for construction purposes will be provided to the Contractor free of charge by the Owner through exterior water spigots if operable. The Owner reserves the right to charge the Contractor for excessive or wasteful use. Should charges be considered, the Owner will notify the Contractor in writing of his intent, 48 hours in advance. Drinking water shall be provided by the Contractor.
- C. All other utilities required will be provided by the Contractor.

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- D. Plumbing, heating, and electrical work, including reinstallation of equipment and other work to be performed by the Contractor, shall be carried out without interference to the building's normal operation. Where work requires interruption of service, the Contractor shall make advance arrangements with the Owner for dealing with such interruption.
- E. Ensure proper and safe operation and maintenance of utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner. Maintain and operate appurtenances within the construction area that serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by any representative or personnel of the Owner shall not relieve the Contractor of his responsibilities in connection with operation and maintenance of these facilities and equipment.

### 1.4 ACCESS

- A. Provide ladders, scaffolding and staging as required to access the project area(s) in accordance with OSHA and MOSHA guidelines. Should damage to the exterior building occur, restore damaged areas to their original condition, clean up debris, and provide other access to the roof for the duration of the project.
- B. Coordinate interior and exterior access to the building to minimize disruption to the normal building operations. Coordinate construction activities with the Owner and building occupants.

### 1.5 BARRIERS

- A. Install temporary fencing, warning lines, barriers and guards, as required, to segregate the construction areas from adjacent operational facilities, occupants and the public. In the event that access cannot be interrupted in the construction area, provide protection above doorways and walks in the construction area. Provide guard lights on barriers and lighting as necessary to prevent vandalism of work and storage areas. The Owner is not responsible for Contractor's losses due to damage or theft by vandals.
- B. Install protective coverings at paving and building walls adjacent to hoist prior to starting work. Lap protective coverings at least 1-foot, secure against wind, and vent to prevent condensation of moisture on covered surfaces. Maintain the protective coverings in place for the duration of the project. Cover windows adjacent to Contractor operation areas with plywood.

### 1.6 TEMPORARY PROTECTION

- A. Provide suitable Owner approved temporary protection to prevent the entrance of debris and obstructions into the building. Provide warning signs to reroute personnel around areas of dangerous work. Place warning barriers at roof perimeters and at deck openings. Clearly label temporary covers over deck openings. Do not permit openings to remain unprotected overnight. Schedule operations to allow for completion of new roofing over a predetermined area of roof within a day's work. Use special care to avoid damaging roofing and flashing when working on the roof of the building.

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- B. Provide temporary tie-ins between existing and new roof systems as specified and detailed. Tie-in construction shall completely prevent interior leaks, migration of moisture from existing to new construction, and damage of any type to the facility. Provide necessary quality control at tie-ins on a daily basis to prevent leaks.
- C. Avoid traffic on completed roof areas. Coordinate work to prevent this situation. Should temporary access be required, provide temporary substrate protection for trafficked areas.
- D. Protect drainage systems from debris accumulation during construction. Ensure roof drains and leader pipes are not restricted when Contractor is not on site.
- E. Protect materials scheduled to be reused from damage by placing them in labeled containers or wrappings stored in a weathertight trailer.
- F. Provide temporary protection such as plywood and tarps for streets, drives, curbs, sidewalks, landscaping, and existing exterior improvements during all phases of the project.

### 1.7 ROOFTOP PROTECTION

- A. Provide plywood walkways, with 1/2-inch thick rubber walkway pad or 1-inch thick high density insulation protection beneath, for protection of new or existing roof areas which must be trafficked, and for roof membrane protection below demolition work that occurs above new or existing roof areas.

### 1.8 DEBRIS REMOVAL

- A. The Owner shall designate crane and refuse container locations. These areas shall be sectioned off with proper warning lines.
- B. Removed materials shall not be thrown freely from the roof but shall be lowered to the ground by crane in suitable containers or in an enclosed chute, in order to reduce the spread of dust and other debris.
- C. Supply adequate covered receptacles for waste, debris and rubbish. One receptacle will be allowed on site at a time, and must be immediately removed from the site when full. Clean the project area daily and prior to moving the receptacle to another location on the site. Locations shall be as permitted by the Owner. Disposal shall be off-site in a legal dump authorized to accept construction demolition solid wastes.

### 1.9 WEATHER PROTECTION

- A. Weather protection includes temporary protection of components adversely affected by moisture, wind, heat, and cold by covering, patching, sealing, enclosing, ventilating, cooling, and/or heating. Provide protection for locations within the project area as necessary, to protect the building and its contents, trafficked adjacent areas, new construction materials and accessories. The cost of heat, fuel and power necessary for proper weather protection shall be the responsibility

of the Contractor. Installed weather protection shall comply with safety regulations and provisions for adequate ventilation and fire protection.

#### 1.10 VOLATILE MATERIALS

- A. The Contractor is reminded that adhesives, solvents, bitumens, etc., are highly volatile and flammable materials. These materials, along with tools, applicators, and rags, shall not be stored on or within the building. No overnight storage on the roof will be allowed. Do not transport materials through the building. Take precautions and closely follow the specification requirements for fire protection on site during construction.
- B. Locate and use flame-heated equipment so as not to endanger the structure, other materials on site, or adjacent property. Do not place flame-heated equipment on the roof. Locate and use flame-heated equipment in specific areas approved by the Owner. Do not relocate flame-heated equipment without prior approval from the Owner.
- C. The use of flame-heated equipment or torches on the roof is prohibited unless specifically approved in writing by the Owner.

#### 1.11 FIRE PROTECTION

- A. Provide necessary temporary fire protection for the building, its contents and materials during construction. Do not store combustibles inside the building or on the roof. Store adhesives, caulks, and cleaning solvents away from the building using a method approved by local fire officials. Should cutting, burning, or welding be necessary, provide a fire watch during operations and for four hours minimum after completion of the operations.
- B. Do not use open flames near adhesives, caulks, or cleaning solvents as they will readily ignite. Rags soaked with cleaning solvent shall not be discarded in the dumpsters, but shall be stored in a separate metal receptacle and removed from the site daily.
- C. Comply with local fire codes and obtain permits necessary from the local fire department. Provide a copy to the Owner. Provide recently tested, fully charged fire extinguishers around the storage area, rubbish receptacle and two fire extinguishers on the roof within 50 feet of the Work.

#### 1.12 INTERIOR PROTECTION AND RESTORATION

- A. Protect and cover fixed items, furniture, equipment, appliances, fixtures, bookcases, etc. within the building below the work areas.
- B. At the Owner's direction, remove portable furniture, equipment, appliances, fixtures, materials, stock, etc. within the building below the work area to an adjacent area for protection.
- C. Remove, temporarily support, suspend and protect existing items requiring removal during the installation of the new work and properly replace these items to their original condition and to the Owner's satisfaction. These items include but are not limited to suspended ceilings, lighting fixtures, heating and air handling ductwork, electrical conduit, etc.



1.13 CLEAN-UP

- A. Clean and restore interior building spaces beneath the work areas to original condition prior to the construction.
- B. Debris, dust and dirt shall be swept completely clean at the joists, beams, overhead accessories and similar items. Those items soiled or stained from the work shall be cleaned and refinished.
- C. Electrical fixtures damaged by the construction shall be replaced with an equal in shape, color, manufacturer, and capacity at no added expense to the Owner.
- D. Interior ceiling finishes which are damaged by the construction shall be repaired or replaced with a system equal in color, texture, and finish at no added expense to the Owner.
- E. Floors shall be swept and vacuumed completely clean of dust, dirt, and debris. The Owner will wash and re wax floors, but only as part of a normal or routine maintenance procedure. Heavily soiled, stained, or damaged floor areas will be cleaned, repaired, and/or replaced by the Contractor at no additional cost to the Owner.
- F. Open ducts, grills, thermostats, electric boxes, or similar fixtures and items which can be soiled or affected by the work or which might conduct dust to other areas shall be masked, protected, and cleaned by the Contractor.
- G. Windows, blinds, curtains, shelving, edges, lighting, etc. shall be cleaned to their original condition prior to the start of the roof renovation, and to the satisfaction of the Owner.
- H. Remove completely temporary protection materials and facilities from the site upon completion of the work and demobilization of the project.
- I. Restore streets, drives, curbs, sidewalks, landscaping, and existing improvements disturbed by the construction operations to their condition at the start of the work.

1.14 NOTIFICATION

- A. Notify the Owner's Representative at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off HVAC, steam, electric, water or other service from the Owner's supply systems. The actual operation shall be witnessed by authorized representatives of the Owner. Plumbing, heating and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where work requires interruption of a service, make advance arrangements with the Owner for dealing with such interruption.

1.15 VEHICLES

- A. Acceptable areas for the locations of the Contractor's vehicles shall be as designated by the Owner. No other areas may be utilized without the Owner's permission.

1.16 WALKWAY COVERING

- A. Install walkway coverings where designated on the drawings or above entrances which must remain accessible. The framework supporting the walkway covering shall be free-standing and well braced. The roof covering and support framing shall be designed to support a live load of at least 150 psf. The roof coverings shall be of width sufficient to cover the entire walkway or sidewalk. A minimum height clearance of 6-feet 8-inches, or as required to allow building doors to open, shall be maintained below coverings. Should coverings obscure the building's address, a temporary address shall be installed so as to be visible from the street. Lettering shall be approved by the Owner. Protection shall be in accordance with all applicable OSHA standards.

1.17 CONSTRUCTION SIGN

- A. Provide 6-feet by 8-feet construction sign in accordance with the IAC Administrative Procedure Guide, Appendix E. Sign can be purchased from the Maryland Correctional Enterprises (MCE). To order signage, contact the following:
  - 1. MCE Sign Plant #111  
C/O Patuxent Institution  
Attn: Brian A. Brown, Plant Manager  
7555 Waterloo Road  
Jessup, MD 20794  
Phone: 410-799-5102, or 410-799-5103  
Fax: 410-799-7911  
[Briana.brown@maryland.gov](mailto:Briana.brown@maryland.gov)
- B. Construction sign must be fixed and braced to resist anticipated wind loads. Sign must be located in a conspicuous location.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portable Chain-Link (Site Enclosure) Fencing: Minimum 2-inch, 9-gage, galvanized steel, chain-link fabric fencing; minimum 8-feet high with galvanized steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Provide concrete bases for supporting posts.
- B. Lumber and Plywood: Unless noted otherwise, comply with requirements in Division 06 Section "Rough Carpentry."
- C. Paint: Comply with requirements in Division 09 Section "Painting."

2.2 TEMPORARY FACILITIES

- A. General: Maintain all temporary facilities and controls necessary for the performance of the Work. Comply with all applicable codes and regulations of authorities having jurisdiction; obtain

permits as required. Locate and install all facilities and controls where acceptable to the local authorities having jurisdiction, utility, and Owner and remove same and terminate, in a manner suitable to the utility owner, at completion of the Work or when otherwise directed. Pay all costs associated with the provision and maintenance of temporary facilities and controls including power, water, and fuel (if any) consumed until Substantial Completion.

- B. Storage and Staging Areas: The Contractor shall be responsible for coordination, protection, and safekeeping of products stored on site under this Contract, including soil cut and fill. Refer to Contract Documents for any defined staging areas.
  - 1. Move stored products that interfere with construction of the Work, or operations of the Owner, or separate contractors.
  - 2. Obtain any pay for use of additional storage or staging areas as needed for the Work.
  - 3. Provide storage areas sized to storage requirements for products of individual Sections, allowing for access and orderly maintenance and inspection of products.

### 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide UL Listed or FM approved vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
  - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

### PART 3 - EXECUTION (Not Used)

END OF SECTION 015000

96 in



**Larry Hogan, Governor**  
**Boyd Rutherford, Lt. Governor**

**Building Bright**

**Futures in Maryland**

The State of Maryland and the (Name of County) **Board of Education** are:  
(Name of Project)

*at the*  
(Name of School)

Public School Construction Program

Architect: (Name of Architect)

Contractor: (Name of Contractor)

72 in

**The Maryland General Assembly**

*Adrienne A. Jones, Speaker of the House*  
*Bill Ferguson, President of the Senate*

**Board of Public Works**

*Larry Hogan, Governor*  
*Peter Franchot, Comptroller*  
*Nancy K. Kopp, Treasurer*

## SECTION 016500 - PRODUCT DELIVERY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section contains instructions and requirements for the provision and maintenance of adequate delivery, storage, and handling on site of products and materials to be utilized in the Work.

#### 1.2 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
  - 1. Store products to allow for inspection and measurement of quantity or counting of units.
  - 2. Store materials in a manner that will not endanger Project structure.
  - 3. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
  - 4. Store cementitious products and materials on elevated platforms.
  - 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
  - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
  - 7. Protect stored products from damage and liquids from freezing.
- D. Deliver materials in sufficient quantity to allow continuity of work. Deliver materials to the site in original sealed containers bearing manufacturer's name and brand designation. Where materials are designated by a referenced specification, containers or packages shall bear specification

number, type, and class as applicable. Do not deliver materials that are not approved for use. Remove such materials from the site immediately.

- E. Store roofing materials on site in areas designated by the Owner. Materials are to be stored in box trailers or in elevated piles completely wrapped in waterproof tarps. Tilt stock piles for effective drainage and utilize tie-downs to protect tarps against wind blow-offs. Store flammable materials such as adhesives in storage containers suitable for flammable substances. Mark materials that are exposed to the elements for removal from site. Do not incorporate defective or rejected materials in the Work.
- F. Handle materials with equipment selected and operated so as not to damage the materials or the roofing. Handle roll materials in a manner to prevent damage to the edges or ends. Seal containers when their contents are not being used to prevent premature curing or damage to materials. Damaged or improperly stored materials shall be marked and removed from the site immediately.
- G. No more materials shall be stored on the roof than can be installed in one day. Distribute materials brought to the roof so that the uniform load shall be less than 20 PSF. Evenly distribute materials for daily operations to prevent concentrated loads. The weight of workmen, equipment, and materials shall not exceed the capacity of the structure.
- H. Misshapen, oval, creased, and/or damaged roll or bundled materials shall not be used in the new roof system. The Contractor shall handle and store roll or bundled materials to prevent such conditions. The Contractor shall also ensure that materials accepted from the manufacturer are in good condition. The Owner will not be responsible for, nor accept, materials that are defective.

### 1.3 TOOLS AND EQUIPMENT

- A. Contractor is responsible for delivery, storage, maintenance, and security of tools and equipment.

### 1.4 INSPECTION AND NOTIFICATION

- A. Materials stored on site and subject to damage from wind, precipitation, hail, or other potential climactic conditions will be subject to inspection on a daily basis by the Owner or Owner's Representative. Absorptive materials such as lumber, insulation and felts will be tested periodically for moisture content.
- B. Upon notification by the Owner or Owner's Representative of insufficient protection of or damage to materials on site, the Contractor shall, within 24 hours, properly restore protection and replace or repair damaged materials and systems. Should the Contractor not accomplish immediate repair or replacement when notified, the Owner shall have the proper protection installed at the Contractor's expense.

### 1.5 MANUFACTURER'S INFORMATION

- A. Submit the roofing system materials manufacturer's written instructions concerning storage and handling of materials, including adhesives, cements, sealants, and accessories. Provide the following information:

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1. Manufacturer's "shelf-life" of materials, including the date of manufacture of perishables such as volatiles, caulking, and mastics.
  2. Acceptable latent moisture content for absorptive materials such as lumber, insulation, and felts.
  3. Manufacturer's requirements for storage facilities concerning temperature, humidity, and ventilation.
- B. Provide and maintain on site manufacturer's information concerning storage and handling of flammable or volatile materials, such as Safety Data Sheets, for the duration of the project.
- C. Comply with the manufacturer's recommendations and these Specifications for on site storage of materials.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 016500

## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout.

#### 1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 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. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  - 5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
  - 7. Submit certificate of manufacturer's inspection.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
  - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  - 2. Results of completed inspection will form the basis of requirements for Final Completion.

#### 1.3 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.



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2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

### 1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

### 1.5 CORE SAMPLES

- A. The Owner reserves the right to have core sampling performed by the Contractor where moisture contamination is suspected within the new roof system until the expiration of the Contractor's warranty. Core sample locations shall be chosen by the Owner and be performed at no cost to the Owner.

### 1.6 WARRANTIES

- A. Submittal Time: Submit manufacturer's warranties and contractor's guarantees on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

### 1.7 PROJECT CLOSEOUT SUBMITTALS

- A. When both the Owner or Owner's Representative and the Manufacturer's Representative agree that the Contractor has performed according to the Specifications and has installed the materials to the satisfaction of the Manufacturer, submit the following:
1. Specified Contractor's and Manufacturer's Warranties and Guarantees.
  2. Lien Releases from Contractor, subcontractor, and suppliers (AIA Forms G706, G706A).
  3. Consent of Surety to Final Payment (AIA Form G707).

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## 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 that might damage finished surfaces.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: 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. 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 017700

## SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Removal of existing roofing and related materials.

#### 1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### 1.3 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, and locations of temporary set up areas.
- B. Predemolition Photographs or Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
- C. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
- D. Proposed locations of chutes, dumpsters, cranes, hoists, and other temporary equipment or facilities required for demolition work.
- E. Proposed methods for interior and exterior protection and clean-up during removal and re-roofing operations.
- F. Provide schedule, updated weekly, indicating areas of roof where demolition will occur. Notify Owner of schedule changes.

1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241; OSHA, 29 CFR 1926.1101; EPA, NESHAP 40 CFR, Part 60.
- E. Comply with Federal, State and Local requirements.

1.5 PROJECT CONDITIONS

- A. The facility may be partially occupied during construction. Notify owner of intended work area in advance. Provide barricades to segregate area and provide interior protection to protect contents as indicated elsewhere in the contract documents. In no case shall demolition be completed over occupied space.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.6 WARRANTY

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

1.7 DEMOLITION AND TRANSPORT

- A. Conveyances: Buggies or wheelbarrows used on roofs to transport removed debris to chutes or crane apparatus location shall be of size and design to prevent damage to deck and structure.

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- B. Chutes: Provide enclosed chutes for debris transfer from roof areas at height of 10-feet or more. Do not allow debris to spill from bottom of chute directly onto ground. Direct chutes into approved construction debris container (dumpster). Control and contain dust and noise from falling debris by use of breaks in vertical alignment of chute or tarps covering dumpster. Provide hose with nozzle near chute outlet to wet debris, as necessary, for dust control.
- C. Hoists/Cranes: Provide hoists or cranes to remove debris and transport materials to and from roof. Secure materials to prevent loss during lifting. Place debris transported from roof directly in approved construction debris containers. Provide proper protection of wall areas for entire height directly adjacent to or under area of hoisting.
- D. Use of “bobcat” type removal equipment on roof is prohibited.
- E. Mechanical cutting equipment: Roof cutting equipment shall be equipped with operable blade depth setting mechanisms to control cutting depth of blade and prevent damage to structural deck during cutting operations.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

### 3.2 GENERAL

- A. During removal of existing roofing and related materials, report to Owner areas of damaged, deteriorated, or otherwise unsuitable structural deck or framing materials exposed during work. Do not cover or remove unacceptable deck or framing areas until reviewed by Owner. Provide temporary protection to areas in question. Use care in removal of membrane flashings and decking to prevent damage to substrates.
- B. Do not remove more material than can be replaced in one day with the new specified roof system.
- C. Take precautions to prevent water on or within existing roof system from migrating into building or new roof system.

- D. Review available prints and/or inspect interior of structure to ascertain if electrical or other service has been placed above roof deck or in contact with underside of deck.
- E. Set cutting blades of mechanical cutting equipment to proper depth to prevent scoring or damage to structural deck. Use care in removal of membrane flashing to prevent damage to substrates.
- F. Control visible emissions during roof removal and at dumpster level.
- G. Remove roof materials down to structural deck. Sweep, clean, and vacuum debris from deck surfaces, including flutes of steel deck.

### 3.3 SELECTIVE DEMOLITION

- A. Demolish and remove existing materials as expressly indicated or implied on the drawings. Demolition shall include but may not be limited to the following:
  - 1. Remove existing roofing system(s) and associated components in preparation for new systems.
  - 2. Remove brick masonry units at rising walls in preparation for new throughwall flashings, where indicated.
  - 3. Remove existing sheet metal caps, fascias, edge metal, counterflashings, penetration flashings, and related sheet metal items unless indicated on Drawings to remain.
  - 4. Remove existing perimeter and other wood blocking where indicated in preparation for new wood blocking on stud walls.
  - 5. Remove existing HVAC curbs in preparation for new metal curbs.
  - 6. Remove and store rooftop fan and ventilator units. Remove existing fan and ventilator curbs unless indicated otherwise. Disconnection and reconnections of electrical and mechanical feeds are to be performed by licensed tradesmen. Notify Owner prior to disconnection of any mechanical equipment.
  - 7. Remove existing roof drains and associated materials in preparation for new drain bowl assemblies and leader pipe connections.
  - 8. Remove existing roof hatch and access ladders in preparation for new hatch and access ladders.
  - 9. Remove radon slab vent sleeves in preparation for new extensions above deck.
- B. Removed and Reinstalled Items:
  - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable,

protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

### 3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.5 CLEANING

- A. Clean demolition materials and debris from roof daily.
- B. Clean debris that has fallen into building, including material on top surface of ceiling. If deemed necessary by the Owner the Contractor shall remove and reinstall ceiling tiles suspected of harboring construction debris and clean the affected areas.
- C. Clean all surfaces of exposed steel joists, suspended lighting and accessories within the Gymnasium, Cafeteria, and similar areas with exposed roof framing.
- D. Repair damage to building by replacing damaged material or component in-kind.
- E. Clean site daily to satisfaction of Owner.
- F. Dispose of debris and demolition materials at landfill in accordance with applicable regulations.
- G. Remove construction related debris that accumulates on top of ceiling tiles.

END OF SECTION 024119

SECTION 040120 - MAINTENANCE OF UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Removal and reinstallation and or replacement of existing brick masonry veneer to facilitate throughwall flashing installation.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Work Plan: Indicating sequence of work, temporary scaffolding and staging locations, proposed method for temporary wall shoring.
- C. Letter Certifying that tradesmen have five or more years of experience.

1.3 PROJECT CONDITIONS

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
- D. Prepare, install, and cure all materials in accordance with these Specifications, Brick Institute of America (B.I.A.) Technical Notes, and Manufacturer's Printed Instructions.
- E. Provide brick or concrete masonry units as required to replace units damaged during removal and replacement.



## PART 2 - PRODUCTS

### 2.1 MASONRY MATERIALS

- A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
  - 1. Provide units with physical properties, colors, color variation within units, surface texture, size, and shape to match existing brickwork meeting ASTM C 216, Grade SW, Type FBS.
    - a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.

### 2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, white or gray or both where required for color matching of exposed mortar.
  - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Sand: ASTM C 144 unless otherwise indicated.
  - 1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
  - 2. For pointing mortar, provide sand with rounded edges.
  - 3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
- D. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
- E. Water: Potable.

### 2.3 ACCESSORIES

- A. Throughwall Flashing: Refer to Division 07 Section "Flashing and Sheet Metal."
- B. Self-Adhering Membrane: Refer to Division 07 Section "Flashing and Sheet Metal."
- C. Weep Vents: Polypropylene honeycomb type venting weep hole material, clear or grey to match mortar, standard size for head joint. Quadro Vent by Hohmann and Barnard or approved substitute.

## 2.4 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
  - 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
  - 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mortar Type: Provide mortar materials in the following proportions or as indicated below:
  - 1. Pointing and Rebuilding Mortar: Comply with ASTM C 270, Proportion Specification, Type N.

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.

### 3.2 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove brick veneer. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Remove in an undamaged condition as many whole bricks as possible to allow new masonry to be "toothed" in.
  - 1. Remove mortar and loose particles from brick by cleaning with hand chisels, brushes, and water.
  - 2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
- C. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
- D. Support masonry, specifically at location of new throughwall flashing installation, in accordance with approved drawings but in no case more than 4-feet on center. Protect remaining masonry

that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

- E. Notify Owner of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- F. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- G. Replace removed damaged brick with other removed brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- H. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
  - 1. Maintain joint width for replacement units to match existing joints.
  - 2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- I. Lay replacement brick with completely filled bed and head joints. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
  - 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
- J. Provide open head joints, spaced at 24-inches on center in brick masonry courses located directly above any throughwall flashings. Provide polypropylene full height venting matrix within open head joint.
- K. Clean masonry veneer with water and a stiff bristle brush.

### 3.3 FLASHING INSTALLATION

- A. General: Install embedded flashings and weeps in masonry at locations scheduled for new throughwall flashings locations. Install in accordance with this section and Division 07 Section “Flashing and Sheet Metal.”
- B. Install flashing as follows unless otherwise indicated:
  - 1. Secure metal flashing to back-up wall with fasteners at 16-inches on center for stud walls and 24-inches on center for masonry walls. Provide 4-inch minimum butyl sealant filled sheet metal section laps. Cover sheet metal flashings with self-adhering membrane. Extend membrane up wall 6-inches minimum. Secure top of self-adhering membrane with metal termination bar. Stop self-adhering membrane 1/2-inch back from outside face of wall.

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3.4 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
1. Do not use metal scrapers or brushes.
  2. Do not use acidic or alkaline cleaners.

END OF SECTION 040120

## SECTION 053100 - STEEL DECKING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Replace deteriorated steel deck uncovered during demolition operations.
  - 2. Clean and prime surficially rusted areas of steel decking and framing uncovered during removal operations.
  - 3. Provide roof drain stiffening plates.
  - 4. Provide perimeter stiffening plates at steel deck-to-wall transitions where indicated.

#### 1.2 UNIT PRICES

- A. Technical requirements for related Unit Price work are defined in this section. Refer to Division 01 Section "Unit Prices," for quantities to be carried in the Base Bid and provided on the Bid Form.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.
- C. Product certificates.
- D. Welding certificates.

#### 1.4 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."
- B. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
- C. Verify profile of existing deck prior to ordering replacement panels.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 ROOF DECK

- A. Steel Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 30, and with the following:
  - 1. Galvanized Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 G60 zinc coating.
  - 2. Deck Profile: To match existing.
  - 3. Profile Depth: To match existing.
  - 4. Design Uncoated-Steel Thickness: 20-gauge.

2.2 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Fasteners for securing replacement roof deck panels and deck stiffening plates to overlapped deck: #10-16 x 1-inch, self-drilling, self-tapping screws, hex-head, either stainless steel or factory-treated, fluorocarbon-coated steel (in accordance with FM 4470 requirements) in order to prevent rusting. Fasteners shall be designed to penetrate structural steel over 1/4-inch thick.
- C. Fasteners for securing steel deck to structural framing: #14-14 self-drilling, self-tapping screws, 1-inch long, hex-head, fluorocarbon-coated steel (in accordance with FM 4470 requirements).
- D. Primer for steel framing: Rust-inhibitive industrial enamel primer by Sherwin Williams or accepted substitute. Primer shall be lead and chromate-free.
- E. Perimeter stiffening plates: 22 gauge thick galvanized steel.
- F. Roof drain stiffening plates: Refer to Division 22 Section "Roof Drains".
- G. Paint for steel deck underside (where exposed on the interior): Refer to Division 09 Section "Painting".

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Decking found to be damaged, deteriorated, deflected or rusted must be reviewed by Owner or his Representative prior to roof system installation operations. Unsound steel deck panels shall be removed in their entirety. Partial panel replacement shall not be permitted.
- B. Contractor shall notify Owner of damaged or deteriorated structural framing uncovered during deck replacement operations prior to installation of replacement decking.
- C. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 30, manufacturer's written instructions, requirements in this Section, and as indicate

### 3.2 INSTALLATION

- A. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
- B. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- C. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- D. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners along centerline of framing members or top joist chord angles. Attach deck according to deck manufacturer's written instructions. In no case shall fasteners be spaced more than 6-inches on center.
- E. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches.
- F. Laps: side laps shall be 3-inches, minimum. End laps shall be 6-inches minimum. Secure panel laps at 16-inches on center where exposed on the underside.
- G. Paint surface of replacement steel deck to match existing steel deck where exposed to the occupants on the underside.

### 3.3 CLEANING AND PRIMING

- A. Surficially rusted steel framing members (uncovered during deck removal work) and surficially rusted deck areas shall be mechanically cleaned of rust and scale according to Society for Protective Coating (SPC) SP-3 Standards and vacuumed clean.

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- B. Apply alkyd primer to cleaned deck and framing member areas, by brush, at rate of approximately 300 square feet per gallon. Allow 1-2 hours drying time prior to deck/roofing installation.

### 3.4 PERIMETER STIFFENING PLATE

- A. Install augmenting stiffening plates along perimeter where additional steel deck support is necessary. Secure plates with screws spaced at 12-inches on center and staggered on vertical and horizontal flanges.
- B. Plate sections shall be 2-feet long, minimum. Secure end laps with screws (2 minimum).

END OF SECTION 053100



## SECTION 055000 - METAL FABRICATIONS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section specifies requirements for the following Scope of Work:
  - 1. Provide aluminum exterior roof access ladders.
  - 2. Augment existing interior steel access ladders.
  - 3. Augment existing elevated rooftop unit framing and supports.

#### 1.2 SUBMITTALS

- A. Shop Drawings: Include plans, elevations, sections, and details of metal fabrications and their connections.
  - 1. Include signature of Contractor and fabricator.
  - 2. Provide stamped and sealed fabrication drawings where indicated.
- B. Templates: For anchors and bolts.

### PART 2 - PRODUCTS

#### 2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces without blemishes.
- B. Ferrous Metals (shop primed):
  - 1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
  - 2. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
  - 3. Steel Tubing: Cold-formed steel tubing complying with ASTM A 500.
  - 4. Steel Pipe: ASTM A 53, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.
- C. Aluminum:
  - 1. Extrusions: ASTM B 221/, alloy 6061 or 6063-T6, mill finish.
  - 2. Pipe: Schedule 40
  - 3. Alloy Rolled Tread Plate: ASTM B 632/B 632M, alloy 6061-T6.

## 2.2 PAINT

- A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements in FS TT-P-664 and compatible with finish paint systems indicated.
- B. Paint: Refer to Division 09 Section "Painting".

## 2.3 FASTENERS

- A. General: Provide type 304 or 316 stainless-steel fasteners unless otherwise indicated.
- B. Steel to steel connections: Bolts; ASTM A 325, endorsed by AISC; sized as indicated in Drawings.
- C. Ladder brackets to masonry: Epoxy anchors with 1/2-inch stainless steel rod and mesh screen tubes such as Hit-Hy-200A as manufactured by Hilti

## 2.4 MISCELLANEOUS MATERIALS

- A. Non-shrink, Nonmetallic Grout: ASTM C 1107, factory-packaged, non-staining, noncorrosive, nongaseous grout.
- B. Universal Shop Primer: Fast curing, lead and chromate free, universal modified-alloyed primer complying with MPI #79.

## 2.5 FABRICATION

- A. General: Use connections that maintain structural value of joined pieces.
  - 1. Shear and punch metals cleanly and accurately. Remove burrs.
  - 2. Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove welding flux immediately. Finish exposed welds smooth and blended.
  - 3. Fabricate joints that will be exposed to weather in manner to exclude water, or provide weep holes.
  - 4. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.
  - 5. Shop welds shall be in accordance with the American Welding Society (AWS) D1.1.

## 2.6 LADDERS

- A. Ladders: Comply with ANSI A14.3 and CFR Part 1926, Section 1053, unless otherwise indicated.
  - 1. Aluminum Exterior Ladders

- a. Siderails: 3-inches by 1-1/2-inches by 1/8-inch thick, minimum, tubular; rails spaced 24-inches.
  - b. Rungs: Corrugated, knurled, or dimpled, slip-resistant coating unacceptable; spaced 12-inches.
2. Provide brackets at not more than 48-inches on center. Size brackets and fasteners to support design loads specified in ANSI A14.3.
  3. Provide stamped and sealed fabrication drawings.

## 2.7 FINISHES

- A. Ferrous Metals: Finish metal fabrications after assembly. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Shop prime and paint ferrous-metals.
- B. Non-Ferrous Metals: Provide mill finish.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. General: Provide anchorage devices and fasteners for securing metal fabrications to in-place construction. Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, with edges and surfaces level, plumb, and true.
  1. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
  2. Fit exposed connections accurately together. Weld connections, unless otherwise indicated. Do not weld, cut, or abrade galvanized surfaces.

### 3.2 EXTERIOR LADDER INSTALLATION

- A. Position the ladder with the lowest rung 6-inches to 12-inches above the lower roof level and the upper platform just above the parapet cap. Ladder shall not penetrate either the upper or lower roof.
- B. Ensure that the ladder extends down to within 6-inches of the upper roof surface.
- C. Secure ladder through BMU and attach to the existing masonry back-up wall with fasteners through mounting brackets as required or recommended by the manufacturer. In no case shall brackets be spaced more than 4-feet on center. Provide 4 brackets minimum.

3.3 EXISTING LADDER MODIFICATION

- A. Existing interior ladders at hatch locations, not specifically indicated to be replaced, shall be repositioned, or extended to accommodate new roof system. Ladder shall provide for rungs not more than 12-inches above finished floor and level with the new hatch.

3.4 ELEVATED STEEL HVAC SUPPORTS

- A. Prepare for field welding as recommended in AWS “Code for Arc and Gas Welding in Building Construction.”
- B. Shop weld base plates to pipe stanchions. Weld assembly to existing steel framing using continuous 3/16-inch fillet welds. Where base plates are installed over steel joists, position plate over panel points.
- C. Shop weld attachment angle to lateral support beams and cope beams as indicated in Drawings.
- D. Erect steel framing assembly as indicated in Drawings. Weld primary HVAC support beams to upper pipe stanchion base plates.
- E. Prime and paint: Refer to Division 09 Section “Painting”.

3.5 SURFACE CORRECTION – FERROUS METALS

- A. Touch up surfaces and finishes after erection.
  - 1. Shop painted Surfaces: Clean field welds, bolted connections, and abraded areas and touch up paint with same material as used for surrounding surfaces.
  - 2. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION 055000

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section specifies requirements for the following Scope of Work:
  - 1. Provide wood blocking, supports, shims, and other miscellaneous assemblies as indicated.
  - 2. Replace deteriorated wood blocking as required.

#### 1.2 SUBMITTALS

- A. Product Data: For each item specified in Part 2 of this Section.

#### 1.3 PROJECT CONDITIONS

- A. Wood blocking shown on Drawings may be greater or less than quantities required to match insulation thickness. Include required quantities in Base Bid.
- B. Maintain constant perimeter heights to provide equal edge metal and fascia reveals.
- C. Store wood to prevent distortion and to protect from atmospheric moisture.
- D. Dimensional lumber and plywood shall be kiln dried unless otherwise indicated. If pressure treated lumber is required by the roof membrane manufacturer, additional compensation will not be considered. Additionally, if pressure treated wood is used, wood shall be separated from all metal components to avoid galvanic corrosion.
- E. Wood blocking shown on the drawings shall be continuous unless specifically indicated otherwise.

### PART 2 - PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by ALSC.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Maximum moisture content at time of dressing: 19 percent, maximum, for 2-inch nominal thickness or less.
- B. Wood blocking and framing construction shall be No. 2 grade and any of following species:

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1. Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; NLGA, WCLIB, or WWPA.
2. Hem-fir or Hem-fir (north); NLGA, WCLIB, or WWPA.
3. Southern pine; SPIB.
4. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPA.

### 2.2 SHEATHING

- A. Plywood Sheathing: APA PS 1 Exposure 1 sheathing, 3/4-inch thick.

### 2.3 FASTENERS

- A. Fasteners, washers, and accessories: Stainless steel or galvanized steel.
  1. Galvanized: ASTM A 153, hot-dip method. Electrogalvanized items unacceptable.
- B. Wood-to-wood connections: Galvanized, annular-threaded or ring-shanked common nails, 3-inches long.
- C. Termination bar to wood: Number 12, self-drilling, self-tapping screws of sufficient length to penetrate substrate 1-1/2-inches minimum.
- D. Wood blocking to steel deck and steel framing: Number 14, self-drilling, self-tapping screws, factory treated with fluorocarbon coating or stainless steel, of sufficient length to penetrate upper flutes of steel deck or steel framing 1-inch minimum and 1-1/4-inches maximum.
- E. Plywood to brick masonry or concrete walls: 1/4-inch diameter, 2-inch long drive pin anchors, with zinc sheath and stainless steel pin.
- F. Dimension lumber to masonry or concrete: Masonry screws with high-low threads for tapping concrete and corrosion resistant coating; 1/4-inch diameter; Tapcon, by ITW Buildex, or approved equal.

### 2.4 ACCESSORIES

- A. Batt insulation: See Division 07 Section "Roof and Deck Insulation."

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Selection of lumber pieces:
  1. Select members so that knots and obvious defects will not interfere with proper fastening and will allow making of proper connections. Cut out and discard defects that render piece unable to serve intended function.

2. Lumber may be rejected for excessive warp, twist, bow, crook, mildew, fungus, mold, or moisture content, as well as for improper cutting and fitting.
- B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
  - C. Comply with Factory Mutual (FM) Data Sheet 1-49 for anchoring perimeter blocking. Reduce fastener spacing by half within 8-feet of exterior corners.
  - D. Cut butt joints in woodwork to provide smooth, uniform line without irregularities. Stagger butt joints at multiple layers of blocking, layer to layer. Gap joints 1/8-inch. Minimum length of any individual piece of woodwork at perimeter edge shall be 3-feet, with minimum of 2 fasteners per piece.
  - E. Overlap wood blocking joints at corners from layer to layer.
  - F. Protect installed wood from moisture and weather. Wood degraded by exposure shall be rejected.

### 3.2 FASTENING OF WOODWORK

- A. General:
  1. Countersink fasteners below top plane of nailers.
  2. Achieve 1-1/4-inch minimum penetration into substrate when fastening 2x lumber to brick, structural concrete, or 2x lumber. Provide 1-inch minimum and 1-1/2-inches maximum penetration of metal decks.
  3. Provide 2 rows of fasteners at the specified frequency for wood blocking 2-inches by 8-inches nominal and wider.
  4. When attaching wood to concrete or masonry, through-drill wood 1/16-inch larger than fastener shank.
  5. Re-secure existing wood blocking scheduled for reuse with appropriate fasteners spaced at 48-inches on center, staggered off centerline.
- B. Wood blocking:
  1. To wood blocking: With annular-threaded, ring-shank nails, 12-inches on center, maximum, and staggered slightly off centerline of member being installed.
  2. To concrete/masonry substrates: With screws spaced 16-inches on center maximum and staggered slightly off centerline of member being secured.
  3. At deck penetrations to steel framing and steel decking: With self-drilling, self-tapping screws spaced at 16-inches on center maximum in staggered pattern.
  4. For nailer to nailer connections, penetrate member being fastened to 3/4 thickness of member. Fasten 16-inches on center, staggered.

C. Plywood:

1. To concrete/masonry walls: With drive pins spaced at 8-inches on center vertically and 16-inches on center horizontally staggered from row to row. Predrill pilot holes in accordance with fastener manufacturer's printed instructions.
2. To wood blocking: With nails spaced at 8-inches on center along each framing member.
  - a. Countersink fasteners below top plane of plywood.
  - b. Provide 1/8-inch gap between successive sections of plywood. Align finished surfaces to vary not more than 1/16-inch from plane of surfaces of adjacent units.
  - c. Place panels with long dimension perpendicular to support.
  - d. Install roof deck panels in staggered array, with panel ends in successive rows being offset. Minimum panel placement size shall be 48-inches by 48-inches. Each panel shall span minimum of 3 supports.
  - e. Center joints accurately over support.

END OF SECTION 061000



## SECTION 072200 - ROOF AND DECK INSULATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section specifies requirements for the following Scope of Work:
1. Provide flat thermal insulation and cover board.
  2. Provide insulation crickets, fillers, and cants.
  3. Provide spray applied polyurethane foam insulation at goosenecks and multipipe penetrations.

#### 1.2 SYSTEM DESCRIPTION

- A. Insulation System:
1. Provide minimum insulation thickness as specified.
  2. The maximum thickness for any given insulation board or layer shall be 3-inches.
  3. Provide minimum average aged R-Value of 30 throughout roof areas.
  4. Maintain constant perimeter height at edges of each roof section.
  5. Utilize existing drain locations as indicated on Drawings.
  6. Provide crickets and saddles between interior drainage points. Cricket width shall be as required to provide positive slope to drain but in no case less than 8-foot wide unless specifically indicated otherwise.
  7. Provide 8-foot by 8-foot sumps at each drain location.

#### 1.3 SUBMITTALS

- A. Product Data: For each product indicated in Part 2 of this Section.
- B. Manufacturer's full size tapered cricket drawing with the following:
1. Outline of roof area with drain and major penetration locations.
  2. Profile of crickets.
  3. Average R-value of system.
- C. Certifications: Provide documentation for requirements described in Paragraph 1.4, Quality Assurance.
- D. Insulation attachment pattern: Provide a drawing showing typical fastener pattern and frequency at field, corners, and edges.

- E. Results of manufacturer's pull tests for insulation adhered directly to the steel roof deck on Roof Areas H and J. Should the pull tests not meet a minimum resistance to meet 1-90 uplift requirements, mechanical attachment of the insulation base layer will be required.

#### 1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide insulation and related materials with fire-test-response characteristics indicated, as determined by testing identical products per ASTM E 84 for surface-burning characteristics, by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
- B. Securement: Fasten or secure components of system to meet or exceed requirements of FMG Data Sheets 1-28 and 1-29. Comply with requirements to achieve wind uplift rating of 1-90.
- C. Insulation products incorporated into roof system shall be included in roof membrane manufacturer's system warranty. Provide documentation from membrane manufacturer that proposed insulation will be included in required warranty.

### PART 2 - PRODUCTS

#### 2.1 INSULATION BOARDS

- A. Roof insulation system materials shall be manufactured by or acceptable to roof membrane manufacturer for inclusion in full system warranty to be issued by manufacturer.
- B. Polyisocyanurate: ASTM C 1289, Type II; Class I, Grade 2.
  - 1. Flat Board Stock: Minimum thickness 3.0-inches.
  - 2. Crickets: 1/2-inch per foot, minimum slope.
  - 3. Board size, maximum:
    - a. For Adhered Installation: 4-feet by 4-feet.
    - b. For Mechanically Attached Insulation: 4-feet by 8-feet.
- C. Cover Board: Fiberglass faced, gypsum board with moisture resistant core; ASTM C 1177.
  - 1. Thickness: 1/2-inch.
  - 2. DensDeck Prime by Georgia Pacific, or approved substitute.
- D. Sound attenuation batt insulation in steel deck: Mineral-fiber batt insulation consisting of fibers manufactured from glass, slag wool, or rock wool:
  - 1. Unfaced Mineral-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

## 2.2 MECHANICAL INSULATION

- A. Insulation for drain bowls and leader piping: fibrous glass batt type with premolded polyvinyl chloride jackets. Seaming tape for jacket seams shall be as supplied by insulation jacket manufacturer. Minimum thickness 1-inch.
- B. Fiberglass batt insulation for use at locations other than hot pipes: Foil faced Batt insulation conforming to ASTM C 665, Type II, Class C and E84, I, 3-inches thick.

## 2.3 ACCESSORIES

- A. Insulation adhesive: One- or two-part; spray applied polyurethane foam approved by membrane manufacturer.
- B. Temporary tie-in adhesive: Spray applied polyurethane Foam Insulation: ASTM D 1622, minimum 2 lb per cubic foot density polyurethane foam insulation such as “Froth-Pak Ultra-Premium Foam Insulation” as manufactured by Dow Chemical Company or approved equal.
- C. Fasteners
  - 1. Insulation Fasteners: Number 12, self-drilling, self-tapping screws; sufficient length to penetrate top flange of steel decking by 1-inch minimum and 1-1/4-inches maximum; with fluorocarbon coating complying with FMG 4470.
  - 2. Stress Plates: Nominal 3-inch diameter, 26 gauge galvalume coated steel.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Ensure that surfaces to receive insulation are clean and dry. If necessary, provide equipment to dry surface prior to application. Do not dry with open flames.
- B. Remove dirt, debris, and dust from substrates by brooming or vacuuming. Clean dirt and debris from between steel deck ribs.
- C. Provide roof insulation boards free of defects, including, but not limited to, broken corners, improperly adhered skins, excessive moisture content (if insulation surface “foams” when hot bitumen is applied, excessive moisture is present), dimensional irregularities, or other defects that may adversely affect replacement roof system. Mark defective insulation boards permanently and remove from site.
- D. At tie-in locations, provide staggered insulation or use polyurethane foam to seal butting insulation.

### 3.2 ROOF INSULATION INSTALLATION

#### A. Mechanical Attachment:

1. Secure base layer of insulation to steel roof decks using specified fasteners. Stagger end joints to middle of long dimension of insulation boards. Install fasteners at a rate of 1 fastener per 2 square feet (16 fasteners per 4-feet by 8-feet board) in the field of the roof. Increase fasteners to 24 fasteners per 4-feet by 8-feet board 8 feet minimum from the building perimeter. Further increase fastener frequency to 32 fasteners per 4-feet by 8-feet board for minimum of 8-feet in each direction from building corners where parapets do not exceed 3-feet in height. Drive fasteners straight, perpendicular to insulation. Install fasteners in accordance with the pattern established by the FMG Approval Guide. Adhere subsequent layers of insulation in adhesive.
2. Install insulation boards with minimum surface area of 16 square feet within 8-feet of building perimeters. Minimum dimension on cut insulation boards in field of roof shall be 12-inches, with minimum surface area of 2 square feet.

#### B. Adhesive Attachment:

1. Secure insulation layers and cover board, not schedule for mechanical attachment, using urethane adhesive. Adhere each insulation layer, including the cover board, over acceptable substrate using coverage method in accordance with manufacturer's requirements and recommendations but in no case shall adhesive ribbons be spaced more than 12-inches in the field or 6-inches at the building perimeter.
2. Set boards in adhesive, butting edges tightly. Stagger joints of insulation and coverboard within each layer. Offset joints between layers 12-inches minimum. Fill gaps greater than 1/4-inch.
3. Walk in boards to ensure adhesion and provide smooth top plane of insulation.

#### C. Utilize tapered edge strips and filler boards at drain sump locations. Place taper from surrounding insulation system down to drain bowl locations, providing 8-foot by 8-foot minimum drain sumps.

### 3.3 PIPE INSULATION INSTALLATION

- A. Provide insulation and jackets at drain bowls as indicated on Drawings, in accordance with manufacturer's printed instructions. Refer to Division 22, "Roof Drains" for additional information
- B. Provide mineral batt insulation at hot pipe locations as indicated on Drawings. Place foil facing toward pipe penetration.

END OF SECTION 072200

## SECTION 075420 -THERMOPLASTIC ROOFING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Provide adhered thermoplastic membrane roofing system.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.
- C. FM Approvals Listing: Provide membrane roofing, base flashings, and component materials that comply with requirements in FM Approvals 4450 and FM Approvals 4470 as part of a membrane roofing system, and that are listed in FM Approvals' "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals markings.
  - 1. Fire/Windstorm Classification: Class 1A-90.
  - 2. Hail Resistance: MH.
- D. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agent.
- E. Energy Performance: Provide roofing system that is listed on the DOE's ENERGY STAR "Roof Products Qualified Product List".
- F. Provide roof edge and perimeter sheet metal components complying with ANSI/SPRI ES1 and acceptable to manufacturer for inclusion into roof system.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
- C. Certifications: Provide documentation for requirements outlined in Paragraph 1.4, Quality Assurance.

- D. Sample roof membrane manufacturer's warranty.
- E. Contractor's letter certifying a minimum of 5-years commercial roofing experience to include 3 projects of similar size and scope to this project completed in the last 5 years. Provide a list of project references, including names and phone numbers.

#### 1.4 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** A qualified manufacturer that is FM Approvals approved for membrane roofing system identical to that used for this project.
  - 1. Products used in this specified roof system will be produced by manufacturers regularly engaged in the manufacturing of these products with a minimum twenty (20) year history of successful production and product installation.
  - 2. Manufacturer that submits the specified roof system warranty will have been in business for at least twenty (20) years with successful production and product installation of the specific roof system.
- B. **Roof Installer Qualifications:** A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
  - 1. Installer will be previously and currently approved by the manufacturer of roof membrane products to be installed under this section.
  - 2. Verification of approved Installer status will be written manufacturer's certification as stated elsewhere and five (5) references from building owners of prior warranted installation of similar roof assembly.
  - 3. References will contain the following: Owner's Name, Owner's Complete Telephone Number, Building Name and Complete Address, Roof Size in Squares, Type of Roof System Installed, Copy of Warranty Issued.
  - 4. Installer will provide written documentation of at least five (5) years of experience in the successful application of the specified roof system.
  - 5. Installer will also provide written documentation of the successful application of a minimum of 100,000 square feet of the specified roof material.
  - 6. Installers will be thoroughly trained and experienced in the necessary crafts. Installers will be made familiar with any unique requirements specified for proper performance of the work in this section.
  - 7. The Installer will supply the resumes of each installer listing work experience with the specified roof system during the past ten (10) years (if requested by the Owner).
- C. **Roofing Inspections:** Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection and installation, to include allowance of field sampling. Field sampling will only be performed if moisture intrusion is suspected.
- D. **Fire-Test-Response Characteristics:** Provide membrane roofing materials with fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction.

1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
- E. Source Limitations: Obtain components including roof insulation fasteners for membrane roofing system and other specified roofing products from same manufacturer as membrane roofing or approved by membrane roofing manufacturer

## 1.5 GUARANTEES AND WARRANTIES

- A. Provide complete roof system, including insulation, to be covered by roof membrane manufacturer's system warranty. Provide materials not included in Specifications where required by manufacturer to obtain requested warranty, without additional charge to Owner.
- B. Roof membrane manufacturer's system warranty meeting following minimum criteria:
1. Coverage to repair damage to system components resulting from leaks due to failure of materials or workmanship.
  2. Non-prorated, non-penal sum (no dollar limit), 20-year warranty period.
  3. Coverage of cost of removal and replacement of wet or damaged insulation due to failure of materials or workmanship.
  4. No exclusion from coverage for damage to roof system from wind gusts less than 55 miles per hour.

- 1.6 Contractor's Guarantee: Refer to Division 01 Section "Summary of Work," for Contractor's Guarantee.

## PART 2 - PRODUCTS

### 2.1 PVC MEMBRANE ROOFING

- A. Fire resistance: Listed by Underwriters' Laboratories as Class A roof system.
- B. Wind uplift resistance: Meets attachment requirements for FM Global 1-90.
- C. PVC Sheet: ASTM D 4434, Type II, glass fiber reinforced.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Sarnafil Inc.: Sarnafil G410, .060-inch thick.
    - b. Seaman Corporation: Fibertite EIP, .045-inch thick.
    - c. Durolast Roofing, Inc.: Durolast PVC,.060-inch thick.
  2. Exposed Face Color: Bright White.
- D. Alternate #1 PVC Sheet:
1. Sarnafil Inc.: Sarnafil G410, .080-inch thick.
  2. Seaman Corporation: Fibertite EIP, .060-inch thick.

3. Durolast Roofing, Inc.: Durolast PVC, .080-inch thick.

## 2.2 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same reinforcement, and color as sheet membrane. Flashing utilized for .080 and .060 roof membranes shall be .060-inch thick. Flashing for .045 roof membrane shall be .045-inch thick.
- C. Bonding Adhesive: Manufacturer's recommended water based or low VOC.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8-inch thick; with anchors.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
- F. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

## 2.3 ROOF INSULATION

- A. Refer to Division 07 Section "Roof and Deck Insulation."

## 2.4 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16-inch thick, and acceptable to membrane roofing system manufacturer.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Examine substrates, areas, and conditions, for compliance with the following requirements and other conditions affecting performance of roofing system:
  1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
  2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation



- B. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- D. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of each workday. Remove and discard temporary seals before beginning work on adjoining roofing.
- E. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- F. Ensure insulation boards have been properly installed and are free of defects including but not limited to, broken corners, excessive moisture, dimensional irregularities and the like. Defective insulation boards shall be marked and immediately removed and replaced.

### 3.2 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over properly installed insulation and coverboard and install according to membrane roofing system manufacturer's written instructions.
  - 1. Install sheet according to ASTM D 5036.
- B. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- C. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry before installing membrane roofing. Do not apply to splice area of membrane roofing.
- D. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- F. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation. Manufacturer's hot air welding machine will be used for seams in excess of 10 feet.
  - 1. All seams to be hot air welded. Seam overlaps to be a minimum 2-inches wide, or as required by the membrane manufacturer. Welding equipment shall be provided or approved by the membrane manufacturer. All workers intending to use the equipment shall have completed a training course by the manufacturer's representative prior to initiating roof replacement operations. Certification of trained welders is required. Manufacturer to supply confirmation of welder training.
  - 2. Hand welded seams shall be completed in two stages. Warm up equipment for at least one minute prior to welding. Welded seams to be 2-inches wide.

- a. Weld the back edge of the lap with a thin, continuous weld to prevent loss of the hot air during the final weld.
  - b. Insert the hot air nozzle into the lap, keeping the welding equipment at a 45 degree angle to the side lap. Once the material starts to flow, apply the 2-inch wide hand roller at a right angle to the welding gun and press lightly. For straight laps, use the 1-1/2-inch wide nozzle. Correct weld speed will complete approximately 20-inch/minute. The hot air weld equipment shall have temperature adjustments to provide this proper speed and weld.
  3. All seams to be welded in accordance with manufacturer's instruction. Inspect all completed seams on a daily basis. Inspection shall include, but not limited to, the probing of all field welded seams with a blunted pointed instrument to assure quality of the application and ensure that any operator or equipment deficiencies are immediately resolved.
    - a. One (1)-inch wide cross section samples of welded seams shall be taken at least four times daily.
    - b. Correct welds display failure from shearing of membrane prior to weld separation.
    - c. The Contractor shall patch each patch at no extra charge to Owner.
    - d. Each weld will be forwarded to the Owner's representative with approximate roof location and date labeled on each.
  4. Provide T-joint covers hot air welded at side and head lap junctures (T-joints).
  5. Apply lap sealant to seal cut edges of sheet membrane.
  6. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- G. Spread continuous bed of water cut-off mastic over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring. Extend membrane 1/2-inch minimum beyond inside face of clamping ring.

### 3.3 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.4 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products at locations shown on the Drawings. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions. Walkway products that are welded to substrate shall be welded on all four sides. Provide 1-inch gap between sections of walkway products to allow for drainage.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified firm to perform 3rd party monitoring and inspections.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Owner.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.

END OF SECTION 075420

## SECTION 076000 - FLASHING AND SHEET METAL

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Provide perimeter and penetration sheet metal flashings and components at locations indicated on the drawings and as required to properly terminate the roof system.

#### 1.2 SUBMITTALS

- A. Product Data:
  - 1. For each item specified in Part 2 of this Section.
  - 2. Color charts for coated metals.
- B. Shop Drawings: Show layouts, profiles, shapes, seams, dimensions, and details for fastening, joining, supporting, and anchoring sheet metal flashing and trim.
- C. Certifications: Perimeter sheet metal assembly must be in compliance with IBC requirements, specifically ANSI/SPRI ES-1 protocol.

#### 1.3 QUALITY ASSURANCE

- A. Installation procedures shall be in accordance with the industry standards and codes indicated in Division 01 Section "Summary of Work" and those indicated in this Section.
- B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.
- C. Sheet Metal Standard: Comply with NRCA "Roofing and Waterproofing Manual, Fifth Edition." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- D. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation. Include seams, attachments, and accessories.
  - 1. Parapet Cap

#### 1.4 WARRANTY

- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 SHEET METALS

- A. Stainless-Steel Sheet: ASTM A 240, Type 304, No. 2D finish.
- B. Galvanized (Zinc-Coated) Steel Sheet: ASTM A 653, G90 coating designation; structural quality, mill phosphatized for field painting.
- C. Prepainted, Metallic-Coated Steel Sheet: Galvanized sheet steel (G90); prepainted by coil-coating process, ASTM A 755; provide with manufacturer's strippable plastic film. Exposed finishes:
  - 1. High-Performance Organic Finish: Two-coat thermocured system containing not less than 70 percent polyvinylidene fluoride (Kynar/Hylar) resin by weight; complying with AAMA 2604. Color as selected by Owner from standard colors.
- D. PVC-Coated Galvanized Steel Sheet: Hot-dipped galvanized steel sheet (G90), with a laminate of non-reinforced PVC flashing on one side, suitable for welding flashing and stripping membranes. Exposed finish shall match membrane color.
- E. Perforated Stainless Steel Sheet for overflows: Type 304, 3/8-inch round holes with 51% - 59% open area.

### 2.2 ACCESSORIES

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- C. Exposed elastomeric Sealant: Refer to Division 07 Section "Joint Sealants."
- D. Concealed sealant for metal-to-metal connections: Refer to Division 07 Section "Joint Sealants."
- E. Pourable Sealer Pocket Filler
  - 1. Two-part polyurethane pourable sealer for sealing roof penetrations: manufactured or approved by roof system manufacturer.
  - 2. Gypsum concrete: Mill-mixed; ASTM C 317, Class A, with minimum compressive strength of 500 psi; Pyrofil, as manufactured by U.S. Gypsum/Poteet Industries, or accepted substitute.
- F. Band Clamps: Stainless steel, including screw-adjustable clamps; 1/2-inch wide.
- G. Flux: muriatic acid based with zinc.
- H. Solder: ASTM B 32, 50% block tin and 50% pig lead; manufactured for use with stainless steel or copper.

- I. Splash Block: Precast concrete formed to divert water in one direction. Splash block shall be in smooth forms with bottom edges rounded or chamfered to prevent abrasion.
- J. Termination Bar: Refer to Division 07 Section “Thermoplastic Roofing.”

### 2.3 FASTENERS

- A. Sheet metal to wood blocking connections (concealed securement): No. 12 annular threaded Series 300 stainless steel nails minimum 1-1/2-inches long.
- B. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, Number 10, stainless steel hex-washer-head screws, 1-1/2-inch long, with metal-capped EPDM washers.
- C. Sheet metal to masonry wall connections: 1/4-inch diameter, concrete/masonry screws of sufficient length to penetrate substrate 1-1/2-inch minimum. Provide metal capped EPDM washers at exposed locations.
- D. Sheet metal fascia to wood connections: 1-inch long, #10, Series 300 stainless steel pan head screws.

### 2.4 FABRICATION – GENERAL

- A. General: Fabricate sheet metal flashing and trim to comply with IBC and recommendations in SMACNA and NRCA that apply to design, dimensions, metal, and other characteristics of item indicated. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
  - 1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
  - 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- D. Expansion Provisions: Where lapped expansion provisions in Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with butyl sealant concealed within joints.
- E. Provide concealed fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- F. Provide cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than that of metal being secured.

## 2.5 FABRICATION SCHEDULE

- A. PVDF Coated Galvanized Steel (24 gauge)
  - 1. Parapet Caps
  - 2. Closures
  - 3. Fascia Metal
  - 4. Scupper Face Plate
- B. Galvanized Steel (22 gauge)
  - 1. Cleats
- C. Galvanized Steel (18 gauge)
  - 1. Perimeter Stiffening Plate
- D. Stainless Steel (26 gauge)
  - 1. Throughwall Counterflashing / Receiver /Clips
  - 2. Condenser Unit Curb Cover
  - 3. Skirt Flashing/Clips
  - 4. Storm Hoods
- E. PVC Clad Galvanized Steel (24 gauge)
  - 1. Scupper Sleeve
  - 2. Slab Vent/Hot Pipe Penetration Sleeve

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Verify that substrate and anchorage materials to receive sheet metal flashings are properly secured and aligned, without gaps, lumps, or offsets that may distort metal.
- B. Install underlayment at roof edges, parapets, curbs, and similar transitions, and as shown on Drawings.

### 3.2 INSTALLATION, GENERAL

- A. Comply with these specifications and applicable industry standards to include the IBC, NRCA, and SMACNA, whichever is more stringent.
- B. General: Anchor sheet metal flashing and trim and other components of Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
  - 1. Torch cutting of sheet metal flashing and trim is not permitted.

- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- D. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- E. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and butyl sealant.
- F. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- G. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10-feet, with no joints allowed within 18-inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with butyl sealant concealed within joints.
- H. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4-inches for nails and not less than 3/4-inch for wood screws.
- I. Non-moving seams and joints on non-solderable metal shall be interlocked, filled with sealant, and riveted, unless otherwise indicated.
- J. Seal joints as required for watertight construction. Use elastomeric sealant for exposed conditions. Use butyl sealant for hidden conditions.
- K. Provide sheet metal closure components at transitions to rising walls and similar changes in plane for edge metal, parapet caps, expansion joint covers, and other termination flashings. Fully crimp and seal closures to continuous blind nailed cleats.
- L. Soldered Joints: Comply with SMACNA and CDA requirements. Use conduction soldering methods.
  - 1. Clean surfaces to be soldered, removing oils and foreign matter. Smooth irregularities and round edges. Pre-temper edges of sheets to be soldered to width of 1-1/2-inches except where pre-tinned surface would show in finished Work.
  - 2. Apply flux to surfaces to receive solder. Remove oxides and other impurities from joint.
  - 3. Position and immobilize parts to be soldered. Heat parts above fluid temperature of solder. Draw solder into joint, creating 1-inch wide lap. Allow to cool before moving parts.
  - 4. Remove flux and acid by cleaning with neutralizing agent.
- M. Fabricate sheet metal components to the dimensions and shapes shown on the Drawings.

### 3.3 METAL COMPONENT INSTALLATION

- A. Securement Clips
  - 1. Securement clips shall be 6-inches long and 2-inches wide.
  - 2. Secure clips to substrate with specified fasteners. Space clips 12-inches on center.



3. Bend clips minimum of 1-inch over bottom drip edge of counterflashing and crimp loosely.
- B. Deck Flanges
1. Fabricate deck flanges 4-inches wide with hemmed edges unless otherwise indicated.
  2. Prime deck flanges and set in bed of adhesive.
  3. Secure deck flanges at 3-inches on center in staggered pattern. Hold fasteners back 2-inches minimum from edge metal dam.
  4. Flash flanges in accordance with membrane requirements and Drawings.
- C. Cleats
1. Form cleats with 3/4-inch kicks, bent out at maximum angle of 45 degrees to the vertical surface. Height of cleat shall be 3-3/4-inches unless otherwise indicated on Drawings.
  2. Secure continuous cleats to wood blocking with fasteners spaced at 6-inches on center.
  3. Provide 1/4-inch gap between cleat sections. Offset from joints in cover metal being secured.
- D. Sheet Metal Transition Closures
1. Extend sheet metal 4-inches minimum vertically up wall at sheet metal-to-wall transitions.
  2. Set sheet metal in full bed of butyl mastic and secure using appropriate screws with EPDM washers spaced at 4-inches along centerline of vertical portions.
  3. Fold vertical portion down over fasteners. Provide bead of sealant along sheet metal at wall.
- E. Parapet Caps
1. Provide membrane over parapet.
  2. Fabricate parapet cap to dimensions and shapes shown on Drawings and to fit snugly over parapet and membrane flashings.
  3. Secure continuous cleat at interior and exterior face.
  4. Provide 1-1/4-inch high standing seams. Hook cap on cleats and crimp. Provide butyl mastic in each standing seam. Fold seams over to form standing seam and fold corners. Provide shop fabricated end and corner sections minimum 18-inches long.
- F. Fascia
1. Secure fascia cleat. Hook fascia onto cleat and provide 3-inch lap joints filled with sealant.
  2. Secure fascia along top edge at +/- 16-inches on center through slotted holes.
  3. Do not secure upper edge metal cleat through fascia.
- G. Throughwall Counterflashing
1. Form throughwall flashing with integral counterflashing receiver to extend through brick veneer and up back-up wall 4-inches minimum.
  2. Set vertical leg of counterflashing in full bed of butyl sealant and secure to substrate as specified in Division 04 Section "Maintenance of Unit Masonry". Provide 4-inch minimum butyl sealant filled section laps.
  3. Prime masonry back-up wall, vertical leg of counterflashing and counterflashing 3-inches each side of section laps.

4. Provide continuous 8-inch wide self-adhering modified bitumen over interior vertical leg and onto back-up wall. Where indicated, secure upper edge of membrane with termination bar and fasteners as specified in Division 04 Section "Maintenance of Unit Masonry". Strip in 4-inch wide counterflashing section laps with 6-inch wide modified bitumen as specified in Division 04 Section "Maintenance of Unit Masonry".
  5. Insert counterflashing into receiver and secure with clips as specified.
- H. Pipe Sleeves, Caps, and Hoods
1. Form pipe sleeves with integral flanges with locked and soldered seams. Provide hemmed edges of deck flanges as indicated on Drawings.
  2. Prime flanges and set in bed of adhesive.
  3. Secure deck flanges to substrate as specified.
  4. Flash flanges in accordance with membrane requirements and Drawings.
  5. Install vent caps in full beds of sealant to fit snugly over existing vent pipes and new vent pipe sleeves as indicated on Drawings.
  6. Fabricate and install sheet metal hoods on conduit and pipe penetrations to cover sleeve flashings. Clamp tops of sleeves prior to installing hoods. Set hoods in bed of sealant and clamp to penetration.
- I. Skirt Flashing
1. Insert skirt flashing beneath existing and new equipment covers. Lap skirt flashing sections 3-inches minimum.
  2. Secure skirt flashing with sheet metal clips spaced 12-inches on center and minimum of 2 per side of curb.
- J. Scupper
1. Provide continuous 3-inch wide flanges on exterior and interior of parapet. Lock and solder flanges watertight.
  2. Set exterior flanges in full beds of sealant.
  3. Counterflash upper exterior flange of scupper box with sheet metal counterflashing set in sawcut reglet. Extend counterflashing 3-inches beyond scupper opening on both sides.
  4. Set interior flanges in adhesive. Firmly secure flanges, fastening at 3-inches on center.
  5. Flash interior flanges in accordance with membrane requirements and Drawings.
  6. Provide face plate, color matched to the parapet. Pop rivet face plate to the scupper sleeve at 6-inches on center with color matched pop rivets.
- K. Multi Pipe Penetration
1. Fabricate penetration with soldered watertight corners to dimensions and shapes indicated on Drawing. Provide throat width to accommodate flexible conduits or wiring to be routed through penetration.
  2. Install multi pipe penetration on existing prefabricated curbs as shown and fasten to curb with specified fasteners, minimum 2 per side.
  3. Provide spray foam seal and insect screening as indicated.
- L. PVC Gooseneck
1. Provide finished gooseneck to the approximate sizes shown in the drawings with solvent welded transitions.

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2. Attach steel riser clamp to vertical pipe below insulation level. Secure clamp to wood blocking.
3. Flash flanges in accordance with membrane requirements in Drawings.
4. Provide spray foam within opening as indicated.

M. Sill Flashing - Skylight

1. Fabricate sill flashing with as indicated with a minimum 1-inch upturn leg on interior of skylight.
2. Provide prefabricated, fully soldered corners.

N. Overflow Drain and Radon Vent Pipes

1. Extend overflow and radon vent pipes as shown on the Drawings.
2. All connections shall be below deck level utilizing 4 band on-hub connections.
3. Exposed pipe at interior shall be fully insulated.

3.4 CLEANING

- A. Remove scrap metal, burrs, fasteners, and related debris from roof daily. Take precautions to prevent damage to roof membrane and flashings.

END OF SECTION 076000

## SECTION 077200 - ROOF ACCESSORIES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Provide roof accessory components as indicated on the Drawings.

#### 1.2 SUBMITTALS

- A. Product Data: For each type of roof accessory indicated.
- B. Manufacturer Installation Instructions: For each product in Part 2.

#### 1.3 QUALITY ASSURANCE

- A. Comply with manufacturer's recommendations and requirements.
- B. Verify locations, dimensions, and substrate conditions before installation.

### PART 2 - PRODUCTS

#### 2.1 CONDENSATE SUPPORT

- A. Condensate Support:
  - 1. "Miro 1.5 Pillow Block Rooftop Pipe Support" by Miro Industries, Inc. or approved substitute.
  - 2. Provide Aluminum or steel pipe guide/strap.

#### 2.2 ROOF CURBS

- A. Fan, Vent, and Skylight Curbs: Prefabricated with welded seams and corner joints and integral mounting flange at perimeter bottom. Coordinate dimensions with roof openings.
  - 1. Material: Galvanized steel sheet, 18 ga min.
  - 2. Factory installed wood nailers at tops of curbs.
  - 3. Factory insulation with 1-1/2-inch thick, glass-fiber board insulation.
  - 4. Curb height: 24-inches minimum, unless otherwise indicated.
- B. HVAC (RTU) Curbs: Prefabricated with welded seams and corner joints and integral mounting flange at perimeter bottom. Curbs shall be capable of supporting the dead load of the specific unit

being supported as well as any superimposed live and dead loads. NOTE: where existing deck slopes 1/8-inch ft or more, curb shall be designed so that the top of roof curb is level.

1. Material: Galvanized steel sheet, 18 ga min.
2. Factory installed wood nailers at tops of curbs.
3. Factory insulation with 1-1/2-inch thick, glass-fiber board insulation.
4. Curb height: 24-inches.
5. Bracing: Galvanized steel, 18 ga min, full height of curb.

## 2.3 ROOF HATCHES

A. Roof Hatches: Roof hatches shall have insulated double-wall lids and frames with integral deck mounting flange and lid frame counterflashing. Curbs and lids shall have fully welded corners. Units shall be provided with continuous weathertight perimeter gasketing.

1. Type and Size: Single-leaf lid, 30 by 36-inches
2. Curb and Lid Material: Aluminum (0.0907-inch)
3. Lid Insulation: concealed fiberglass 3-inch thick concealed isocyanurate.
4. Curb Insulation: Fiberboard insulation 3-inch thick.
5. Curb Height: 12-inches.
6. Hardware: Stainless-steel spring latch with turn handles, butt- or pintle-type hinge system, and padlock hasps inside and outside.
7. Provide OSHA compliant fixed hatch railing system with self-locking gate. Attachment shall be directly to hatch.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

A. General

1. Coordinate installation of roof accessories with installation of roof deck, roof insulation, flashing, roofing membranes, penetrations, equipment, and other construction to ensure that combined elements are weatherproof and watertight.
2. Install roof accessory items according to construction details in NRCA's "Roofing and Waterproofing Manual," unless otherwise indicated,
3. Separation: Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.
4. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.
5. See Division 23 Section Mechanical/Electrical General Requirements for additional information on disconnection and reconnection of units.

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B. Curb Installation

1. Set curb flange on wood blocking and secure with specified fasteners, minimum 2 per side and maximum 24-inches on center.
2. Where new fan and vent curbs are specified for reuse, shim curb level with continuous wood blocking attached to the substrate as previously specified.

C. RTU Curb Installation

1. Field verify location of conduit and ducts prior to installation.
2. Set new curb directly on steel deck. Secure flanges with specified fasteners spaced at 24-inches on center.
3. Provide full depth bracing as required by the manufacturer but in no case greater than 4-ft on center. Weld or bolt bracing to the side of the curb. Attach bracing to curb at 4 points minimum on each side. Bolts shall be 3/8-inch minimum dia. carriage bolts with smooth head on exterior of curb.

D. Condensate Line Supports

1. Set pipe supports at 6-feet on center and direction changes.
2. Secure condensate line to supports.

3.2 REINSTALLATION

- A. Reinstall equipment disturbed or disconnected by work of this section. Extend and reconnect electrical and mechanical connections. Restore normal operation of equipment.

3.3 CLEANING

- A. Clean exposed surfaces according to manufacturer's written instructions. Touch up damaged metal coatings.

END OF SECTION 077200

## SECTION 079200 – JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Provide sealant and backer materials at exterior vertical masonry joints as indicated on the Drawings.

#### 1.2 SUBMITTALS

- A. Product Data: All items specified in Part 2 of this Section.

#### 1.3 QUALITY ASSURANCE

- A. Utilize skilled and experienced specialty workers to install work. Experienced trade workers shall be utilized for each aspect of work.
- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.
- C. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:
  - 1. Install a minimum 20 linear feet of each color and type of sealant and sealant configuration at all new sealant joint locations referenced in scope of work. Sealant installation shall conform to Contract Documents and once accepted shall become standard for subsequent work on project. Trial areas shall be determined by Owner or Engineer. Areas shall be repeated until acceptable results are obtained. Installation of test items shall be in conformance with Contract Documents and shall use only submitted materials. Evidence of improper or unsatisfactory performance shall be ground for rejection of submitted materials.

#### 1.4 WARRANTY

- A. Special Installer's Warranty: See Division 01 Section “Summary of Work.”
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: 2 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 SEALANTS

- A. Sealant for use at exterior joint locations: Multi-component urethane sealant conforming to ASTM C 920, Type M, Grade NS, Class 50, Uses M and A, such as Dymeric 511 as manufactured by Tremco, Dynatrol II by Pecora, or NP-II by Sonneborne.
- B. Color(s) shall be selected by Owner from approved manufacturer's color chart. Colors shall be manufacturers available premium colors such as "Fast Pak" by Tremco or approved equal. Owner may require a minimum of two (2) sealant colors to be installed at each new sealant joint type. Contractor will include multiple colors in his/her Bid.
- C. Sealant for concealed joints shall be one-part butyl sealant, conforming to ASTM C 1311.
- D. Sealant for hot pipe shall be one-part silicone, non-corrosive, with service temperature from -60° F to +400° F, minimum, such as "Dow Corning 999-A" or equal.

### 2.2 ACCESSORIES

- A. Primer shall be non-staining type as manufactured or recommended by sealant manufacturer for each substrate.
- B. Joint cleaner shall be non-corrosive and non-staining as recommended by sealant manufacturer. Cleaner shall be totally compatible with sealant for each substrate.
- C. Bond breaker tape shall be pressure-sensitive tape as recommended by sealant manufacturer.
- D. Backer rod shall be continuous length, closed-cell polyethylene foam, as recommended by sealant manufacturer. Backer rod shall be compressible, resilient, non-waxing, non-extruding, and non-staining. Backer rod shall be of sufficient size to be compressed 30% of maximum joint width and shall be totally compatible with sealant, primer, and substrates. Backers shall conform to requirements of ASTM C 1330, ASTM D 1622, ASTM D 1623, and ASTM D 5249.
- E. Masking material shall be commercially available masking tape of appropriate width or other material recommended by sealant manufacturer. Self-adhesive masking materials shall be of low tack and completely strippable, leaving no adhesive residue behind when removed.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.



- a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
- B. Sawcut existing joints as required to provide a minimum width of 1/2-inch.

### 3.2 INSTALLATION – GENERAL

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability. Provide a 2:1 width to depth ratio unless otherwise indicated by the manufacturer.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Provide approximately 30% compression of backer materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint configuration per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

END OF SECTION 079200

## SECTION 086200 – REPLACEMENT SKYLIGHTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for following Scope of Work:
  - 1. Provide new curb mounted aluminum frame skylights with acrylic glazing units sized to cover existing openings as shown.

#### 1.2 SYSTEM REQUIREMENTS

- A. General: Provide unit skylights capable of withstanding loads as prescribed by the prevailing code for the project location.
- B. Unit skylights must be tested in accordance with AAMA\WDMA\CSA\101\I.S.2\A440 as required by Section 2405.5 of the International Building Code.
- C. Unit skylights must be tested and certified by NFRC for thermal performance. Products must be listed on the NFRC Certified Products directory.
- D. System Performance Requirements:
  - 1. U-factor shall be .46 BTU/HR-ft<sup>2</sup>-F maximum per NFRC 100
  - 2. SHGC shall be .35 per NFRC 200
  - 3. Visible light transmission shall be 46% per ASTM E972

#### 1.3 SUBMITTALS

- A. Product Data Sheet: For each type of skylight specified, include details of construction and installation, relative to applicable roofing materials.
- B. Samples for Selection: Manufacturer's color charts showing a full range of colors available for each type of skylight glazing and aluminum finish.

#### 1.4 PROTECTION OF WORK AND MATERIAL STORAGE

- A. Materials shall be stored in enclosed trailers on site or delivered to site daily.

### PART 2 - PRODUCTS

#### 2.1 SKYLIGHT

- A. General: Factory-assembled, curb-mounted unit consisting of plastic glazing, gasketing, inner frame designed to mount on curb, and metal flashing.
  - 1. Basis of Design Products: ECOSKY 3 model CMC3, by Wasco.

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- B. Condensation Control: Fabricate skylight units with integral internal gutters and weeps to collect and dispose of condensation.
- C. Thermal Break: Fabricate skylight units with thermal chambered PVC.
- D. Outer Glazing: Pyramid thermoformed:
  - 1. Translucent: IR Reflecting Acrylic Satin Sky 2.
- E. Middle Glazing: Thermoformed Dome
  - 1. Acrylic: Clear.
- F. Inner Laylite:
  - 1. 10 mm multi-wall flat cellular polycarbonate panel filled with Lumira aerogel.

### 2.2 FLASHING

- A. Skylight curb flashing shall be fabricated from 0.040-inch aluminum.

### 2.3 FINISH

- A. Finish for all metal parts of new aluminum skylights, including flashing, shall be a siliconized polyester baked enamel finish complying with AAMA 26S. Color to be as selected by Owner.

### 2.4 INTERIOR FINISH MATERIALS

- A. Gypsum wallboard shall conform to ASTM C 36, fire retardant (Type X), 5/8-inch thick.
- B. Joint compound and tape shall be specifically manufactured to serve both as taping and finishing compound. Joint tape shall be cross-laminated, tapered edge recommended by compound manufacturer.
- C. Gypsum board screws shall be Type G, S, or W steel screws conforming to ASTM C 1002.
- D. Edge trim for finishing skylight interior: Finished aluminum or extruded PVC reveal type casing bead molding (J-channel) as manufactured by Fry Reglet, Clinch-On Products, or approved equal.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Do not deliver to site or install materials or systems that are not accepted for use by Owner.
- B. Report damaged or unsuitable areas to Engineer or Owner's representative immediately.

3.2 REPLACEMENT SKYLIGHT INSTALLATION

- A. Shop fabricate sheet metal flashings. Make breaks, bends and hems not supplied by skylight manufacturer in uniform straight lines.
- B. Install curb flashing pans in a full bed of specified sealant. Pan shall turn up 2-inches minimum at back with exposed edges hemmed. Seal joints and corners to form a watertight installation. Seal all fastener penetrations with washers or sealants. Joints shall lap 4-inches minimum and be fully bedded in sealant.
- C. Installation of skylights shall be performed by skylight manufacturer's field technicians or under their direct supervision.

3.3 FINISH INTERIOR/GYPSUM BOARD

- A. Finish interior below skylights where rough opening heights has been increased to provide proper flashing height above roof surface. Finish work shall be accomplished by tradesman regularly engaged in gypsum board application and interior finish work.
- B. Install gypsum board with drywall screws spaced 8-inches on center, maximum. Install finish trim casing beads at all exposed edges. Miter inside and outside corners. Tape and compound all joints, corners and screw heads. Sand compound joints and patches for smooth uniform surface prior to painting.
- C. Apply primer and paint as specified in Division 07 Section "Painting".

END OF SECTION 086200

## SECTION 099100 - PAINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for following Scope of Work:
  - 1. Prepare, prime, and paint exterior surfaces of steel framing components where indicated.
  - 2. Prepare, prime, and paint interior wall and ceiling finishes replaced or repaired. Paint entire surface of affected wall or ceiling areas.

#### 1.2 SPECIAL JOB CONDITIONS

- A. Coating products shall not contain: asbestos, zinc chromate, strontium chromate, or lead.
- B. Color to be selected by Owner.
- C. The building may be occupied during construction. Coordinate with the Owner to segregate occupants from the immediate work area(s).
- D. Provide all necessary temporary protection and barriers to segregate work area from pedestrian and vehicular traffic and prevent damage to the building and its occupants.

#### 1.3 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Paints shall be delivered in sealed containers that legibly show designated name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name of manufacturer.
- B. Paints and thinner shall be stored in accordance with manufacturer's written directions and as a minimum stored off ground, under cover, with sufficient ventilation to prevent build-up of flammable vapors and at temperatures between 40 and 95 degrees F.

#### 1.4 ENVIRONMENTAL CONDITIONS

- A. Unless otherwise recommended by paint manufacturer, ambient temperature shall be between 45 and 95 degrees F when applying coatings.

#### 1.5 SUBMITTALS

- A. Manufacturer's Instructions
  - 1. Paint application instructions

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2. Paint color charts for Owner's selection of color
  3. Material Safety Data Sheets (MSDS)
- B. Schedule for Paint application
- C. Applicators Qualifications consisting of evidence showing satisfactory application of proposed paint at a minimum of two sites. Give names and contacts at sites.

## PART 2 - PRODUCTS

### 2.1 PAINT, GENERAL

- A. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
  3. Paints shall comply with applicable state and local laws enacted to insure compliance with Federal Clean Air Standards and shall conform to restrictions of local air pollution control authority.
  4. Paints and primer, shall be lead and chromate free.

### 2.2 PRIMER AND PAINT

- A. Primer for exterior metal framing MPI #107: Rust-inhibitive industrial acrylic primer, such as Pro Industrial Pro-Cryl Universal Acrylic Primer by Sherwin Williams or approved equal.
- B. Paint for exterior surfaces: Industrial Enamel by Sherwin Williams or approved equal.
- C. Primer for interior plaster and wallboard surfaces MPI #50: All Surface Enamel Primer by Sherwin Williams or approved equal.
- D. Paint for interior plaster and wallboard surfaces MPI #54 (semigloss): Emerald Interior Acrylic Latex Paint by Sherwin Williams or approved equal. Finish paint coat shall match surrounding finishes in color.
- E. Colors shall be as selected by Owner from manufacturer's standard colors, as indicated. Color of undercoats shall vary slightly from color of next coat.

### 2.3 ACCESSORIES

- A. Paint application shall be performed by brush or roller only. No spraying shall be permitted unless approved in advance by Owner.

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- B. Masking tapes, sheets, and sealants shall be compatible with materials they are applied to and shall not leave stains on adjacent surfaces.

2.4 PAINT SCHEDULE

- A. Exterior surfaces steel framing and interior wallboard finishes:
  - 1. Primer
    - a. Number of Coats: One, dry film thickness, 1.7 mils
  - 2. Paint
    - a. Number of Coats: Two, dry film thickness, 1.3 mils per coat.

PART 3 - EXECUTION

3.1 GENERAL

- A. Prior to surface preparation and coating applications, remove mask or otherwise protect all adjacent surfaces. Repair or replace items damaged in course of painting to Owner's satisfaction.
- B. Before applying succeeding coats, undercoats shall be completely integral and shall perform function for which they are specified. Properly prepare and touch up all scratches, abrasions or other disfigurements and remove any foreign matter before proceeding with following coat. All spot-priming or painting shall be featheredged into adjacent areas to produce smooth monolithic appearance.
- C. Post "Wet Paint" signs as required.

3.2 PREPARATION

- A. Clean all surfaces to be painted as required to remove dust and dirt. Sand as necessary to properly prepare surfaces to receive primer and paint.
- B. Wipe off dust and grit from properly prepared surfaces prior to applying primer.
- C. Remove dirt, scale, loose coatings and particles, grease, oil, disintegrated coatings, and other substances deleterious to coating performance for component substrates in accordance with SSPC SP-1, Power Tool Cleaning, to remove rust and loose coatings as well as to remove glossy surfaces of existing paint films.
- D. Ferrous Surfaces: Ferrous surfaces including those that have been shop-coated, shall be solvent-cleaned. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with hand tools according to SSPC SP 2, power tools according to SSPC SP 3. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

- E. Gypsum Board Surfaces: Gypsum board surfaces shall be dry and shall have all loose dirt and dust removed by brushing with a soft brush, rubbing with cloth, or vacuum-cleaning prior to application of first-coat material. Damp cloth or sponge may be used if paint will be water-based.
- F. Previously Painted Surfaces: Previously painted surfaces specified to be repainted or damaged during construction shall be thoroughly cleaned of all grease, dirt, dust or other foreign matter. Blistering, cracking, flaking and peeling or other deteriorated coatings shall be removed. Slick surfaces shall be roughened. Damaged areas such as, but not limited to, nail holes, cracks, chips, and spalls shall be repaired with suitable material to match adjacent undamaged areas. Edges of chipped paint shall be feather edged and sanded smooth. Rusty metal surfaces shall be cleaned as per SSPC requirements. Solvent, mechanical, or chemical cleaning methods shall be used to provide surfaces suitable for painting. New, proposed coatings shall be compatible with existing coatings. If existing surfaces are glossy, gloss shall be reduced.

### 3.3 APPLICATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Apply products in accordance with manufacturer's instructions. Rate of application of coating shall be as specified but shall not exceed that as recommended by paint manufacturer for purpose of surface involved.
- C. Allow sufficient drying time between coats as recommended by coating manufacturer.
- D. Lightly sand and dust between each coat to remove defects visible from 5-feet. Finish coats shall be smooth, free from brush marks, streaks, laps, sags, skips, holidays, etc.
- E. Do not apply additional coats until previously installed coat has been reviewed and accepted by Owner. Only accepted coats of paint will be considered in determining number of coats applied.
- F. Refinish entire sections if areas which have been previously repaired are rejected.

### 3.4 CLEANING

- A. Repair brush marks, scratches, abrasions, and minor surface defects in coatings finish in accordance with manufacturer's printed instructions. Finish of repaired surfaces shall be uniform and free from blemishes and variations in color and surface texture.

END OF SECTION 099100



## SECTION 221426.13 – ROOF DRAINS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies requirements for the following Scope of Work:
  - 1. Provide drain bowls, strainers, clamping rings, underdeck clamps, and pipe joint connections at all roof drain locations.
  - 2. Clear roof drain systems from roof level to the point where the leaders exit the building to achieve a free-flowing system.

#### 1.2 UNIT PRICES

- A. Technical requirements for related Unit Price work are defined in this section. Refer to Division 01 Section “Unit Prices” for quantities to be carried in the Base Bid and provided on the Bid Form.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

#### 1.4 PROJECT CONDITIONS

- A. Sections of the existing interior finish ceiling systems will require removal. These areas should be reviewed with Owner prior to removal. Work areas shall be clearly defined and closed-off from building occupants. Areas of ceiling removal shall be as small as possible to effectively install the work. Any adjacent ceilings damaged during installation shall be repaired or replaced by the Contractor at no cost to the Owner.
- B. Existing roof drain outlet diameters vary. Contractor shall confirm conditions prior to ordering materials.
- C. The plumbing work shall be coordinated with roof work in such a manner that drain bowl assemblies are installed concurrently with the roofing and that no interior portions of the building are left exposed to the elements at the end of a day's work. Install replacement drain bowl assemblies before new roofing is in place.
- D. The Contractor shall provide all rooftop protection for new and existing roofs.
- E. All plumbing work shall be performed by a licensed plumber in accordance with the International Plumbing Code (IPC).
- F. The Contractor shall investigate the ceiling conditions. PVC piping shall not be used if the ceiling is used as a return air plenum.

## PART 2 - PRODUCTS

### 2.1 ROOF DRAIN COMPONENTS

- A. Roof drain: Coated cast iron with bottom outlets, large-sump style, with wide roof flanges, such as “Series 21500” manufactured by Josam Company, or approved equal. Outlet diameters shall match the existing leader pipe diameters.
- B. Drain strainers: Coated cast iron of suitable size and configuration to be installed on the new drain bowl assemblies.
- C. Clamping rings: Non-puncturing type, with integral gravel stops, either coated cast iron or stainless steel, sized to match the drain bowls. Bolts, nuts, and washers required for securement of clamping rings to drain bowls shall be stainless steel.
- D. Underdeck clamps: Coated cast iron, provided by the drain bowl manufacturer for application beneath roof decks.

### 2.2 ACCESSORIES

- A. Ceiling access panel shall be flush-mount type, meeting the following minimum requirements:
  - 1. Size: 2-feet by 2-feet, minimum.
  - 2. Door: 18 gauge steel, or 20 gauge steel with a 1/2-inch minimum hardboard backer.
  - 3. Door Frame: 16 gauge steel.
  - 4. Door Hinge: Continuous, concealed-type.
  - 5. Lock: Screwdriver-activated cam.
  - 6. Door and Frame Finish: Baked-on enamel primer coat with factory-applied finish enamel color to match the surrounding ceiling finish to the greatest extent possible.
- B. Leader pipe: Schedule 40 PVC pipe. Pipe and connections shall be sized to tie into existing leader piping.
- C. Drain bowl to leader pipe connections: 4 band, no hub, neoprene connections.
- D. Pipe Connections: Solvent welded connections.
- E. Hangers and fittings: Conforming to Manufacturer’s Standardization Society of Valve and Fittings Industry (MCC) SP-58 and SP-59 guidelines. Hangers and strapping material shall be of approved material that will not promote galvanic reaction. Cast iron fittings shall conform to the American Society of Mechanical Engineers (ASME) B16.4 and B16.12.
- F. Steel plate for drain bowl locations shall be minimum 24 gauge hot dipped galvanized plate as provided by the drain bowl manufacturer. Plate shall be a minimum size of 16-inches by 16-inches with central hole of suitable size to receive new drain bowl.
- G. Insulation for drain bowls and leader piping: Fibrous glass batt type with premolded PVC jackets. Insulation shall be minimum 1-inch thick.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. The Owner shall be notified at least 72 hours prior to all underdeck work. All materials, equipment and daily clean-up shall be the responsibility of the Contractor.
- B. All flashing-in of the roof drains and membrane repairs as a result of the plumbing work shall be the responsibility of and provided for by the Contractor.
- C. The Contractor is cautioned to investigate all existing conditions and materials of construction. All replacement items must be completely compatible with and match the existing system.
- D. Comply with Division 1 GENERAL REQUIREMENTS for preparation, protection and clean-up of interior and exterior work areas.

### 3.2 CEILING REMOVAL

- A. Do not remove any ceiling areas without the prior approval of the Owner and Owner's Representative. The limits of ceiling removal to facilitate installation of the new plumbing work shall be clearly defined. All precautions shall be taken to protect the building interior and occupants during ceiling removal and replacement.
- B. Do not damage or cut any of the ceiling support system without the Owner's and Owner's Representative's approval. Should the support system be damaged or removed to facilitate plumbing work installation, it shall be replaced with a new support system equal to the existing, at no additional cost to the Owner.
- C. All floor and adjacent areas, both interior and exterior, damaged or stained by the installation of the plumbing work shall be cleaned of all dust, debris and any other materials to the Owner's satisfaction.

### 3.3 DRAIN BOWL ASSEMBLY INSTALLATION

- A. Install new roof drains such that the bowl flange with clamping ring and integral gravel stop are level (see Detail Drawings for assembly position).
- B. Provide manufacturer supplied, prefabricated, galvanized steel plate over opening. Mechanically attach plate to steel deck with specified fasteners, 2 per side.
- C. Make drain to leader connections watertight and of proper strength using no hub connections.
- D. Install drain bowl insulation and PVC jackets. Join sections with tape or other methods indicated by the manufacturer. Extend insulation to the first elbow or 2-feet.
- E. Drain components shall be completed and flashed in the same day's operation.
- F. Check all drain joints with a water test once the roofing and flashing are completed.

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3.4 CEILING ACCESS PANEL

- A. Install ceiling access panels in accordance with the Manufacturer's printed instructions.
- B. Panel door hinge shall be balanced manually to provide a smooth operating motion when installed.

3.5 CLEANING OF DRAINAGE SYSTEM

- A. Once the new roof system has been installed, clear all roof drain leader piping and underground leaders of debris and clogs such that the system is free-flowing.
- B. The Contractor shall clear the existing leader pipe with roter-type equipment from the roof deck level to the point where the drain pipes exit the building.

3.6 WATER TESTS

- A. Perform water tests on roof drain assemblies, including leader piping, and on gutter assemblies and scuppers. Using 3/4-inch garden hose, run water into the drainage components for thirty minutes. Inspect all drainage components for leakage and repair as required. Inform Owner of test findings.

END OF SECTION 221426.13

SECTION 230500 – COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for work under Division 23.
- B. Coordinate the work of this Section with the requirements of the Project.

1.2 REFERENCES

- A. Building Code – International Building Code (IBC, IMC, IPC) - 2018
- B. NFPA Standards, ASHRAE Handbooks and Manuals, SMACNA Manuals

1.3 DEFINITIONS

- A. Following are definitions of terms and expressions used in the Mechanical Sections in addition to definitions found in the Contract Conditions:
  - 1. "Piping" includes pipe, fittings, valves, hangers, and other accessories that comprise a system.
  - 2. "Ductwork" includes ducts, fittings, housings, dampers, hangers, and other accessories, which comprise a system.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements
  - 1. Work shall conform to the requirements of the codes, laws and ordinances of the Howard County, National Fire Protection Association, American Society of Mechanical Engineers and other authorities having jurisdiction.
  - 2. Comply with applicable codes, laws, standard practices.
  - 3. Comply with the standards of good practice as outlined in the ASHRAE Guide, the Sheet Metal and Air Conditioning Contractor's Association's "Duct Manual", and the Apprentice Training Manual of the Steam Fitters Union.
  - 4. The requirements of the authorities having jurisdiction shall take precedence over the Drawings and Specifications and changes required by the authorities shall be made after review by the Architect.

1.5 SUBMITTALS

- A. Review of shop drawings does not relieve the Contractor of responsibility for complying with the contract documents.

1.6 PROTECTION

- A. Protect material and equipment from damage.
- B. Cap or plug openings in equipment, piping and ductwork with proper caps and plugs.

## 100% Submission

### 1.7 VARIANCES

- A. Where conflicts exist within the contract documents, request clarification prior to the submission of a bid. If clarification is not requested, provide the work representing the higher cost and quality.

### 1.8 WARRANTY

- A. During the warranty period, make the proper adjustments of systems, equipment and devices installed and perform work necessary to ensure the efficient and proper operation of the systems, equipment and devices.

## PART 2 - PRODUCTS

### 2.1 MATERIALS AND WORKMANSHIP

- A. Items shown and not specifically called for, or items specified and not specifically indicated or detailed on the Drawings, or items neither specified nor shown, but which are reasonably incidental to and commonly required to make a complete job, shall be provided.

## PART 3 - EXECUTION

### 3.1 EXISTING CONDITIONS

- A. Visit the site and become familiar with existing conditions. Modifications to work required to allow for existing conditions shall be provided. Submit proposed modifications to the Architect for approval prior to installation.
- B. Coordinate interruptions in service of existing systems with the Owner. Provide temporary connections to maintain operation of existing systems.

### 3.2 MANNER OF INSTALLATION

- A. The Drawings are generally indicative of the work to be installed, but they do not show all offsets, fittings and similar details required, which shall be provided to meet the job conditions. In areas where work is installed in close proximity to work of other trades or within trades covered by this Division of the Specifications, prepare larger scale drawings consisting of plans and sections to show how work is to be installed in relation to work of other trades.

### 3.3 RECORD DRAWINGS

- A. Keep at the site two (2) sets of black and white prints for the express purpose of showing changes from the contract Drawings made during construction. Mark up the prints with red pencil during construction and deliver the prints, before final inspection, to the Architect as a final set of "Record Drawings".

### 3.4 TESTING

- A. Before concealing piping and before insulating piping, test piping and prove tight.

- B. Replace and retest to Owner's satisfaction pipe or fittings broken or damaged under test.

### 3.5 CLEANING OF SYSTEMS

- A. After satisfactory completion of pressure tests and before permanently connecting fixtures, equipment, strainers and other accessory items, clean systems. Remove burrs, cuttings and waste. Blow and flush piping until interiors are free of foreign matter.
- B. Dust shall be removed from ductwork before Substantial Completion. Filter media shall be new at Substantial Completion.
- C. If systems become stopped with refuse, remove the obstruction and replace and repair work disturbed.
- D. Remove rust and clean surfaces to be insulated or painted.
- E. Leave systems in clean condition and running order.

### 3.6 PERFORMANCE TEST

- A. Should the performance or capacity of the systems, equipment or devices furnished be questioned by written notice from the Owner after installation, provide necessary test equipment and complete a satisfactory test of the items in question. The test shall be run when and as directed by the Owner and in the presence of his representative. Should the items furnished not pass such a test, they shall be removed and replaced by systems, equipment or devices satisfactory to the Owner.

END OF SECTION 230500

## SECTION 232300 - REFRIGERANT PIPING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes refrigerant piping used for air-conditioning applications.

#### 1.2 QUALITY ASSURANCE

- A. Comply with ASHRAE 15, "Safety Code for Refrigeration Systems."
- B. Comply with ASME B31.5, "Refrigeration Piping and Heat Transfer Components."

#### 1.3 PRODUCT STORAGE AND HANDLING

- A. Store piping in a clean and protected area with end caps in place to ensure that piping interior and exterior are clean when installed.

### PART 2 - PRODUCTS

#### 2.1 COPPER TUBE AND FITTINGS

- A. Copper Tube: ASTM B 88, Type K or L.
- B. Wrought-Copper Fittings: ASME B16.22.
- C. Wrought-Copper Unions: ASME B16.22.
- D. Solder Filler Metals: ASTM B 32. Use 95-5 tin antimony or alloy HB solder to join copper socket fittings on copper pipe.
- E. Brazing Filler Metals: AWS A5.8.
- F. Flexible Connectors:
  - 1. Body: Tin-bronze bellows with woven, flexible, tinned-bronze-wire-reinforced protective jacket.
  - 2. End Connections: Socket ends.
  - 3. Offset Performance: Capable of minimum 3/4-inch misalignment in minimum 7-inch-long assembly.
  - 4. Pressure Rating: Factory test at minimum 500 psig.
  - 5. Maximum Operating Temperature: 250 deg F.



## 2.2 VALVES AND SPECIALTIES

### A. Diaphragm Packless Valves:

1. Body and Bonnet: Forged brass or cast bronze; globe design with straight-through or angle pattern.
2. Diaphragm: Phosphor bronze and stainless steel with stainless-steel spring.
3. Operator: Rising stem and hand wheel.
4. Seat: Nylon.
5. End Connections: Socket, union, or flanged.
6. Working Pressure Rating: 500 psig.
7. Maximum Operating Temperature: 275 deg F.

### B. Packed-Angle Valves:

1. Body and Bonnet: Forged brass or cast bronze.
2. Packing: Molded stem, back seating, and replaceable under pressure.
3. Operator: Rising stem.
4. Seat: Nonrotating, self-aligning polytetrafluoroethylene.
5. Seal Cap: Forged-brass or valox hex cap.
6. End Connections: Socket, union, threaded, or flanged.
7. Working Pressure Rating: 500 psig.
8. Maximum Operating Temperature: 275 deg F.

### C. Check Valves:

1. Body: Ductile iron, forged brass, or cast bronze; globe pattern.
2. Bonnet: Bolted ductile iron, forged brass, or cast bronze; or brass hex plug.
3. Piston: Removable polytetrafluoroethylene seat.
4. Closing Spring: Stainless steel.
5. Manual Opening Stem: Seal cap, plated-steel stem, and graphite seal.
6. End Connections: Socket, union, threaded, or flanged.
7. Maximum Opening Pressure: 0.50 psig.
8. Working Pressure Rating: 500 psig.
9. Maximum Operating Temperature: 275 deg F.

### D. Service Valves:

1. Body: Forged brass with brass cap including key end to remove core.
2. Core: Removable ball-type check valve with stainless-steel spring.
3. Seat: Polytetrafluoroethylene.
4. End Connections: Copper spring.
5. Working Pressure Rating: 500 psig .

### E. Solenoid Valves: Comply with ARI 760 and UL 429; listed and labeled by an NRTL.

1. Body and Bonnet: Plated steel.
2. Solenoid Tube, Plunger, Closing Spring, and Seat Orifice: Stainless steel.
3. Seat: Polytetrafluoroethylene.
4. End Connections: Threaded.
5. Electrical: Molded, watertight coil in NEMA 250 enclosure of type required by location with 1/2-inch conduit adapter.
6. Working Pressure Rating: 400 psig.
7. Maximum Operating Temperature: 240 deg F.
8. Manual operator.

- F. Safety Relief Valves: Comply with ASME Boiler and Pressure Vessel Code; listed and labeled by an NRTL.
  - 1. Body and Bonnet: Ductile iron and steel, with neoprene O-ring seal.
  - 2. Piston, Closing Spring, and Seat Insert: Stainless steel.
  - 3. Seat Disc: Polytetrafluoroethylene.
  - 4. End Connections: Threaded.
  - 5. Working Pressure Rating: 400 psig.
  - 6. Maximum Operating Temperature: 240 deg F.
  
- G. Thermostatic Expansion Valves: Comply with ARI 750.
  - 1. Body, Bonnet, and Seal Cap: Forged brass or steel.
  - 2. Diaphragm, Piston, Closing Spring, and Seat Insert: Stainless steel.
  - 3. Packing and Gaskets: Non-asbestos.
  - 4. Capillary and Bulb: Copper tubing filled with refrigerant charge.
  - 5. Suction Temperature: 40 deg F.
  - 6. Reverse-flow option (for heat-pump applications).
  - 7. End Connections: Socket, flare, or threaded union.
  
- H. Straight-Type Strainers:
  - 1. Body: Welded steel with corrosion-resistant coating.
  - 2. Screen: 100-mesh stainless steel.
  - 3. End Connections: Socket or flare.
  - 4. Working Pressure Rating: 500 psig.
  - 5. Maximum Operating Temperature: 275 deg F.
  
- I. Angle-Type Strainers:
  - 1. Body: Forged brass or cast bronze.
  - 2. Drain Plug: Brass hex plug.
  - 3. Screen: 100-mesh monel.
  - 4. End Connections: Socket or flare.
  - 5. Working Pressure Rating: 500 psig.
  - 6. Maximum Operating Temperature: 275 deg F.
  
- J. Moisture/Liquid Indicators:
  - 1. Body: Forged brass.
  - 2. Window: Replaceable, clear, fused glass window with indicating element protected by filter screen.
  - 3. Indicator: Color coded to show moisture content in ppm.
  - 4. Minimum Moisture Indicator Sensitivity: Indicate moisture above 60 ppm.
  - 5. End Connections: Socket or flare.
  - 6. Working Pressure Rating: 500 psig.
  - 7. Maximum Operating Temperature: 240 deg F.
  
- K. Replaceable-Core Filter Dryers: Comply with ARI 730.
  - 1. Body and Cover: Painted-steel shell with ductile-iron cover, stainless-steel screws, and neoprene gaskets.
  - 2. Filter Media: 10 micron, pleated with integral end rings; stainless-steel support.
  - 3. Designed for reverse flow (for heat-pump applications).
  - 4. End Connections: Socket.
  - 5. Access Ports: NPS 1/4 connections at entering and leaving sides for pressure differential measurement.

6. Maximum Pressure Loss: 2 psig.
  7. Working Pressure Rating: 500 psig.
  8. Maximum Operating Temperature: 240 deg F.
- L. Permanent Filter Dryers: Comply with ARI 730.
1. Body and Cover: Painted-steel shell.
  2. Filter Media: 10 micron, pleated with integral end rings; stainless-steel support.
  3. Designed for reverse flow (for heat-pump applications).
  4. End Connections: Socket.
  5. Access Ports: NPS 1/4 connections at entering and leaving sides for pressure differential measurement.
  6. Maximum Pressure Loss: 2 psig.
  7. Working Pressure Rating: 500 psig.
  8. Maximum Operating Temperature: 240 deg F.
- M. Liquid Accumulators: Comply with ARI 495.
1. Body: Welded steel with corrosion-resistant coating.
  2. End Connections: Socket or threaded.
  3. Working Pressure Rating: 500 psig.
  4. Maximum Operating Temperature: 275 deg F.

### PART 3 - EXECUTION

#### 3.1 PIPING APPLICATIONS

- A. Suction Lines NPS 1-1/2 (DN 40) and Smaller for Conventional Air-Conditioning Applications: Copper, Type ACR, annealed-temper tubing and wrought-copper fittings with brazed or soldered joints.
- B. Suction Lines NPS 2 to NPS 4 for Conventional Air-Conditioning Applications: Copper, Type L, drawn-temper tubing and wrought-copper fittings with brazed or soldered joints.
- C. Hot-Gas and Liquid Lines: Copper, Type L, drawn-temper tubing and wrought-copper fittings with soldered joints.
- D. Safety-Relief-Valve Discharge Piping: Copper, drawn-temper tubing and wrought-copper fittings with soldered joints.

#### 3.2 VALVE AND SPECIALTY APPLICATIONS

- A. Install valves in suction and discharge lines of compressor.
- B. Install service valves for gage taps at strainers if they are not an integral part of strainers.
- C. Install a check valve at the compressor discharge and a liquid accumulator at the compressor suction connection.
- D. Except as otherwise indicated, install valves on inlet and outlet side of filter dryers.

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- E. Install a full-sized, three-valve bypass around filter dryers.
- F. Install solenoid valves upstream from each expansion valve. Install solenoid valves in horizontal lines with coil at top.
- G. Install thermostatic expansion valves as close as possible to distributors on evaporators.
  - 1. Install valve so diaphragm case is warmer than bulb.
  - 2. Secure bulb to clean, straight, horizontal section of suction line using two bulb straps. Do not mount bulb in a trap or at bottom of the line.
  - 3. If external equalizer lines are required, make connection where it will reflect suction-line pressure at bulb location.
- H. Install safety relief valves where required by ASME Boiler and Pressure Vessel Code. Pipe safety-relief-valve discharge line to outside according to ASHRAE 15.
- I. Install moisture/liquid indicators in liquid line at the inlet of the thermostatic expansion valve or at the inlet of the evaporator coil capillary tube.
- J. Install strainers upstream from and adjacent to the following unless they are furnished as an integral assembly for device being protected:
  - 1. Solenoid valves.
  - 2. Thermostatic expansion valves.
  - 3. Compressor.
- K. Install filter dryers in liquid line between compressor and thermostatic expansion valve.
- L. Install flexible connectors at compressors.

### 3.3 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.
- B. Install refrigerant piping according to ASHRAE 15.
- C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping adjacent to machines to allow service and maintenance.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.

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- I. Select system components with pressure rating equal to or greater than system operating pressure.
- J. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.
- K. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.
- L. Slope refrigerant piping as follows:
  - 1. Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.
  - 2. Install horizontal suction lines with a uniform slope downward to compressor.
  - 3. Install traps and double risers to entrain oil in vertical runs.
  - 4. Liquid lines may be installed level.
- M. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.
- N. Identify refrigerant piping and valves.

### 3.4 PIPE JOINT CONSTRUCTION

- A. Soldered Joints: Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook."
- B. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."
  - 1. Use Type BcuP, copper-phosphorus alloy for joining copper socket fittings with copper pipe.
  - 2. Use Type BAg, cadmium-free silver alloy for joining copper with bronze or steel.

### 3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Tests and Inspections:
  - 1. Comply with ASME B31.5, Chapter VI.
  - 2. Test refrigerant piping and specialties. Isolate compressor, condenser, evaporator, and safety devices from test pressure if they are not rated above the test pressure.
  - 3. Test high- and low-pressure side piping of each system separately at not less than the pressures indicated in Part 1 "Performance Requirements" Article.
    - a. Fill system with nitrogen to the required test pressure.
    - b. System shall maintain test pressure at the manifold gage throughout duration of test.
    - c. Test joints and fittings with electronic leak detector or by brushing a small amount of soap and glycerin solution over joints.

- d. Remake leaking joints using new materials, and retest until satisfactory results are achieved.

### 3.6 SYSTEM CHARGING

- A. Charge system using the following procedures:
  1. Install core in filter dryers after leak test but before evacuation.
  2. Evacuate entire refrigerant system with a vacuum pump to 500 micrometers (67 Pa). If vacuum holds for 12 hours, system is ready for charging.
  3. Break vacuum with refrigerant gas, allowing pressure to build up to 2 psig (14 kPa).
  4. Charge system with a new filter-dryer core in charging line.

### 3.7 ADJUSTING

- A. Adjust thermostatic expansion valve to obtain proper evaporator superheat.
- B. Adjust high- and low-pressure switch settings to avoid short cycling in response to fluctuating suction pressure.
- C. Adjust set-point temperature of air-conditioning or chilled-water controllers to the system design temperature.
- D. Perform the following adjustments before operating the refrigeration system, according to manufacturer's written instructions:
  1. Open shutoff valves in condenser water circuit.
  2. Verify that compressor oil level is correct.
  3. Open compressor suction and discharge valves.
  4. Open refrigerant valves except bypass valves that are used for other purposes.
  5. Check open compressor-motor alignment and verify lubrication for motors and bearings.
- E. Replace core of replaceable filter dryer after system has been adjusted and after design flow rates and pressures are established.

END OF SECTION 232300

## SECTION 233113 - METAL DUCTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Rectangular ducts and fittings.
  - 2. Sheet metal materials.
  - 3. Sealants and gaskets.
  - 4. Hangers and supports.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

#### 1.3 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.
  - 2. AWS D9.1M/D9.1, "Sheet Metal Welding Code," for duct joint and seam welding.
- C. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."
- D. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

### PART 2 - PRODUCTS

#### 2.1 RECTANGULAR DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.
- B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

- C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

## 2.2 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.

## 2.3 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
- B. Two-Part Tape Sealing System:
  - 1. Tape: Woven cotton fiber impregnated with mineral gypsum and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
  - 2. Sealant: Modified styrene acrylic.
  - 3. Water resistant.
  - 4. Mold and mildew resistant.
  - 5. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
  - 6. Service: Indoor and outdoor.
  - 7. Service Temperature: Minus 40 to plus 200 deg F.
  - 8. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum.
- C. Water-Based Joint and Seam Sealant:
  - 1. Application Method: Brush on.
  - 2. Solids Content: Minimum 65 percent.
  - 3. Shore A Hardness: Minimum 20.
  - 4. Water resistant.
  - 5. Mold and mildew resistant.
  - 6. VOC: Maximum 75 g/L (less water).
  - 7. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
  - 8. Service: Indoor or outdoor.



9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.

- D. Flanged Joint Sealant: Comply with ASTM C 920.
  1. General: Single-component, acid-curing, silicone, elastomeric.
  2. Type: S.
  3. Grade: NS.
  4. Class: 25.
  5. Use: O.

## 2.4 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size."
- D. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.
- E. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.
- F. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- G. Trapeze and Riser Supports:
  1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
  2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
  3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

## PART 3 - EXECUTION

### 3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.
- B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts with fewest possible joints.

- D. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- E. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- F. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.
- G. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches.
- H. Protect duct interiors from moisture, construction debris and dust, and other foreign materials.

### 3.2 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- B. Seal ducts to the following seal classes according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
  - 1. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
  - 2. Unconditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class B.
  - 3. Unconditioned Space, Supply-Air Ducts in Pressure Classes Higher Than 2-Inch wg: Seal Class A.
  - 4. Unconditioned Space, Exhaust Ducts: Seal Class C.
  - 5. Unconditioned Space, Return-Air Ducts: Seal Class B.
  - 6. Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class C.
  - 7. Conditioned Space, Supply-Air Ducts in Pressure Classes Higher Than 2-Inch wg: Seal Class B.
  - 8. Conditioned Space, Exhaust Ducts: Seal Class B.
  - 9. Conditioned Space, Return-Air Ducts: Seal Class C.

### 3.3 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
  - 1. Where practical, install concrete inserts before placing concrete.
  - 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
  - 3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.

4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
  5. Do not use powder-actuated concrete fasteners for seismic restraints.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.
- D. Hangers Exposed to View: Threaded rod and angle or channel supports.
- E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at a maximum intervals of 16 feet (5 m).
- F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

### 3.4 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

### 3.5 DUCT CLEANING

- A. Clean new duct system(s) before testing, adjusting, and balancing.

### 3.6 DUCT SCHEDULE

- A. Supply Ducts:
1. Ducts Connected to Constant-Volume Air-Handling Units:
    - a. Pressure Class: Positive 2-inch wg.
  2. Ducts Connected to Variable-Air-Volume Air-Handling Units:
    - a. Pressure Class: Positive 4-inch wg.
- B. Return Ducts:
1. Ducts Connected to Air-Handling Units:
    - a. Pressure Class: Positive or negative 2-inch wg.
- C. Exhaust Ducts:
1. Ducts Connected to Air-Handling Units:
    - a. Pressure Class: Positive or negative 2-inch wg.
- D. Outdoor-Air (Not Filtered, Heated, or Cooled) Ducts:
1. Ducts Connected to Air-Handling Units:
    - a. Pressure Class: Positive or negative 2-inch wg.

- E. Intermediate Reinforcement:
  - 1. Galvanized-Steel Ducts: Galvanized steel.
  
- F. Elbow Configuration:
  - 1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
    - a. Velocity 1000 fpm or Lower:
      - 1) Radius Type RE 1 with minimum 0.5 radius-to-diameter ratio.
      - 2) Mitered Type RE 4 without vanes.
    - b. Velocity 1000 to 1500 fpm:
      - 1) Radius Type RE 1 with minimum 1.0 radius-to-diameter ratio.
      - 2) Radius Type RE 3 with minimum 0.5 radius-to-diameter ratio and two vanes.
      - 3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
    - c. Velocity 1500 fpm or Higher:
      - 1) Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
      - 2) Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
      - 3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
  - 2. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
    - a. Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
    - b. Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
    - c. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
  
- G. Branch Configuration:
  - 1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."
    - a. Rectangular Main to Rectangular Branch: 45-degree entry.
    - b. Rectangular Main to Round Branch: Spin in.

END OF SECTION 233113

## SECTION 233300 - AIR DUCT ACCESSORIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Flexible connectors.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. For duct silencers, include pressure drop and dynamic insertion loss data. Include breakout noise calculations for high transmission loss casings.

### PART 2 - PRODUCTS

#### 2.1 ASSEMBLY DESCRIPTION

- A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

#### 2.2 MATERIALS

- A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
  - 1. Galvanized Coating Designation: G60 (Z180).
  - 2. Exposed-Surface Finish: Mill phosphatized.
- B. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.
- C. Tie Rods: Galvanized steel, 1/4-inch (6-mm) minimum diameter for lengths 36 inches (900 mm) or less; 3/8-inch (10-mm) minimum diameter for lengths longer than 36 inches (900 mm).

## 2.3 FLEXIBLE CONNECTORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
  - 1. Ductmate Industries, Inc.
  - 2. Duro Dyne Inc.
  - 3. Elgen Manufacturing.
  - 4. Ventfabrics, Inc.
  - 5. Ward Industries, Inc.; a division of Hart & Cooley, Inc.
- C. Materials: Flame-retardant or noncombustible fabrics.
- D. Coatings and Adhesives: Comply with UL 181, Class 1.
- E. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.
  - 1. Minimum Weight: 26 oz./sq. yd. (880 g/sq. m).
  - 2. Tensile Strength: 480 lbf/inch (84 N/mm) in the warp and 360 lbf/inch (63 N/mm) in the filling.
  - 3. Service Temperature: Minus 40 to plus 200 deg F (Minus 40 to plus 93 deg C).
- F. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.
  - 1. Minimum Weight: 24 oz./sq. yd. (810 g/sq. m).
  - 2. Tensile Strength: 530 lbf/inch (93 N/mm) in the warp and 440 lbf/inch (77 N/mm) in the filling.
  - 3. Service Temperature: Minus 50 to plus 250 deg F (Minus 45 to plus 121 deg C).

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel.
- C. Install flexible connectors to connect ducts to equipment.

END OF SECTION 233300



# ROOF REPLACEMENT

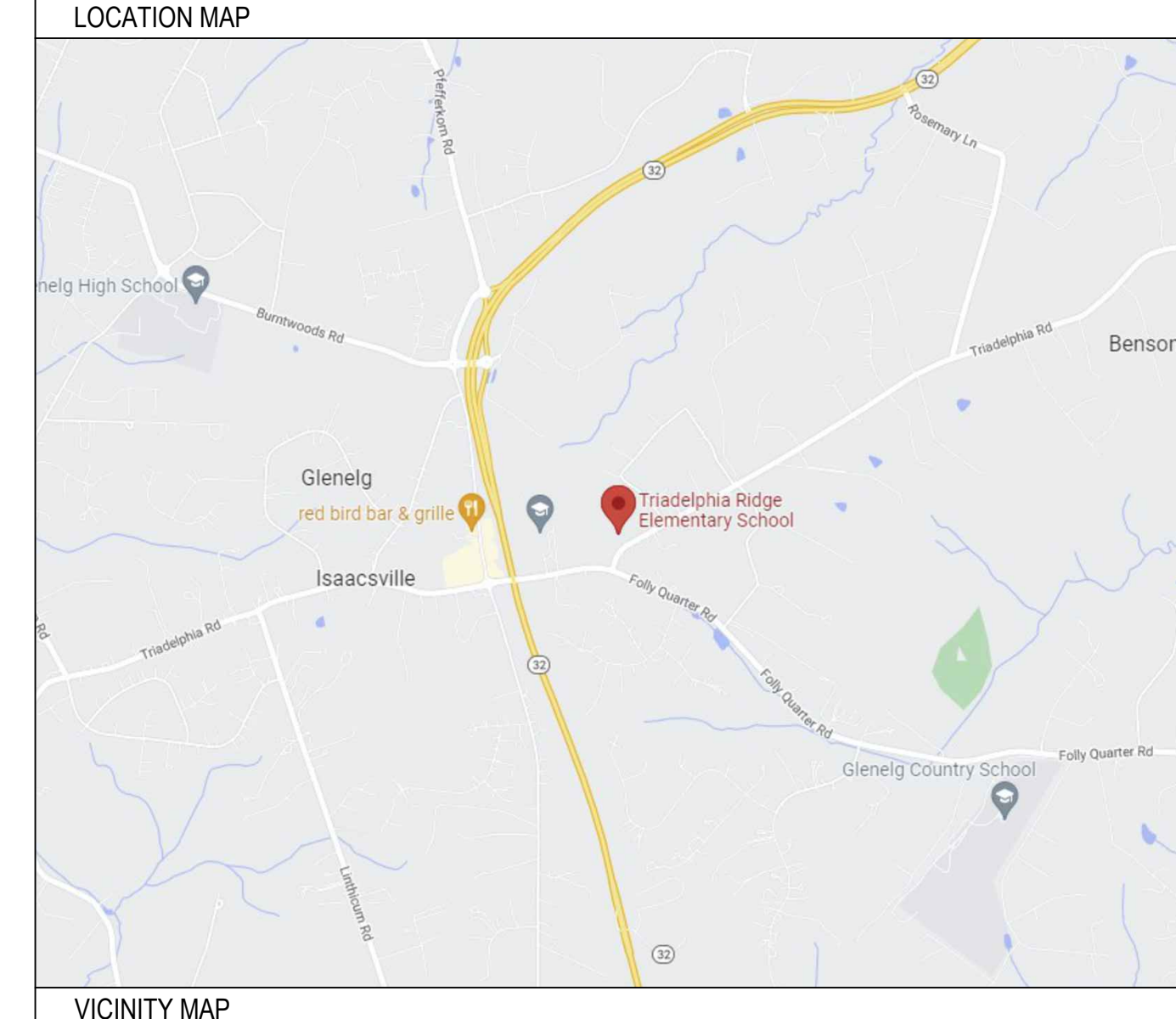
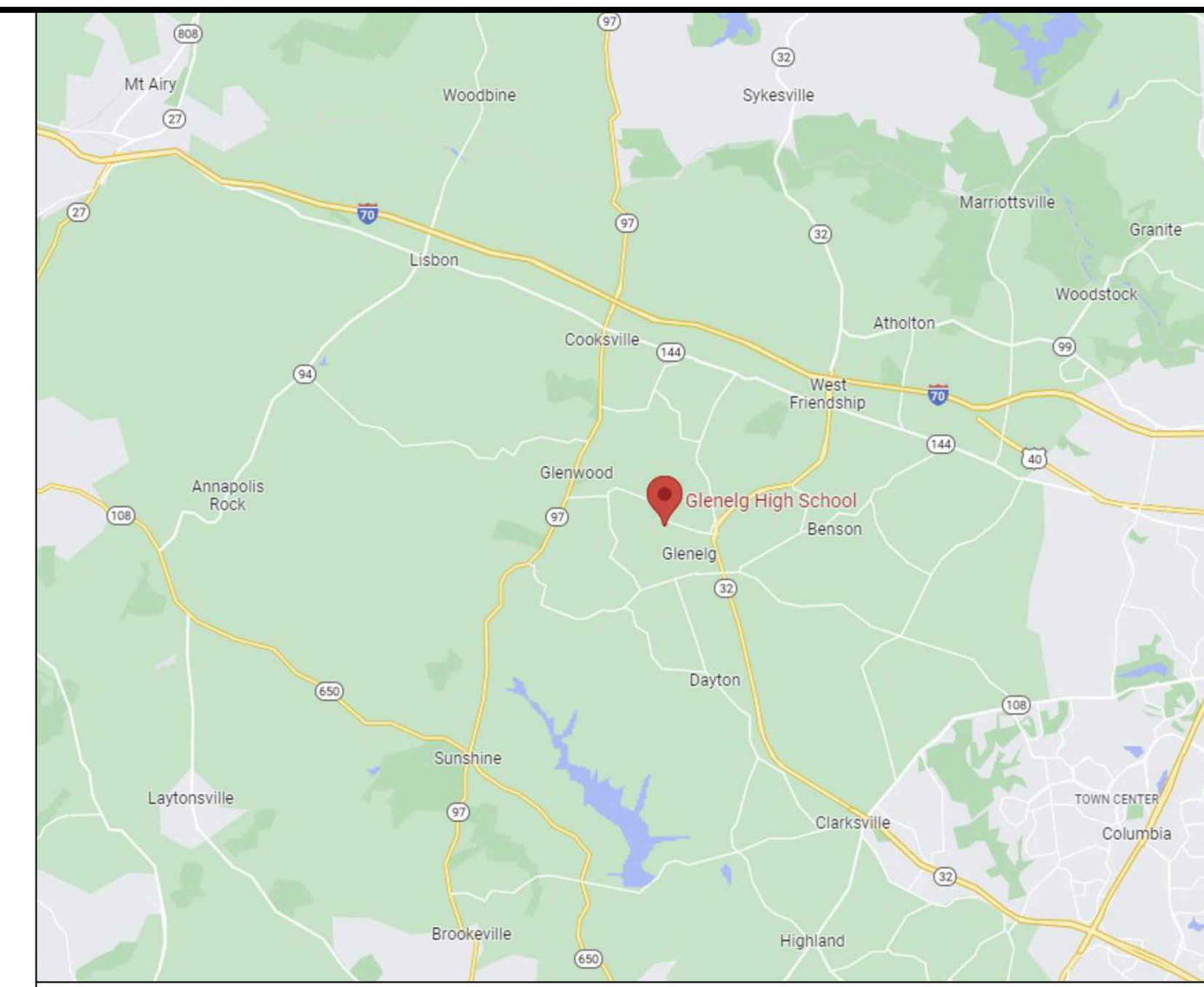
## TRIADELPHIA RIDGE ELEMENTARY SCHOOL

13400 TRIADELPHIA ROAD  
ELLCOTT CITY, MARYLAND 21042

PSC # 13.073.22 HSFF  
HCPSS PROJECT BID #:

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
9020 MENDENHALL COURTS, SUITE A  
COLUMBIA, MARYLAND 21045

DRAWING NO	TITLE
G-001	COVER SHEET
G-002	STANDARD ABBREVIATIONS, LEGEND, SYMBOLS AND GENERAL NOTES
G-003	TYPICAL FLASHING CONFIGURATIONS
A-101	OVERALL ROOF AREA / PHASING PLAN
A-102	PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS
A-103	PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS
A-104	PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS
A-105	PARTIAL ROOF AREA PLAN - NEW CONSTRUCTION
A-106	PARTIAL ROOF AREA PLAN - NEW CONSTRUCTION
A-107	PARTIAL ROOF AREA PLAN - NEW CONSTRUCTION
A-301	ROOF SYSTEM CROSS SECTIONS
A-401	CONCEPTUAL CRICKET AND WALKWAY PLAN
A-501	DETAILS - EXISTING CONDITIONS
A-502	DETAILS - NEW CONSTRUCTION
A-503	DETAILS - NEW CONSTRUCTION
A-504	DETAILS - NEW CONSTRUCTION
A-505	DETAILS - NEW CONSTRUCTION
A-506	DETAILS - NEW CONSTRUCTION
A-507	SHEET METAL ISOMETRIC DETAILS
ME-001	MECHANICAL LEGENDS, GENERAL NOTES & SCHEDULES
ME-101	MECHANICAL ROOF PLAN - DEMOLITION
ME-201	MECHANICAL ROOF PLAN - NEW WORK



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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 36513, Expiration Date: 3.27.23

PROJECT	ROOF REPLACEMENT TRIADELPHIA RIDGE ELEMENTARY SCHOOL 13400 TRIADELPHIA ROAD ELLCOTT CITY, MARYLAND 21042
OWNER	HOWARD COUNTY PUBLIC SCHOOL SYSTEM 9020 MENDENHALL COURTS, SUITE A ELLCOTT CITY, MARYLAND 21042

### CODE ANALYSIS AND SUMMARY

APPLICABLE CODES

- 2018 INTERNATIONAL BUILDING CODE (IBC) WITH LOCAL AMENDMENTS
- 2018 INTERNATIONAL MECHANICAL CODE (IMC) WITH LOCAL AMENDMENTS
- 2018 NATIONAL STANDARD PLUMBING CODE (NSPC) WITH LOCAL AMENDMENTS
- 2017 NATIONAL ELECTRIC CODE (NEC) WITH LOCAL AMENDMENTS
- 2018 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) WITH LOCAL AMENDMENTS
- 2018 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101 LIFE SAFETY CODE
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH LOCAL AMENDMENTS

APPLICABLE GUIDELINES

- NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
- AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS (ASHRAE)
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ROOF DESIGN WIND PRESSURES (PSF): MPH 120

	(-)	(+)
ZONE 1	49.6	
ZONE 2	65.4	
ZONE 3	89.0	

SUMMARY OF WORK:

REMOVE EXISTING ROOF SYSTEM DOWN TO THE DECK AND PROVIDE NEW THERMOPLASTIC ROOF SYSTEM WITH MINIMUM R-30 INSULATION.

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 G0x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	NONE
GRAPHIC SCALE	
SHEET TITLE	
COVER SHEET	
DRAWING NO.	G-001





Professional Certification. I hereby certify that these  
 documents were prepared or approved by me, and that I  
 am a duly licensed professional engineer under the laws  
 of the State of Maryland.

License No. 36513, Expiration Date: 3.27.23

PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042**

OWNER  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042**

1	05/18/2022	100% SUBMISSION	MLF
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NO.	DATE	DESCRIPTION	BY
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PROJECT NO.	656349
CADD FILE	656349 G0x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	NONE

GRAPHIC SCALE

IF BORDER OVERLINE IS LESS THAN 1/8" USE GRAPHIC SCALE

SHEET TITLE

**STANDARD  
 ABBREVIATIONS,  
 LEGEND, SYMBOLS  
 AND  
 GENERAL NOTES**

DRAWING NO.

**G-002**

**GENERAL NOTES**

**DEMOLITION NOTES**

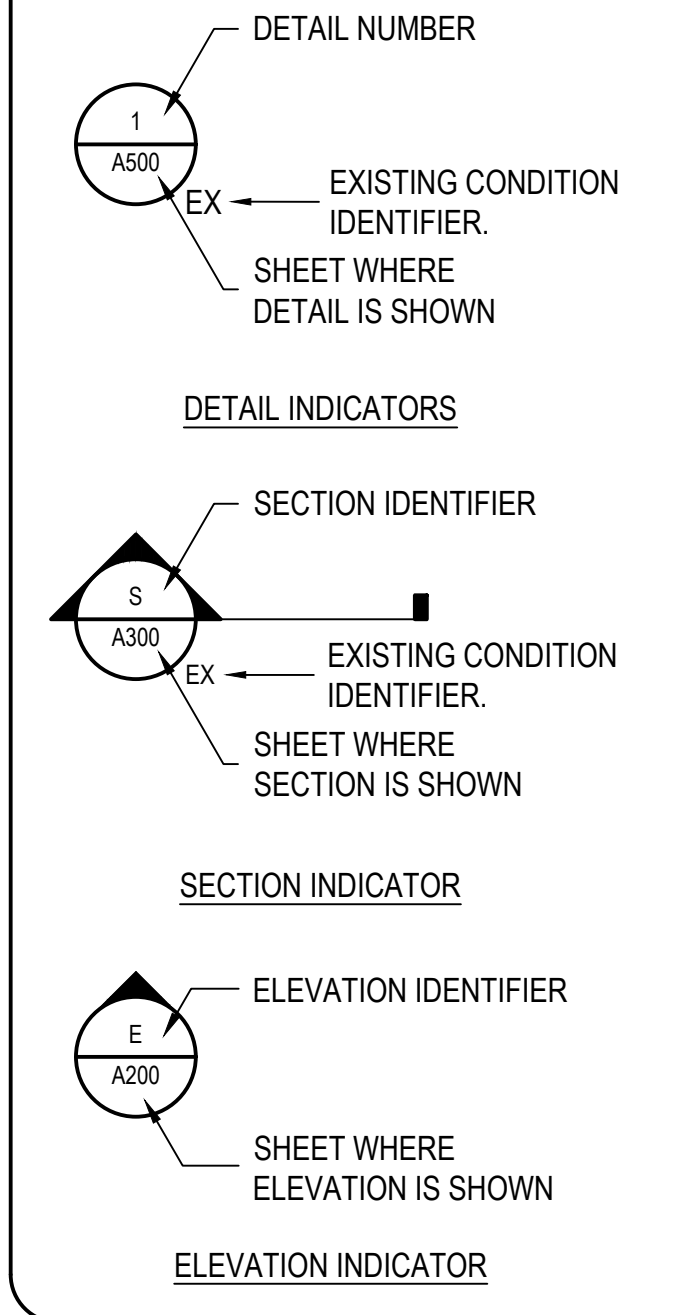
- THE INFORMATION SHOWN ON THE DRAWINGS HAS BEEN COMPILED FROM VARIOUS SOURCES, AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REQUIREMENTS PERTAINING TO THIS PROJECT.
- JOB SITE SAFETY, INCLUDING THE SAFETY OF THE CONTRACTOR'S EMPLOYEES, OCCUPANTS, PEDESTRIANS AND OWNERS REPRESENTATIVES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE BUILDING MAY BE OCCUPIED DURING CONSTRUCTION. IN NO CASE SHALL WORK BE COMPLETED OVER BUILDING OCCUPANTS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO INTERIOR ELEMENTS AND TO PROTECT OCCUPANTS. COORDINATE AND SCHEDULE WORK LOCATIONS IN ADVANCE WITH THE OWNER. SCHEDULE AND EXECUTE WORK TO MINIMIZE NOISE INTERRUPTIONS.
- CONTRACTOR SETUP LOCATIONS SHALL BE AS INDICATED BY THE OWNER DURING THE PRE CONSTRUCTION MEETING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEGREGATING THE WORK AREA IMMEDIATELY BELOW AND ADJACENT TO THE WORK AREA. THE CONTRACTOR SHALL COVER ALL INTERIOR ITEMS INCLUDING FLOORS AND EQUIPMENT PRIOR TO DEMOLITION. ONCE REMOVAL IS COMPLETE FOR THE DAY, THE PLASTIC COVERINGS SHALL BE REMOVED AND THE INTERIOR AREAS CLEANED. CLEANING SHALL INCLUDE, BUT NOT BE LIMITED TO, SWEEPING OF FLOORS AND DUST REMOVAL FROM THE TOPS OF LIGHT FIXTURES AND EQUIPMENT WHERE ACCESSIBLE.
- THE CONTRACTOR SHALL REPORT DETERIORATED OR UNSUITABLE ROOF DECK OR SUBSTRATE COMPONENTS TO THE OWNER PRIOR TO PERFORMING ROOFING INSTALLATION WORK.
- REMOVE AND DISPOSE OF EXISTING ROOF SYSTEM AND ALL ASSOCIATED MATERIALS DOWN TO THE STRUCTURAL DECK UNLESS OTHERWISE INDICATED ON THE DETAIL DRAWINGS TO REMAIN. REMOVE AND DISPOSE OF ALL ITEMS TO INCLUDE DRAINS, WOOD BLOCKING AND APPURTENANCES SCHEDULED TO BE REMOVED.
- PROVIDE TEMPORARY OVERHEAD PROTECTION AT THE MAIN ENTRANCE AND AT OTHER LOCATIONS AS NECESSARY TO PROVIDE UNINTERRUPTED ACCESS TO BUILDING.
- REMOVALS SHALL BE PERFORMED IN ACCORDANCE WITH THE SUBMITTED AND APPROVED REMOVAL PLAN, THE DETAIL DRAWINGS AND SPECIFICATIONS.
- REMOVE ALL ABANDONED EQUIPMENT, CONDUIT AND CURBS AND ENCLOSE OPENINGS UNLESS SPECIFICALLY INDICATED TO REMAIN.

**REPLACEMENT NOTES**

- FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL ON THE ROOF PLANS HAS NOT BEEN INDICATED. EXISTING AND NEW DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.
- COMPONENTS SHOWN ON THE DETAIL DRAWINGS SHALL BE NEW UNLESS SPECIFICALLY INDICATED AS EXISTING.
- ITEMS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS APPLICABLE TO THE PROJECT.
- FOR THE SAKE OF CLARITY, SECUREMENT FASTENERS ARE NOT SHOWN ON THE DRAWING. REFER TO SPECIFICATIONS FOR FASTENER TYPES AND SPACING.
- ANY DISCREPANCIES ON THE DRAWINGS NOTED BY THE CONTRACTOR SHALL BE BROUGHT TO THE OWNERS ATTENTION PRIOR TO BID SUBMISSION.
- ITEMS OF CONSTRUCTION SHALL BE 100% WATERTIGHT ON A DAILY BASIS. REMOVE ONLY AS MUCH MATERIAL AS CAN BE MADE WATERTIGHT ON THE SAME DAY OF WORK.
- FLASHING AND STRIPPING CONFIGURATIONS SHOWN ON THE ARCHITECTURAL DRAWING SHEETS ARE PROVIDED TO CONVEY GENERAL FLASHING AND STRIPPING CONFIGURATIONS. REFER TO THE GENERAL SHEETS AND THE SPECIFICATIONS FOR SPECIFIC CONFIGURATIONS AND REQUIREMENTS.
- DETAILS NOT DEPICTED SHALL BE CONSTRUCTED IN A MANNER CONSISTENT WITH THE DETAIL DRAWINGS.
- IF THERE IS A POTENTIAL HAZARDOUS MATERIAL ENCOUNTERED DURING THE COURSE OF WORK THAT IS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR WILL STOP WORK IMMEDIATELY AND CONTACT THE OWNER WHO IS TO MAKE A DETERMINATION IF THE MATERIAL IS HAZARDOUS.
- ALL DUMPSTERS MUST BE AT LEAST 15 FEET FROM THE BUILDING UNLESS EMPTIED AT THE END OF EACH WORK DAY.
- MATERIALS MAY NOT BE STORED CLOSER THAN 15 FEET FROM BUILDINGS AND MAY NOT BE PLACED IN FRONT OF EXITS OR ANY FIRE PROTECTION EQUIPMENT. REFUELING OF GASOLINE POWERED EQUIPMENT WILL NOT BE PERMITTED ON THE ROOF. GASOLINE MUST BE STORED IN UL LISTED AND APPROVED CONTAINERS.
- DISCONNECT, REMOVE, STORE, PROTECT AND REINSTALL EXISTING ROOFTOP EQUIPMENT AND ASSOCIATED MECHANICAL/ELECTRICAL PENETRATIONS AND CONDUIT TO PROPERLY INSTALL REPLACEMENT ROOF SYSTEMS AND PROVIDE MINIMUM SPECIFIED FLASHING HEIGHTS. THE CONTRACTOR SHALL "LOCK-OUT" ALL MECHANICAL ELECTRICAL EQUIPMENT, INCLUDING HVAC EQUIPMENT, PRIOR TO INITIATING WORK.

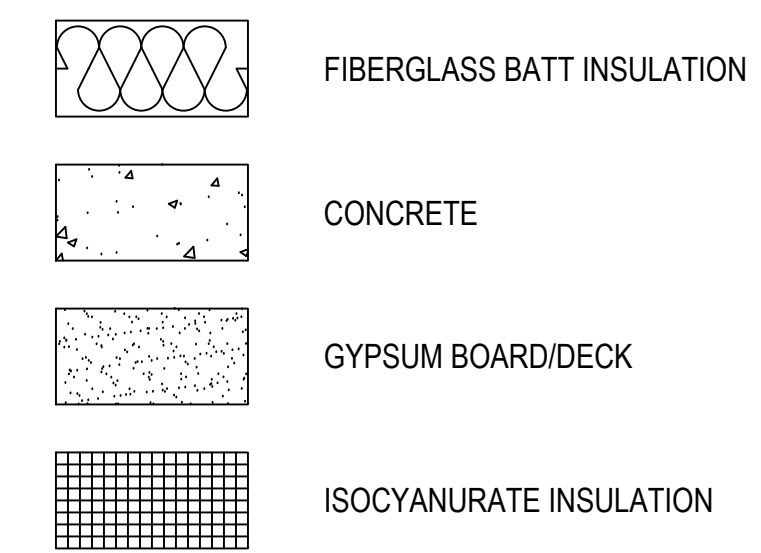
**STANDARD SYMBOLS**

NOTE: NOT ALL SYMBOLS NECESSARILY USED



**STANDARD HATCH PATTERNS**

NOTE: NOT ALL HATCH PATTERNS NECESSARILY USED



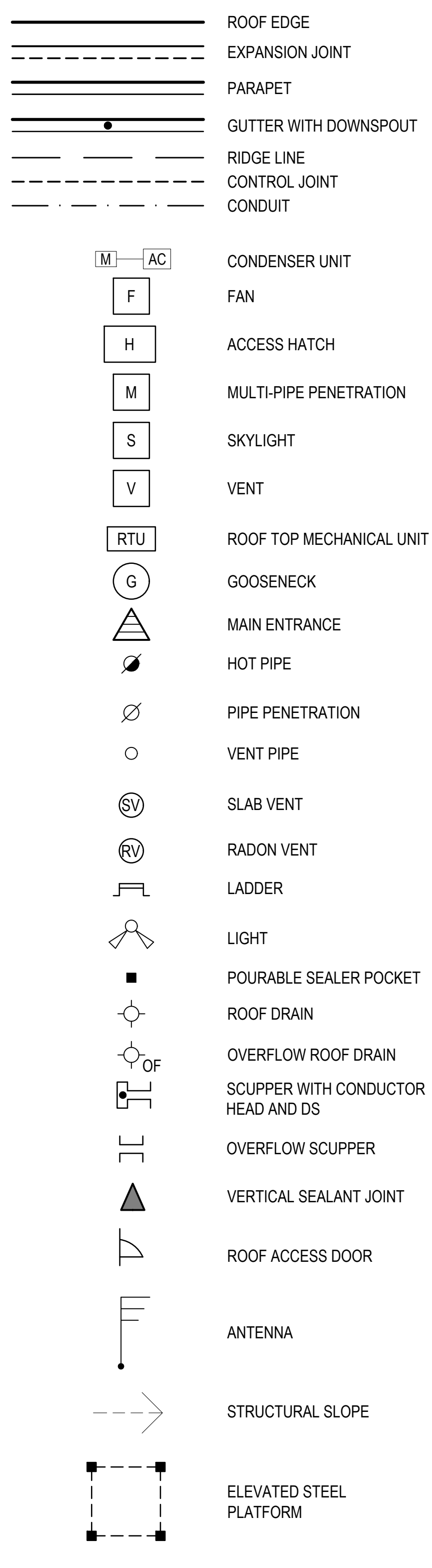
**STANDARD ABBREVIATIONS**

NOTE: NOT ALL ABBREVIATIONS NECESSARILY USED

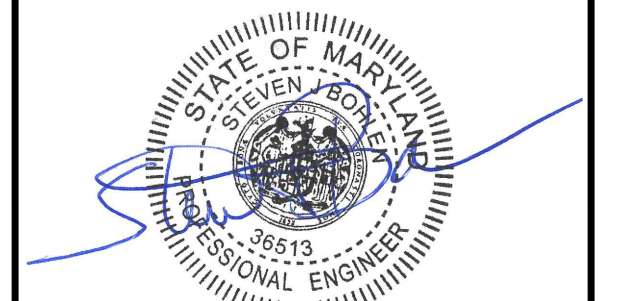
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AREA DRAIN	AD
ALUMINUM	AL
BASE FLASHING	BF
BUILDING	BLDG
BRICK MASONRY UNIT	BMU
BUILT-UP ROOFING	BUR
COUNTERFLASHING	CF
CLADDING	CLDG
CLEAT	CLT
CONCRETE MASONRY UNIT	CMU
CONCRETE	CONC
CONTINUOUS	CONT
COVER	CV
CEMENTITIOUS WOOD FIBERBOARD	CWF
DOWNSPOUT	DS
ELEVATION	EL
ETHYLENE PROPYLENE DIENE MONOMER	EPDM
EQUAL	EQ
EXTERIOR INSULATION FINISH SYSTEM	EIFS
EXPANSION JOINT	EJ
EXISTING	EX
EXTERIOR	EXT
FIRE RETARDANT TREATED	FRT
FASTENER	FSTNR
FOOT	FT
FULLY ADHERED	FA
GLAZING	GL
GYPSUM	GYP
INCH	IN
INTERIOR	INT
INSULATION	INSUL
LADDER	LAD
LIGHTNING	LTNG
LIGHTWEIGHT	LT WT
LIGHTWEIGHT CONCRETE	LWC
MAXIMUM	MAX
MECHANICAL	MECH
MEMBRANE	MEMB
MINIMUM	MIN
METAL	MTL
NOT APPLICABLE	NA
NOT IN CONTRACT	NIC
NUMBER	NO
NOMINAL	NOM
NOT TO SCALE	NTS
ON CENTER	O.C.
OPPOSITE HAND	OH
PLYWOOD	PLYWD
ROOF DRAIN	RD
ROUGH OPENING	RO
ROOF TOP UNIT	RTU
SELF-ADHERING MODIFIED BITUMEN	SAMB
SIMILAR	SIM
SLEEVE	SLV
SHEET METAL	SM
STANDING SEAM ROOF	SS
STAINLESS STEEL	SST
STEEL	STL
STRUCTURAL	STRUCT
TO REMAIN	TR
TYPICAL	TYP
VERIFY IN FIELD	VIF
WOOD	WD
WINDOW	WDW
WOODFIBER BOARD	WF

**STANDARD LEGEND**

NOTE: NOT ALL SYMBOLS NECESSARILY USED

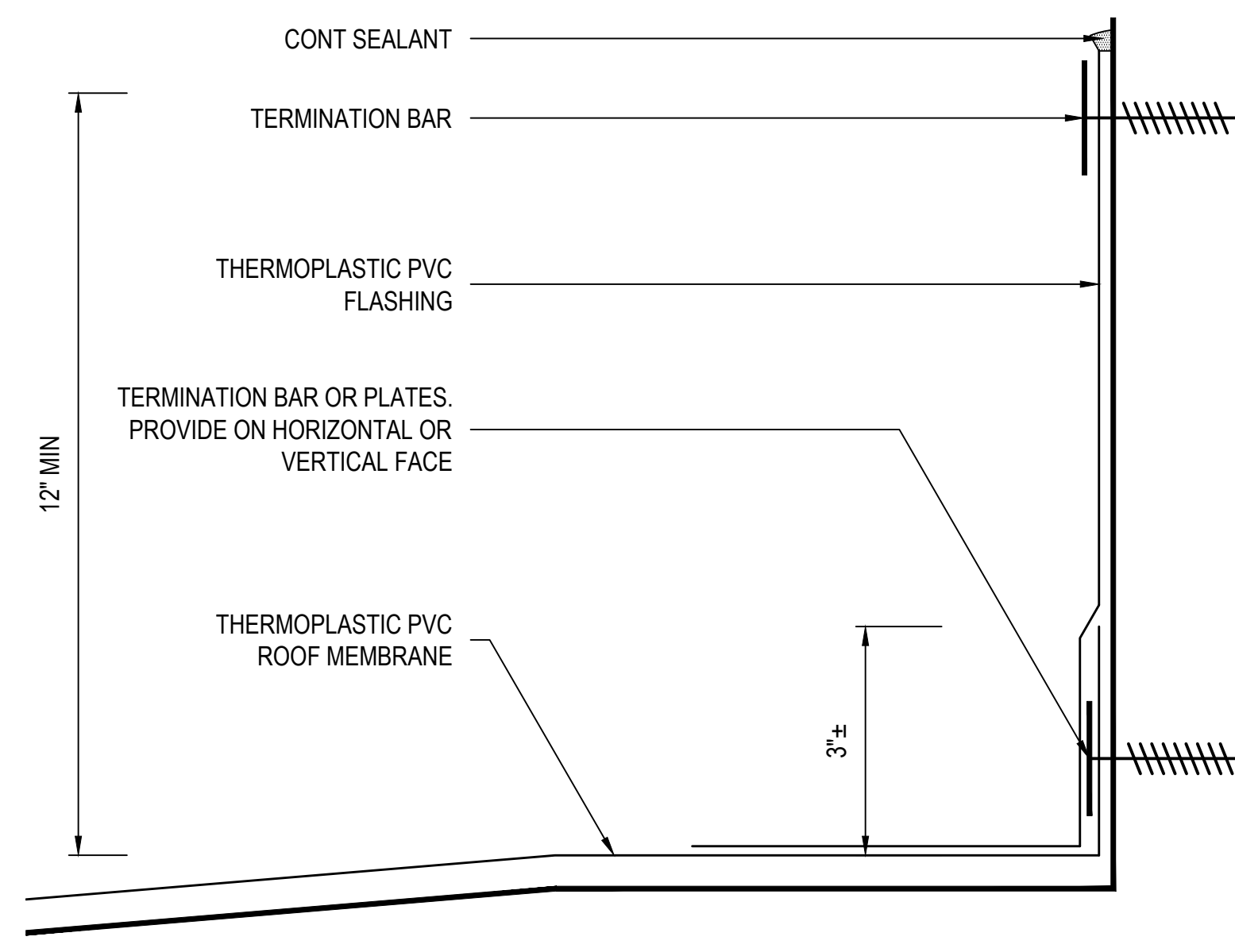




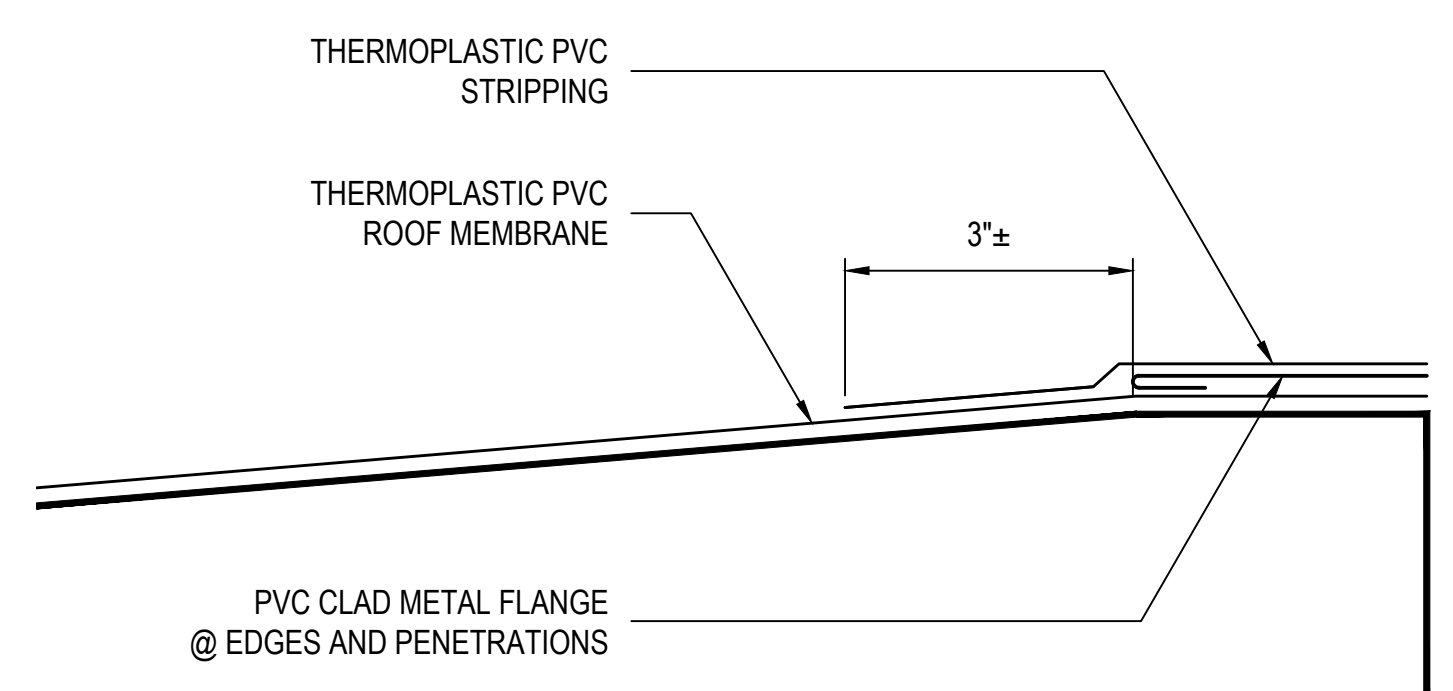


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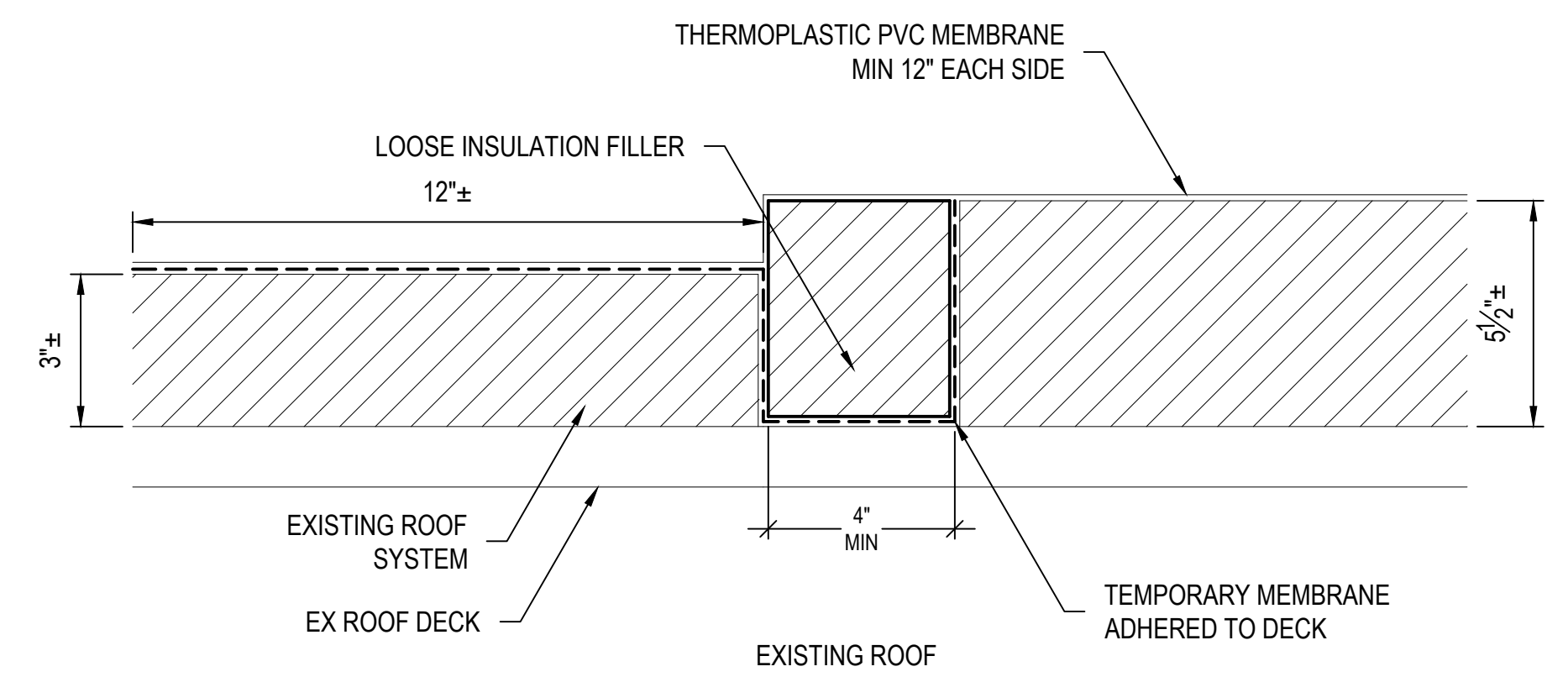
License No. 36513, Expiration Date: 3.27.23



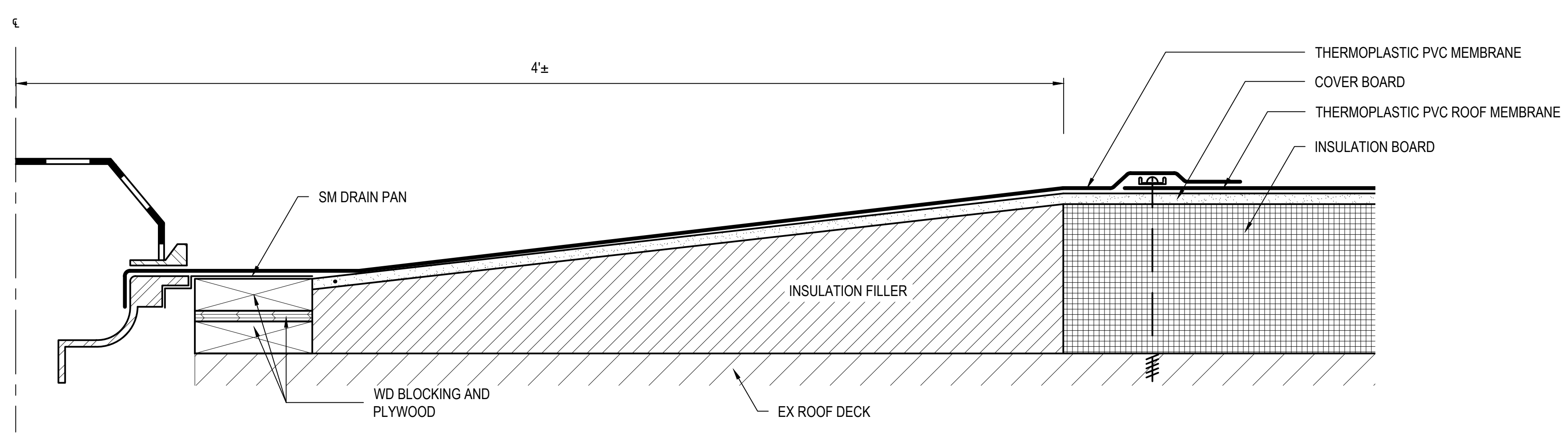
**1** TYPICAL PVC BASE FLASHING  
 SCALE: 6" = 1"  
 0 1' 2' 3' 4'



**2** TYPICAL PVC STRIP FLASHING  
 SCALE: 6" = 1"  
 0 1' 2' 3' 4'



**3** TYPICAL TEMPORARY TIE-IN CONSTRUCTION  
 NOT TO SCALE



**4** TYPICAL DRAIN SUMP  
 SCALE: 3" = 1"  
 0 1' 2' 3' 4'

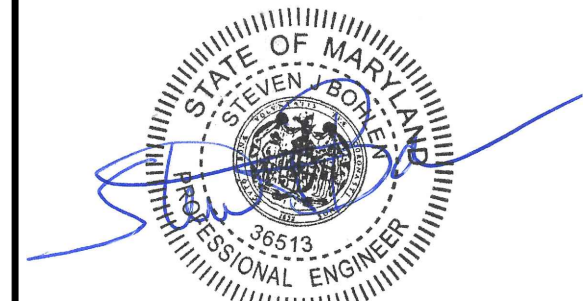
PROJECT	ROOF REPLACEMENT TRIADDELPHIA RIDGE ELEMENTARY SCHOOL 13400 TRIADDELPHIA ROAD ELLICOTT CITY, MARYLAND 21042
OWNER	HOWARD COUNTY PUBLIC SCHOOL SYSTEM 9020 MENDENHALL COURTS, SUITE A ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 G0x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	AS NOTED

GRAPHIC SCALE  
 SHEET TITLE  
**TYPICAL FLASHING CONFIGURATIONS**

DRAWING NO.	G-003
-------------	-------



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PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL**  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

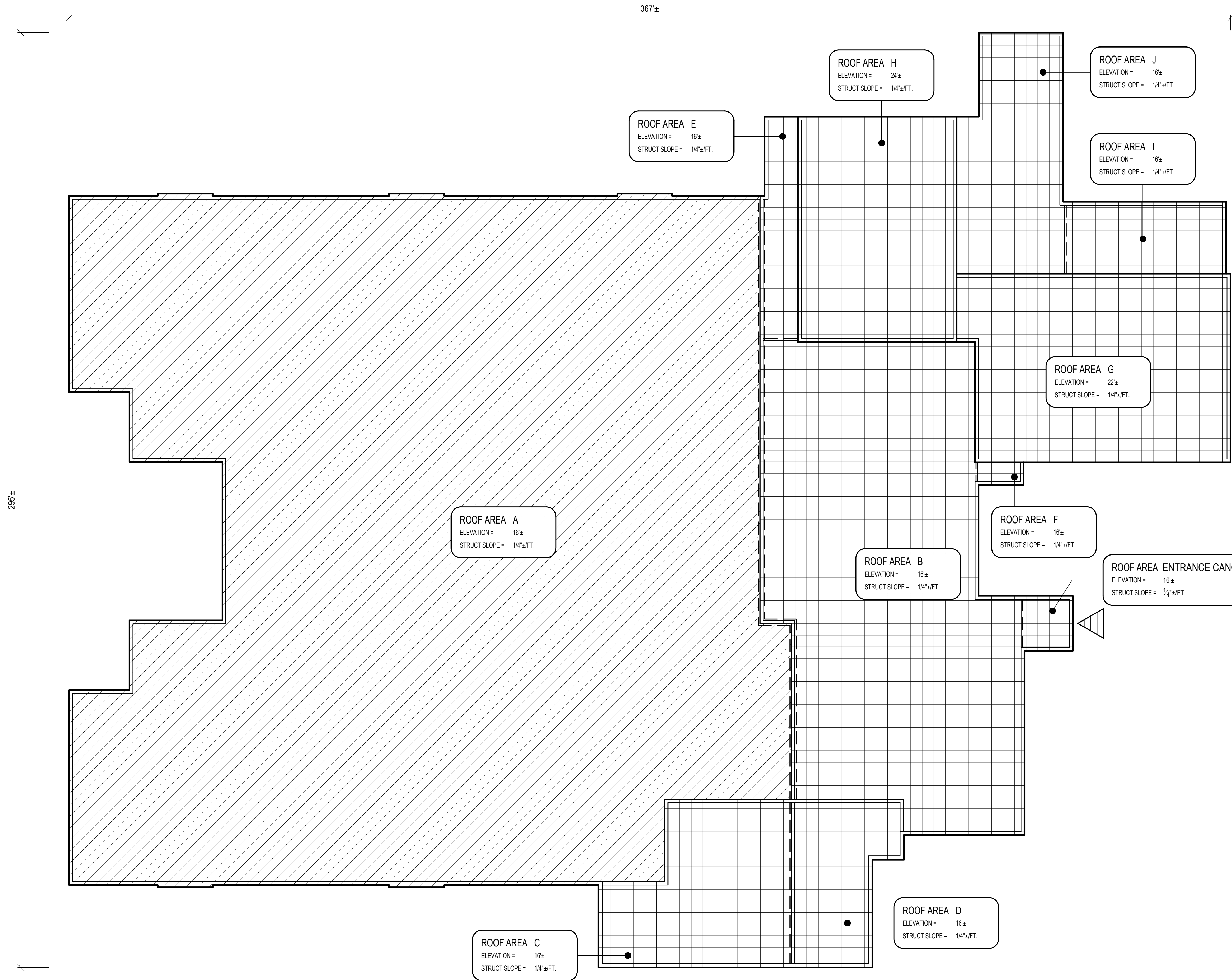
PROJECT NO.	656349
CADD FILE	656349 A1x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	1/16" = 1'

GRAPHIC SCALE

SHEET TITLE

**OVERALL ROOF  
 AREA / PHASING  
 PLAN**

DRAWING NO.	A-101
-------------	-------



**OVERALL ROOF AREA / PHASING PLAN**  
 SCALE: 1/16" = 1'  
 NORTH

**CONSTRUCTION PHASES**

	PHASE 1 - SUMMER 2023
	PHASE 2 - SUMMER 2024

**ROOF AREA SIZES**

ROOF AREA	SQUARE FEET +/-
A	44000
B	11000
C	2600
D	1500
E	800
F	100
G	4900
H	3600
I	1200
J	2400
CANOPY	300

NOTE: CONTRACTOR TO VERIFY QUANTITIES IN FIELD.

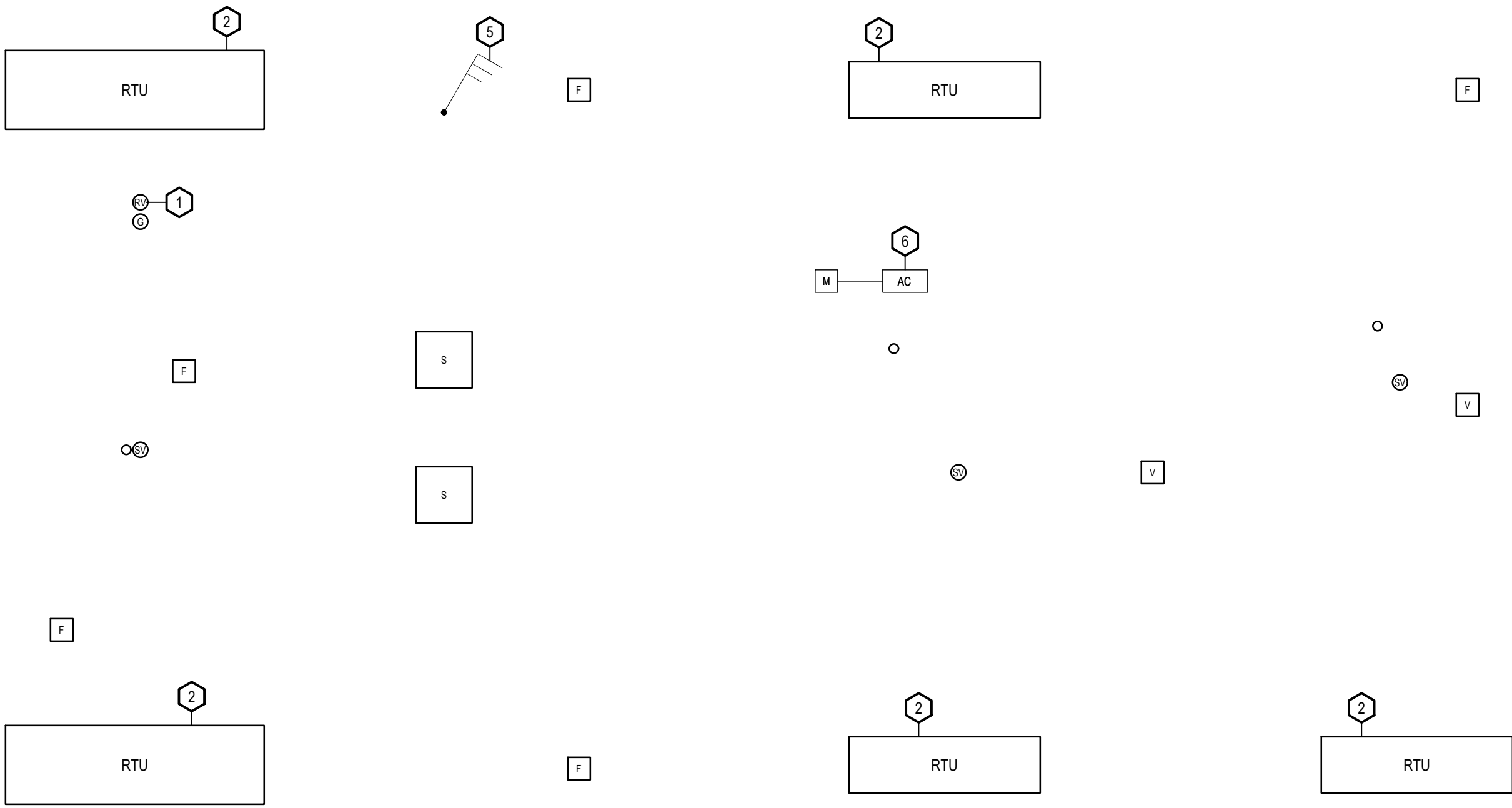


220'±

MATCH LINE

1 A501 3 A501 1 A501 3 A501 1 A501 3 A501

ROOF AREA A  
ELEVATION = 16'±  
STRUCT SLOPE = 1/4"±/FT.



218'±

1 A501



3 A501 1 A501 3 A501 1 A501

MATCH LINE

NORTH

**PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS**

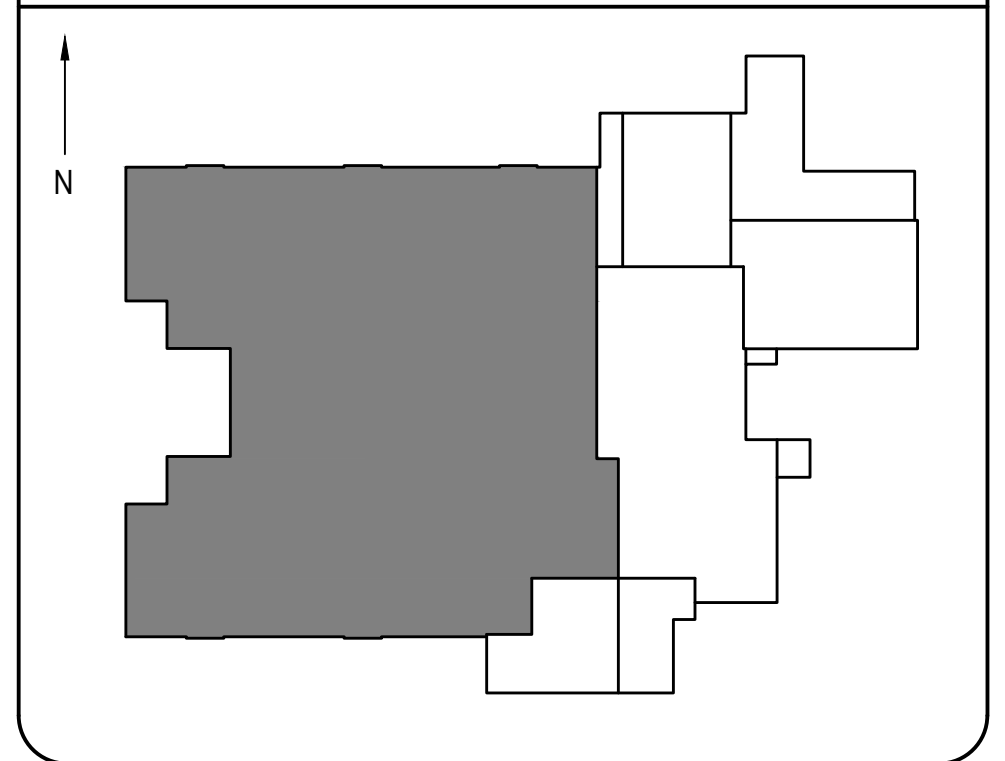
SCALE: 3/32" = 1'



**KEYNOTES**

- 1 REMOVE, STORE AND REINSTALL RADON VENT FAN UNIT.
- 2 RAISE EXISTING ROOF TOP UNIT (RTU) INCLUDING MECHANICAL AND ELECTRICAL CONNECTIONS. SEE ME-101.
- 3 REMOVE EXISTING RTU IN PREPARATION FOR STEEL FRAMING MODIFICATIONS.
- 4 REMOVE EXISTING ROOF ACCESS LADDER.
- 5 REMOVE ABANDONED ANTENNA AND ASSOCIATED WIRING.
- 6 REMOVE EXISTING MULTI-PIPE PENETRATION AND CURB.

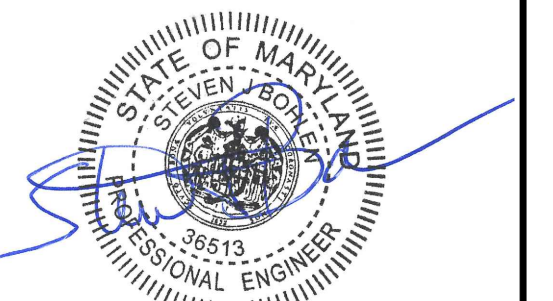
**KEY PLAN**



**GALE**  
**Gale Associates, Inc.**  
 Engineers Architects Planners  
 1122 Kenilworth Drive, Suite 206  
 Towson, Md 21204-2143  
 P 443-279-4500 F 443-279-4560  
 www.gainc.com

Massachusetts Maryland Connecticut  
Virginia New Hampshire Florida

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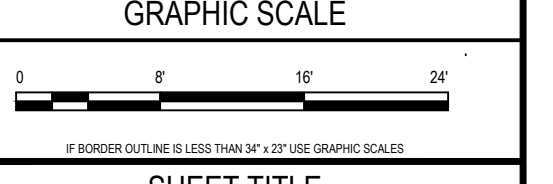
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 36513, Expiration Date: 3.27.23

**PROJECT**  
 ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

**OWNER**  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF
PROJECT NO.		656349	
CADD FILE		656349 A1x	
DESIGNED BY		EDE	
DRAWN BY		MLF	
CHECKED BY		SJB	
DATE		05/18/2022	
DRAWING SCALE		3/32" = 1'	



**SHEET TITLE**

**PARTIAL ROOF AREA PLAN EXISTING CONDITIONS**

DRAWING NO.

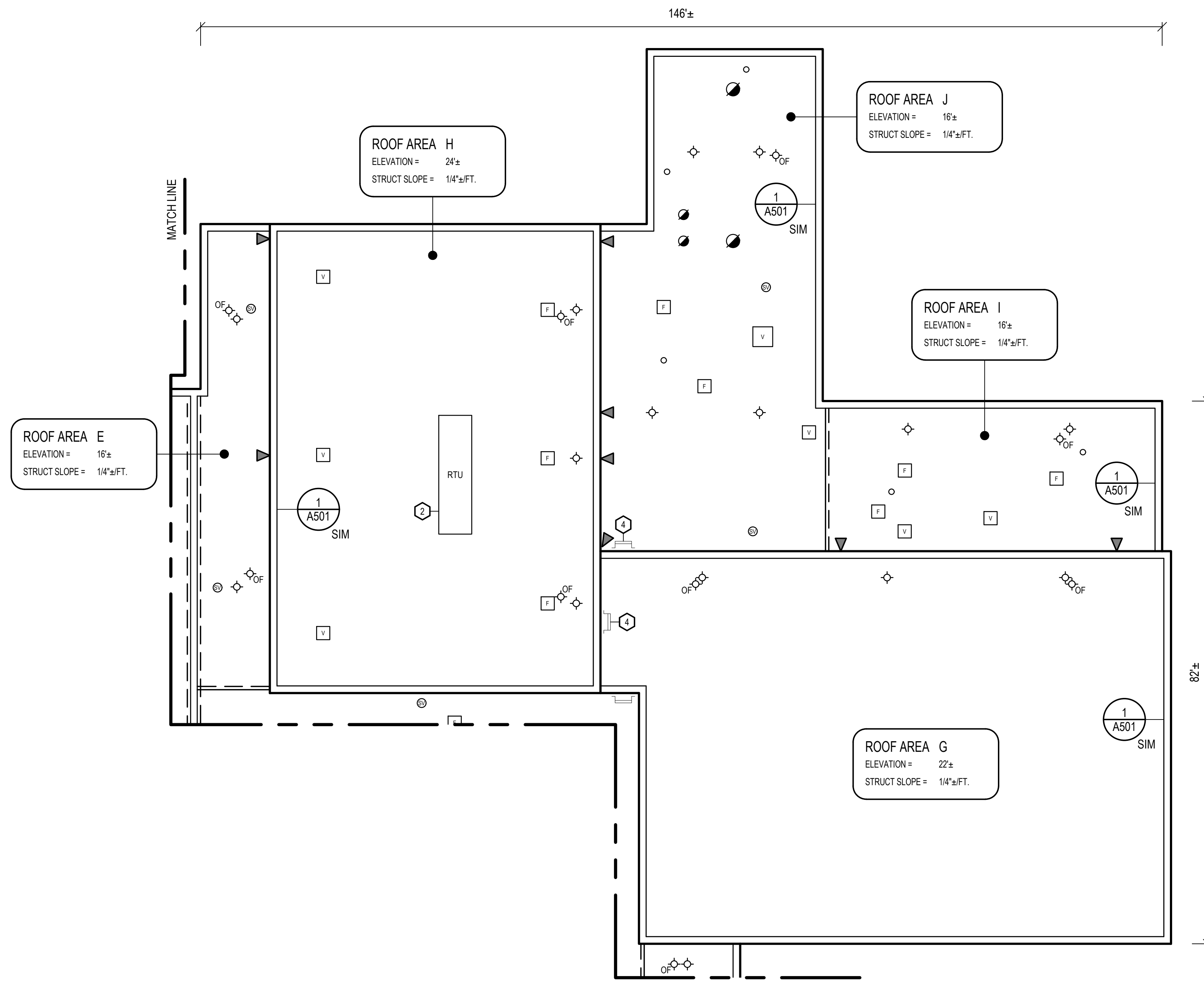
A-102

D:\656349\02 DESIGN\656349 A1X.DWG - 5/19/2022 10:06:27 AM - MLF



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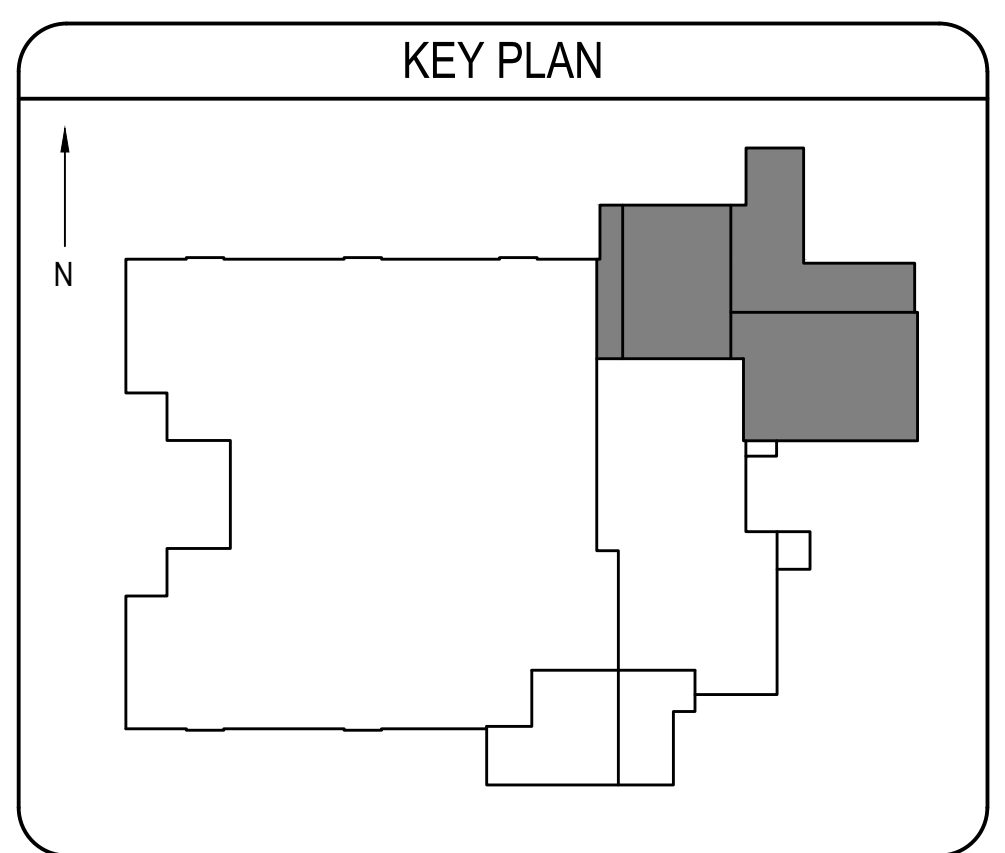


**PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS**  
SCALE: 3/32" = 1'  
NORTH

**LEGEND**

REMOVE AND REPLACE EXISTING  
VERTICAL SEALANT JOINT. SAWCUT  
EXISTING JOINT TO MINIMUM 1/2" WIDE. SEE  
DETAIL 1/A506.

- KEYNOTES**
- 1 REMOVE, STORE AND REINSTALL RADON VENT FAN UNIT.
  - 2 RAISE EXISTING ROOF TOP UNIT (RTU) INCLUDING MECHANICAL AND ELECTRICAL CONNECTIONS. SEE ME-101.
  - 3 REMOVE EXISTING RTU IN PREPARATION FOR STEEL FRAMING MODIFICATIONS.
  - 4 REMOVE EXISTING ROOF ACCESS LADDER.
  - 5 REMOVE ABANDONED ANTENNA AND ASSOCIATED WIRING.
  - 6 REMOVE EXISTING MULTI-PIPE PENETRATION AND CURB.



**PROJECT**  
ROOF REPLACEMENT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
13400 TRIADDELPHIA ROAD  
ELLICOTT CITY, MARYLAND 21042

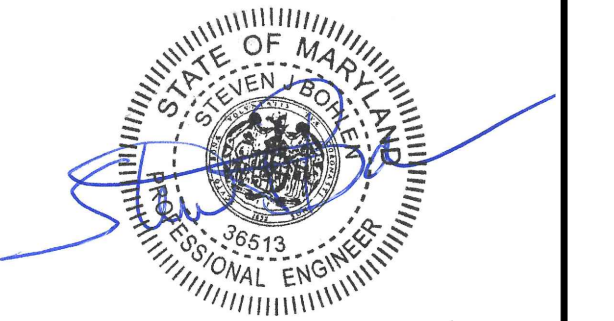
**OWNER**  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
9020 MENDENHALL COURTS, SUITE A  
ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO. 656349  
CADD FILE 656349 A1x  
DESIGNED BY EDE  
DRAWN BY MLF  
CHECKED BY SJB  
DATE 05/18/2022  
DRAWING SCALE 3/32" = 1'

**SHEET TITLE**  
PARTIAL  
ROOF AREA PLAN  
EXISTING  
CONDITIONS

**DRAWING NO.**  
A-103

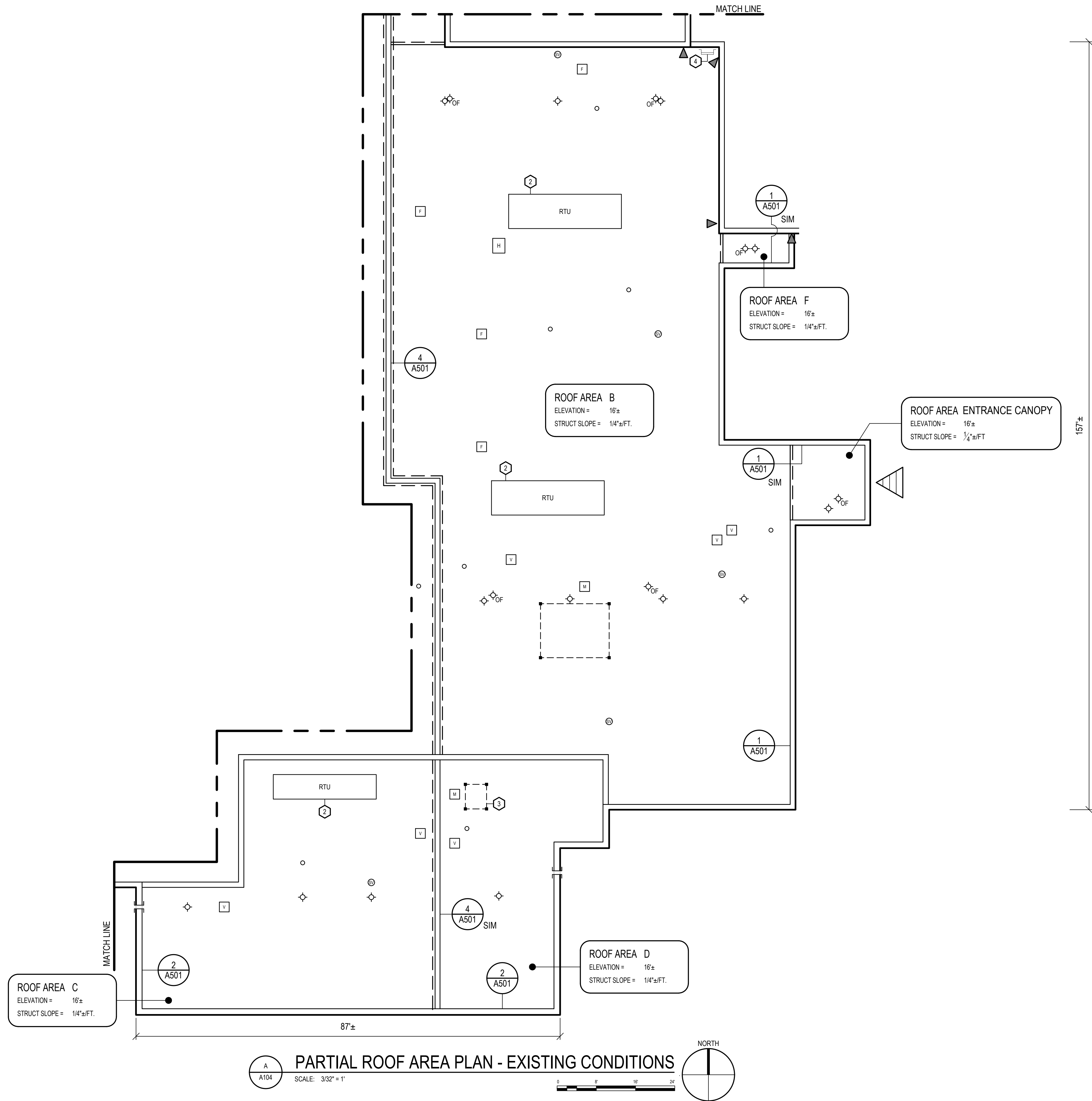


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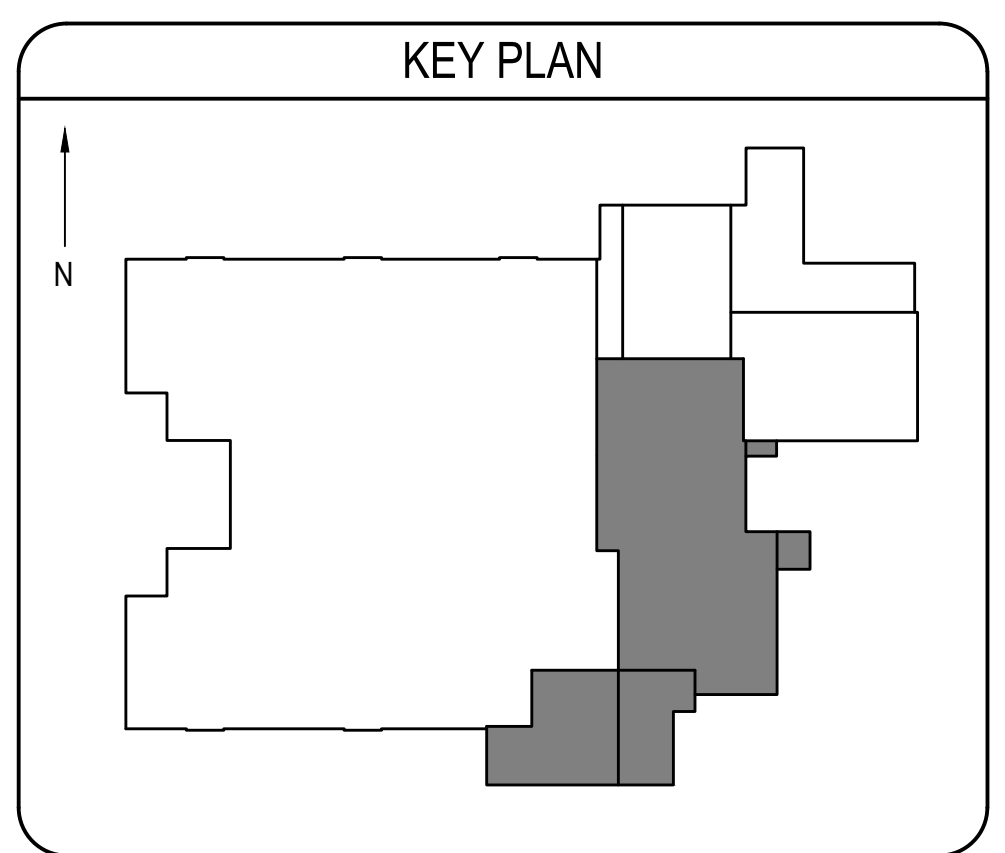
PROJECT  
**ROOF REPLACEMENT  
 TRIADDELPHIA RIDGE ELEMENTARY SCHOOL**  
 13400 TRIADDELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042



**LEGEND**  
 REMOVE AND REPLACE EXISTING  
 VERTICAL SEALANT JOINT. SAWCUT  
 EXISTING JOINT TO MINIMUM 1/2" WIDE. SEE  
 DETAIL 1/A506.

- KEYNOTES**
- 1 REMOVE, STORE AND REINSTALL RADON VENT FAN UNIT.
  - 2 RAISE EXISTING ROOF TOP UNIT (RTU) INCLUDING MECHANICAL AND ELECTRICAL CONNECTIONS. SEE ME-101.
  - 3 REMOVE EXISTING RTU IN PREPARATION FOR STEEL FRAMING MODIFICATIONS.
  - 4 REMOVE EXISTING ROOF ACCESS LADDER.
  - 5 REMOVE ABANDONED ANTENNA AND ASSOCIATED WIRING.
  - 6 REMOVE EXISTING MULTI-PIPE PENETRATION AND CURB.



**PARTIAL ROOF AREA PLAN - EXISTING CONDITIONS**  
 SCALE: 3/32" = 1'  
 NORTH

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO. 656349  
 CADD FILE 656349 A1x  
 DESIGNED BY EDE  
 DRAWN BY MLF  
 CHECKED BY SJB  
 DATE 05/18/2022  
 DRAWING SCALE 3/32" = 1'

GRAPHIC SCALE  
 0 8 16 24'  
IF BORDER OVERLIES ELEMENT FROM 1/2" USE GRAPHIC SCALE

SHEET TITLE  
**PARTIAL  
 ROOF AREA PLAN  
 EXISTING  
 CONDITIONS**

DRAWING NO.  
**A-104**





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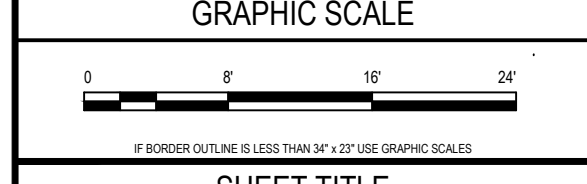
License No. 36513, Expiration Date: 3.27.23

PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042**

OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

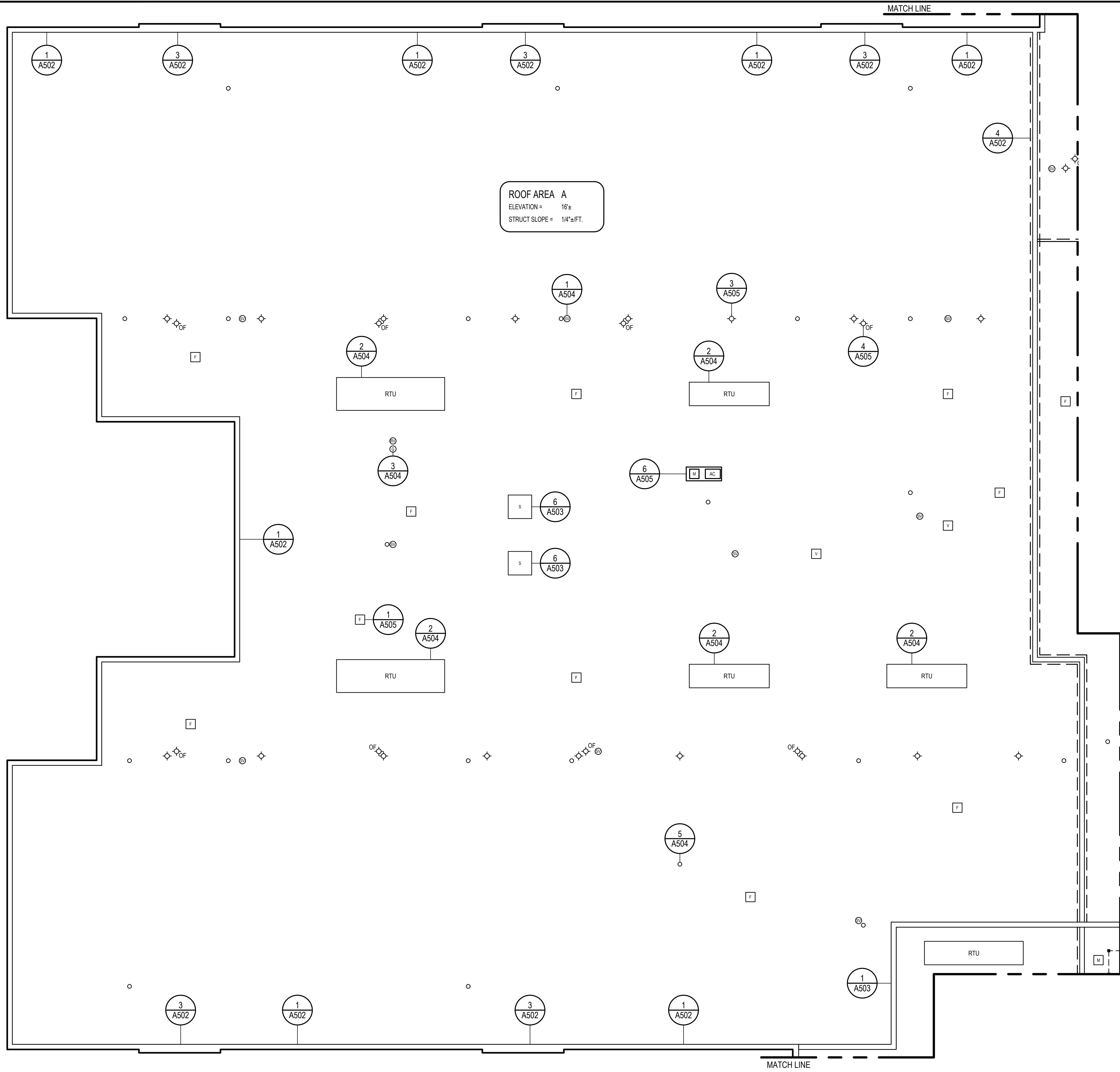
NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 A1x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3/32" = 1'



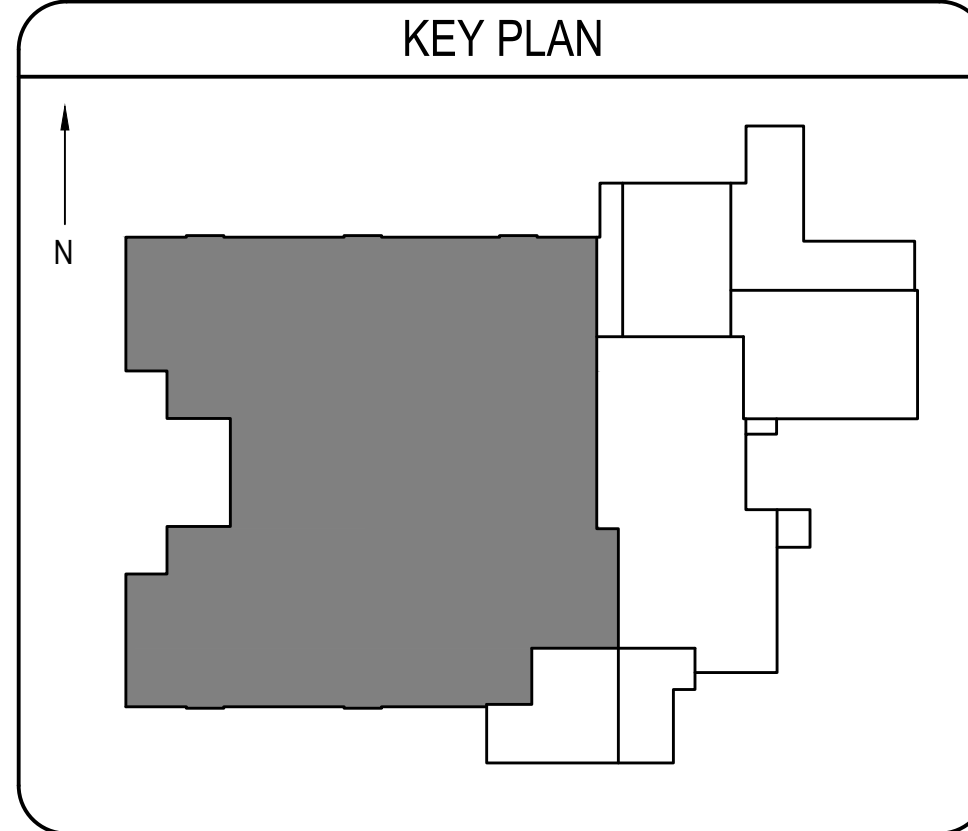
SHEET TITLE  
**PARTIAL  
 ROOF AREA PLAN  
 NEW  
 CONSTRUCTION**

DRAWING NO.  
**A-105**



**ROOF AREA A**  
 ELEVATION = 16±  
 STRUCT SLOPE = 1/4"±/FT.

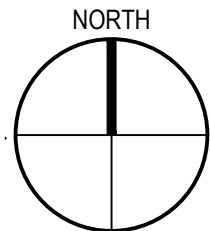
- KEYNOTES**
- ① SCRAPE, PRIME AND PAINT EXPOSED STEEL FRAMING.
  - ② AUGMENT EXISTING STEEL FRAMING. SEE DETAIL 2/A506.
  - ③ STEP UP FLASHING AND EXTEND BEYOND PARAPET CAP. SEE DETAIL 4/A507.
  - ④ PROVIDE SM END CLOSURE FULL HEIGHT OF BASEFLASHING. SEE DETAILS 6/A507 & 7/A507.

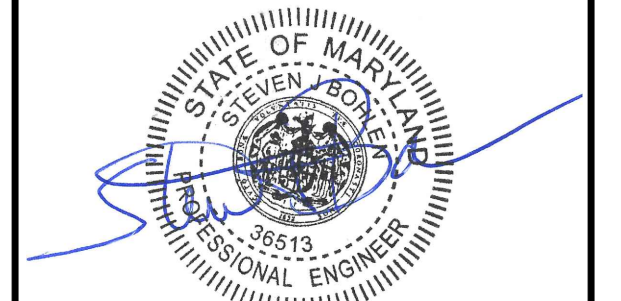


**PARTIAL ROOF AREA PLAN - NEW CONSTRUCTION**

A  
 A105

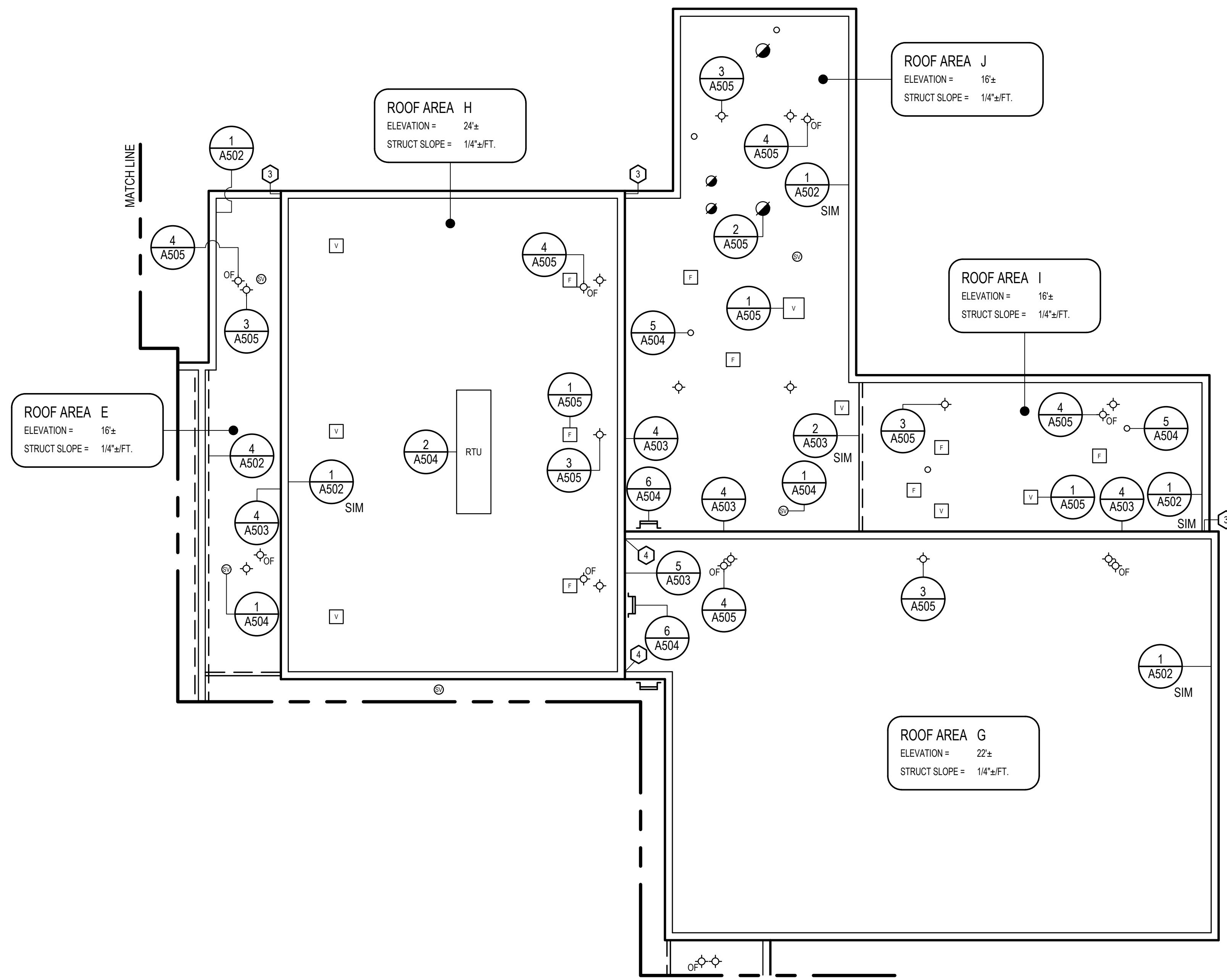
SCALE: 3/32" = 1'





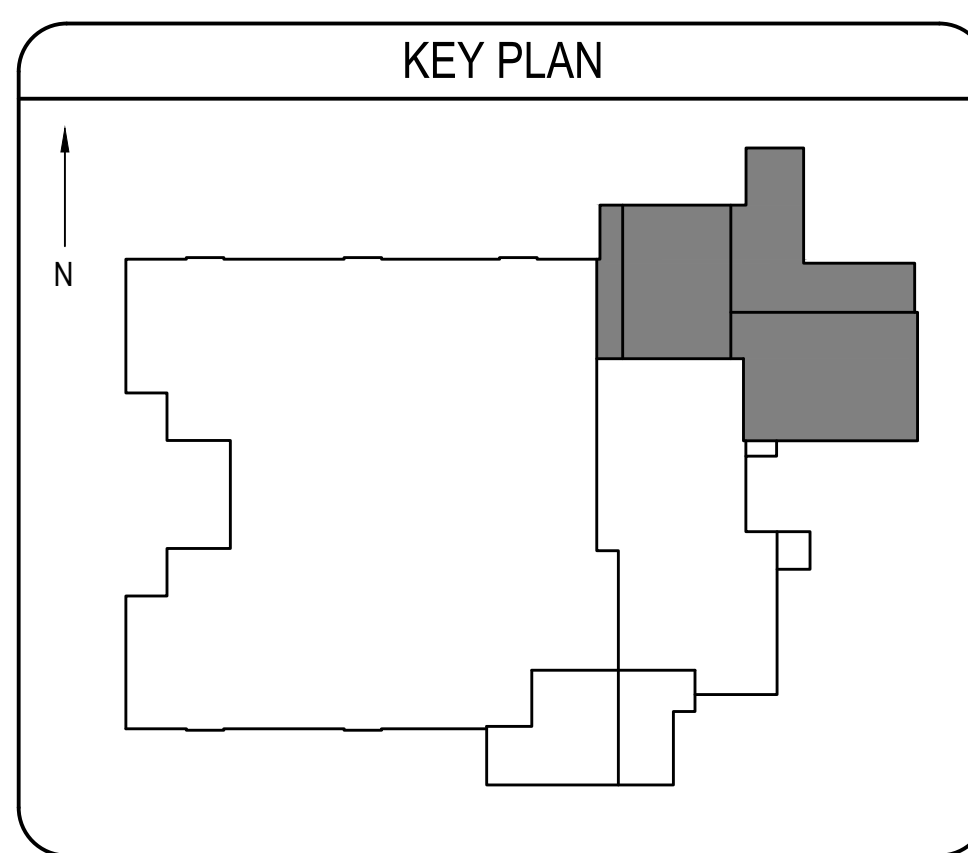
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License No. 36513, Expiration Date: 3.27.23



**PARTIAL ROOF AREA PLAN - NEW CONSTRUCTION**  
SCALE: 3/32" = 1'  
NORTH

KEYNOTES			
1	SCRAPE, PRIME AND PAINT EXPOSED STEEL FRAMING.		
2	AUGMENT EXISTING STEEL FRAMING. SEE DETAIL 2/A506.		
3	STEP UP FLASHING AND EXTEND BEYOND PARAPET CAP. SEE DETAIL 4/A507.		
4	PROVIDE SM END CLOSURE FULL HEIGHT OF BASEFLASHING. SEE DETAILS 6/A507 & 7/A507.		



**PROJECT**  
ROOF REPLACEMENT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
13400 TRIADDELPHIA ROAD  
ELLICOTT CITY, MARYLAND 21042

**OWNER**  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
9020 MENDENHALL COURTS, SUITE A  
ELLICOTT CITY, MARYLAND 21042

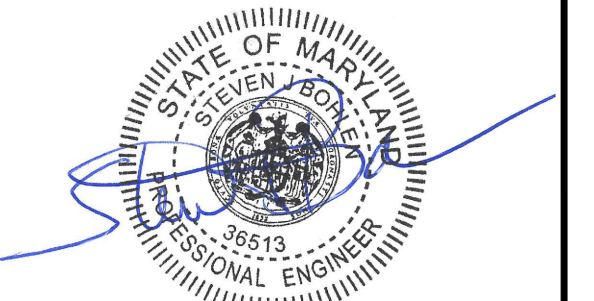
NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 A1x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3/32" = 1'

**SHEET TITLE**  
PARTIAL  
ROOF AREA PLAN  
NEW  
CONSTRUCTION

**DRAWING NO.**  
A-106





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PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042**

OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

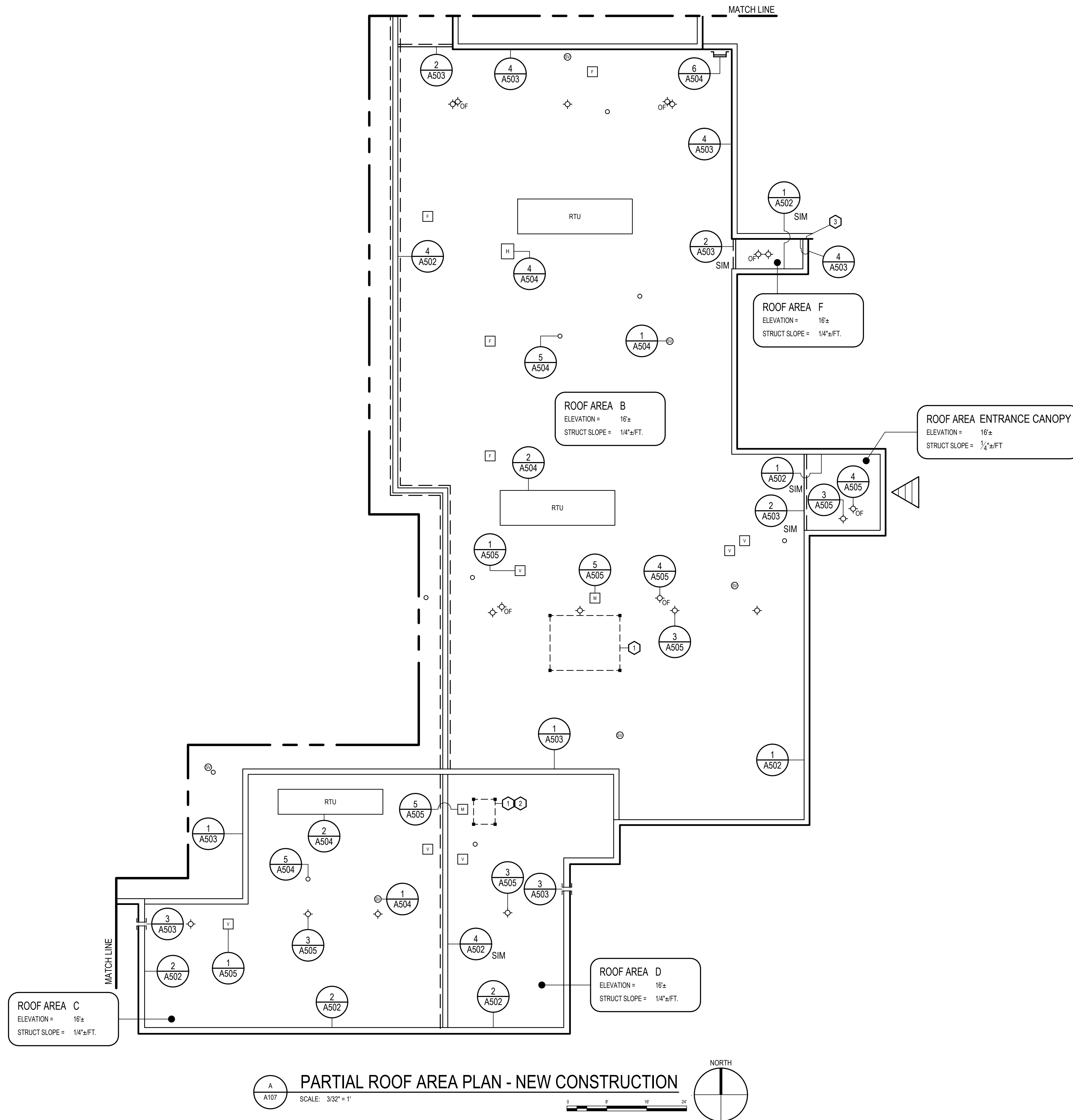
NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 A1x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3/32" = 1'

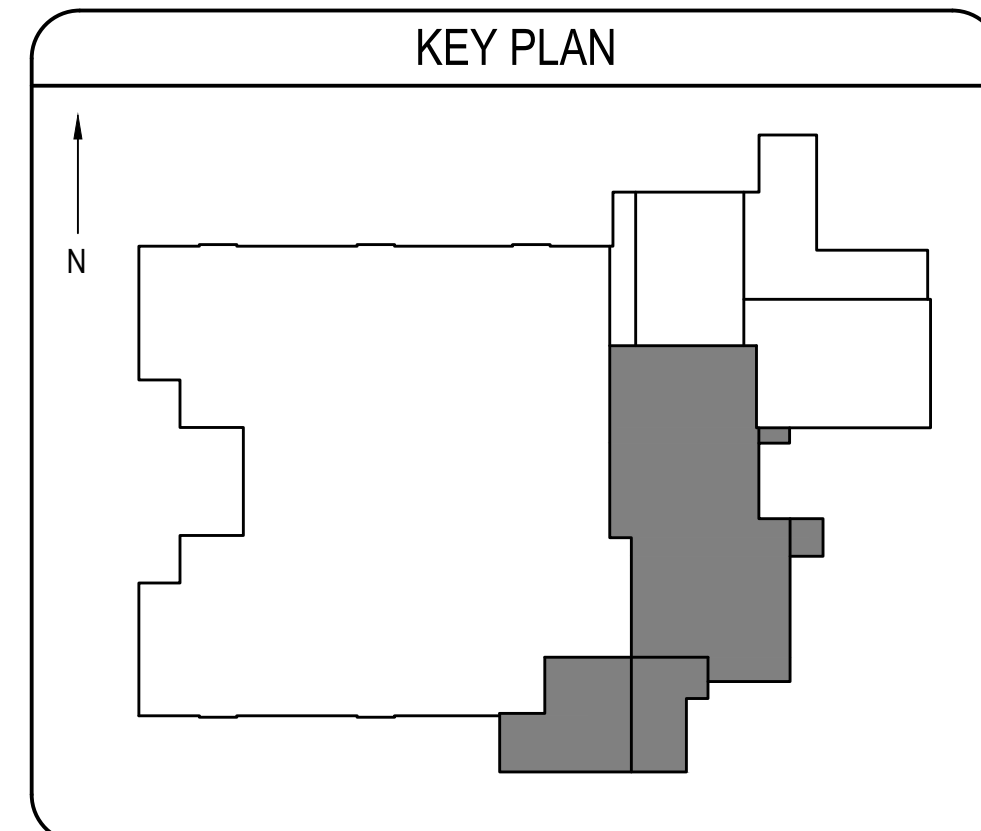
GRAPHIC SCALE	
0 8 16 24'	
IF BORDER OVERLIES ELEMENT THIN LINES, USE GRAPHIC SCALE	

SHEET TITLE  
**PARTIAL  
 ROOF AREA PLAN  
 NEW  
 CONSTRUCTION**

DRAWING NO.  
**A-107**



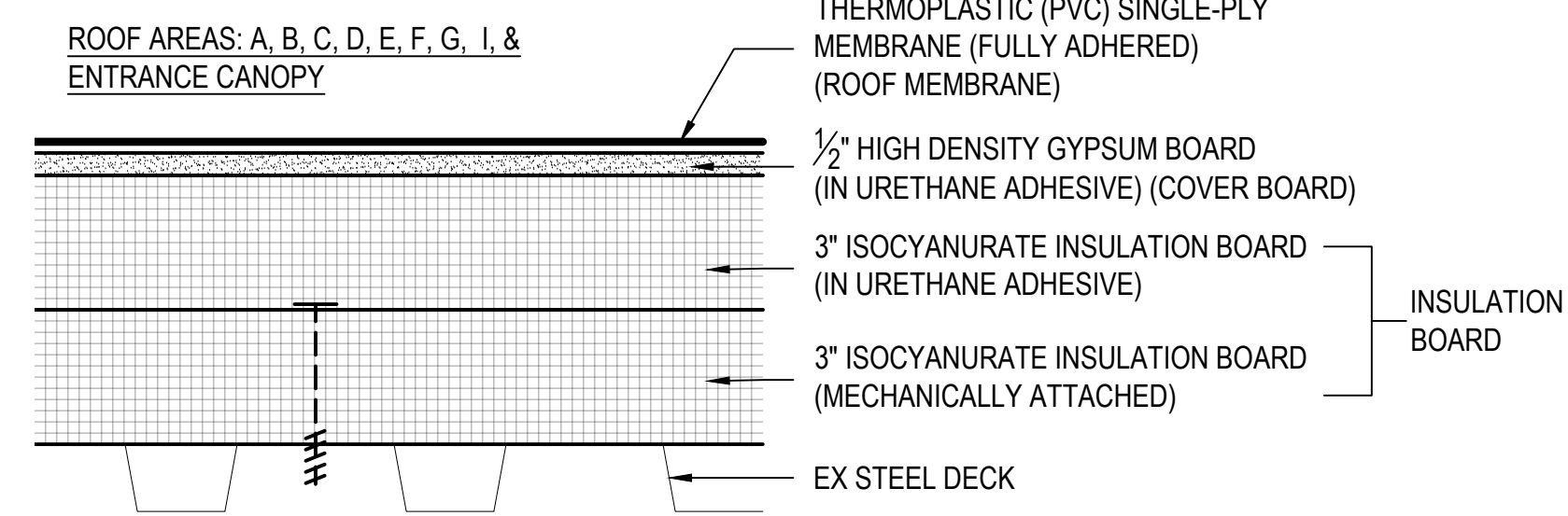
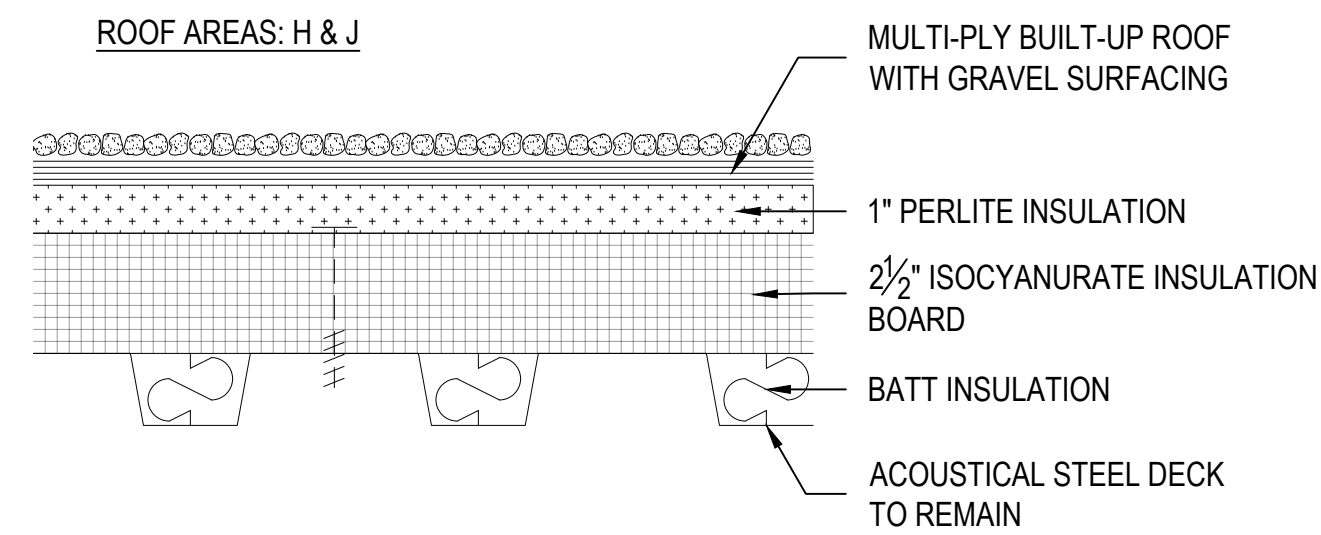
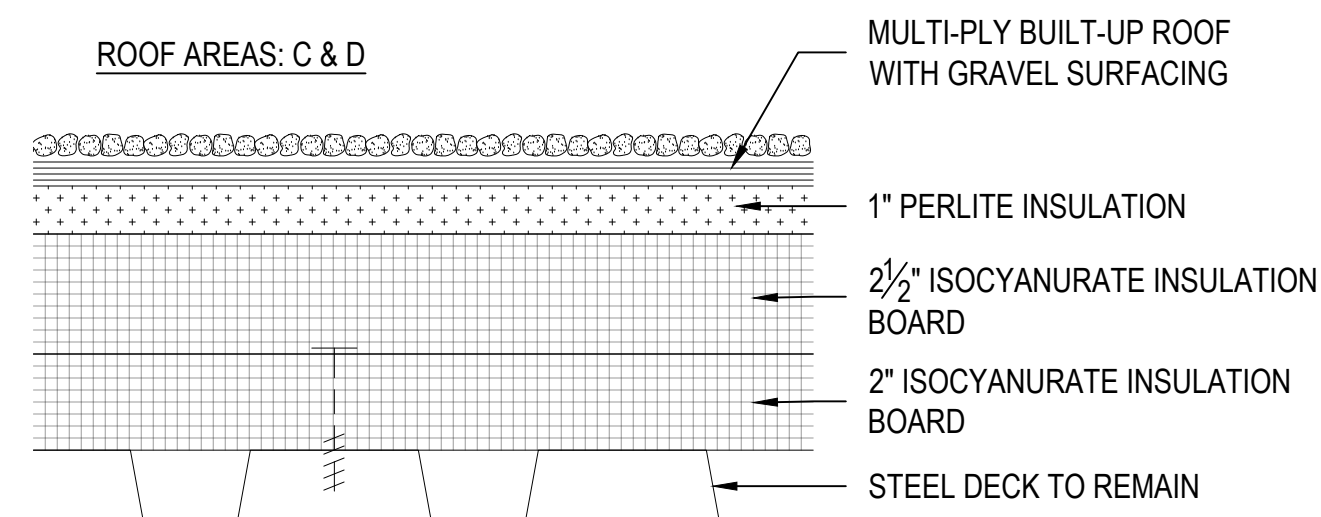
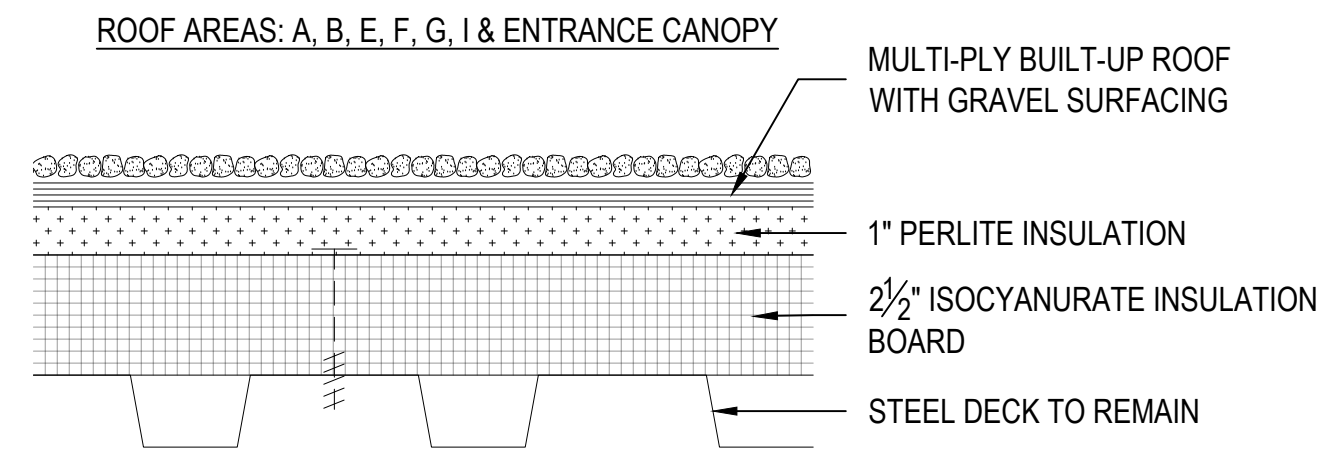
KEYNOTES	
1	SCRAPE, PRIME AND PAINT EXPOSED STEEL FRAMING.
2	AUGMENT EXISTING STEEL FRAMING. SEE DETAIL 2/A506.
3	STEP UP FLASHING AND EXTEND BEYOND PARAPET CAP. SEE DETAIL 4/A507.
4	PROVIDE SM END CLOSURE FULL HEIGHT OF BASEFLASHING. SEE DETAILS 6/A507 & 7/A507.



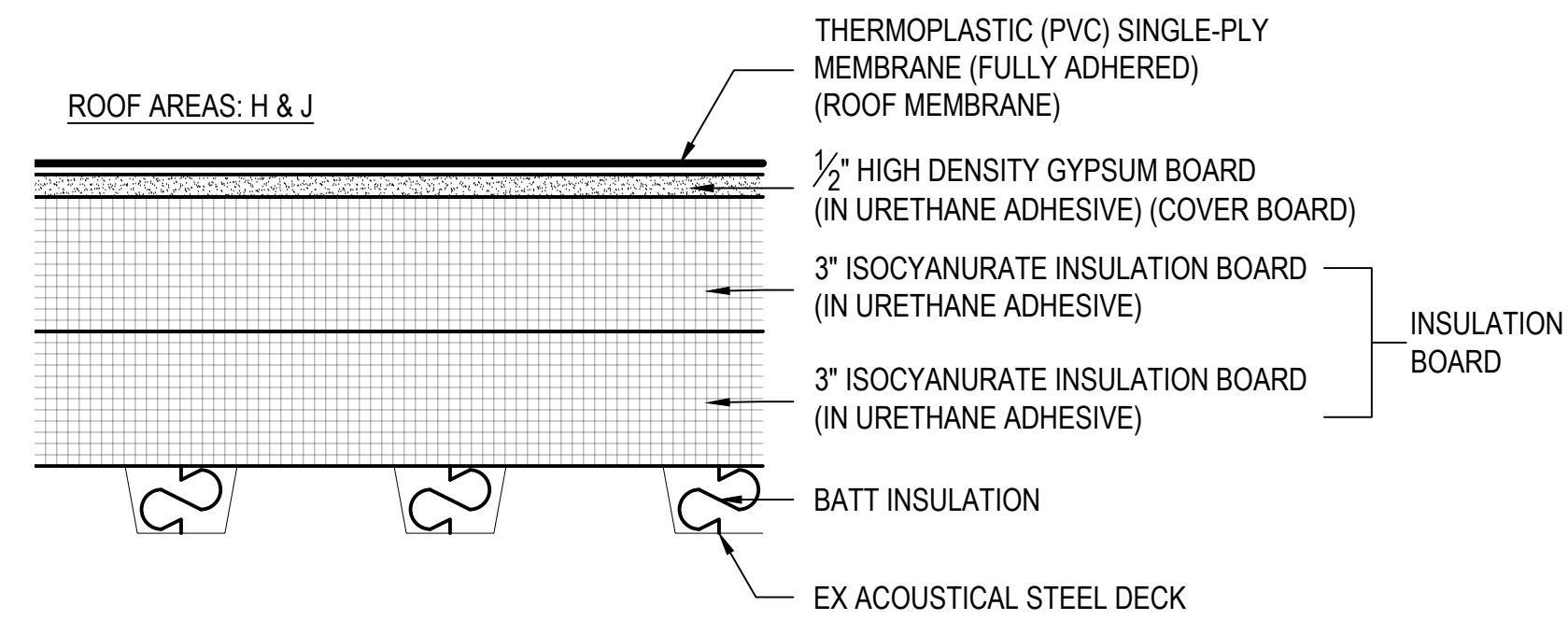


EXISTING CONDITIONS

NEW CONSTRUCTION



NOTE:  
 • PERFORM PULL TESTS FOR INSULATION ADHERED DIRECTLY TO THE STEEL DECK. SHOULD PULL TESTS NOT MEET A MINIMUM RESISTANCE TO MEET 1-90 REQUIREMENTS, MECHANICAL ATTACHMENT OF THE INSULATION BASE LAYER WILL BE REQUIRED.



Gale Associates, Inc.  
 Engineers Architects Planners

1122 Kenilworth Drive, Suite 206  
 Towson, Md 21204-2143  
 P 443-279-4500 F 443-279-4560  
 www.gainc.com

Massachusetts Maryland Connecticut  
 Virginia New Hampshire Florida

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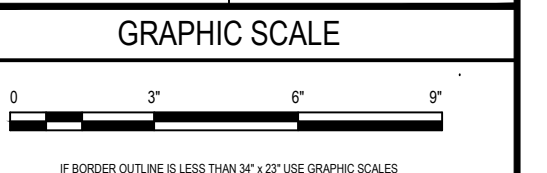
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 36513, Expiration Date: 3.27.23

PROJECT	ROOF REPLACEMENT TRIADELPHIA RIDGE ELEMENTARY SCHOOL 13400 TRIADDELPHIA ROAD ELLICOTT CITY, MARYLAND 21042	OWNER	HOWARD COUNTY PUBLIC SCHOOL SYSTEM 9020 MENDENHALL COURTS, SUITE A ELLICOTT CITY, MARYLAND 21042
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NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 A5x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3" = 1'



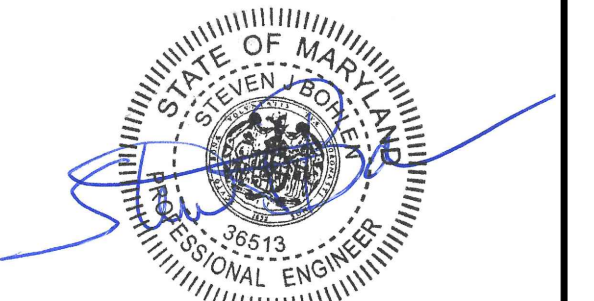
SHEET TITLE

ROOF SYSTEM  
 CROSS SECTIONS

DRAWING NO.	A-301
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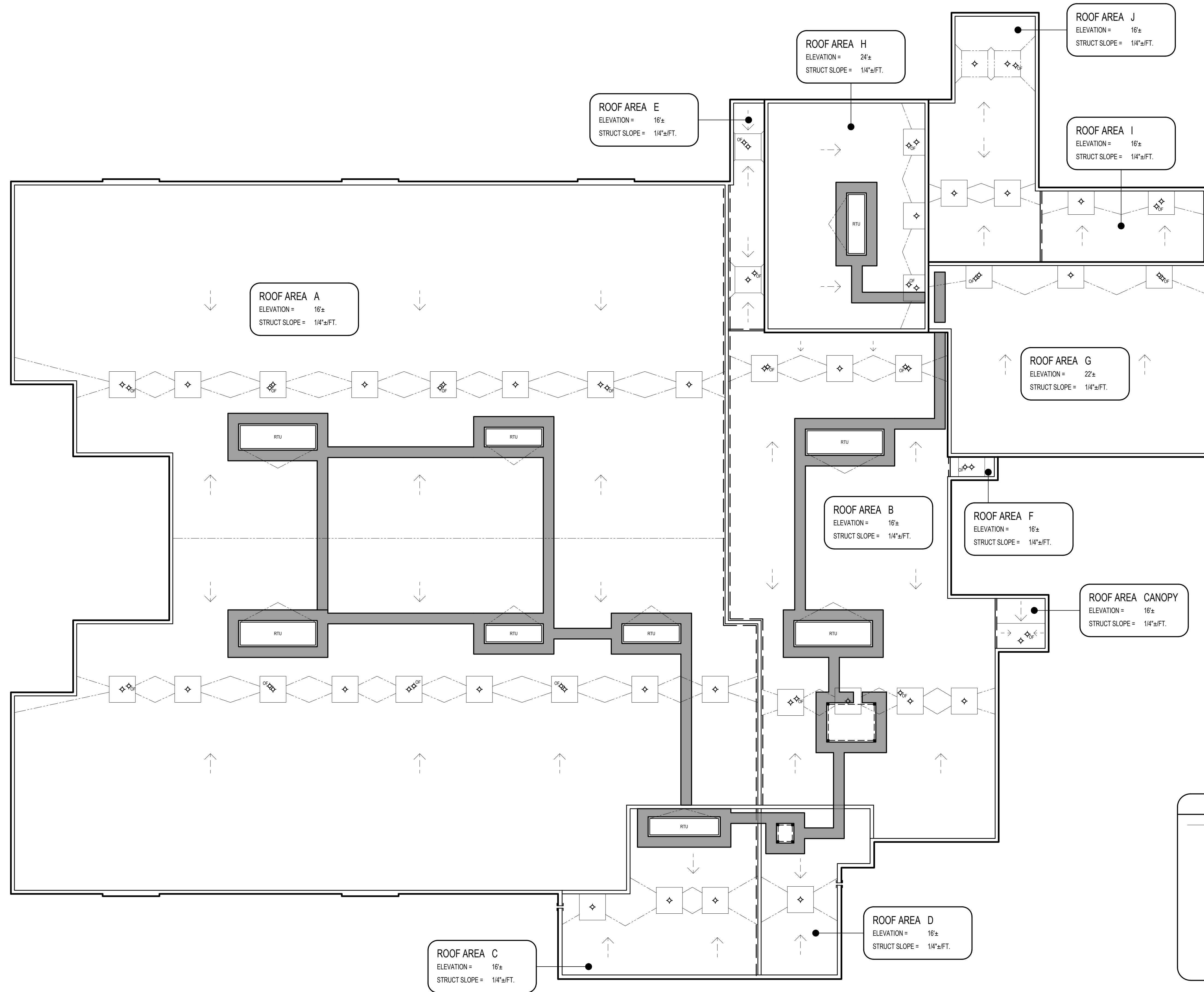
REMOVE ALL ITEMS UNLESS DESIGNATED TO REMAIN

ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING (EX)



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License No. 36513, Expiration Date: 3.27.23



**LEGEND**

- CRICKET
- STRUCTURAL SLOPE
- TAPERED INSULATION SLOPE
- ROOF DRAIN WITH SUMP
- WALKWAY PAD LAYOUT

- NOTES**
1. PROVIDE CRICKETS ON UPSLOPE SIDE OF ALL ROOF TOP PENETRATIONS AND SADDLES BETWEEN ALL ROOF DRAINS AND SCUPPERS.
  2. PROVIDE 8 FOOT WIDE MIN. CRICKETS AND SADDLES UNLESS OTHERWISE INDICATED.
  3. PROVIDE 8 FT X 8 FT DRAIN SUMPS AT ALL INTERIOR ROOF DRAINS AND SCUPPERS.
  4. THE LAYOUT IS CONCEPTUAL IN NATURE AND INTENDED TO PROVIDE A BASIC CONCEPT FOR BIDDING PURPOSES. THE ACTUAL LAYOUT MAY VARY FROM THAT SHOWN.

**CONCEPTUAL CRICKET AND WALKWAY PLAN**  
 SCALE: 1/16" = 1'  
 NORTH

**PROJECT**  
 ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

**OWNER**  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

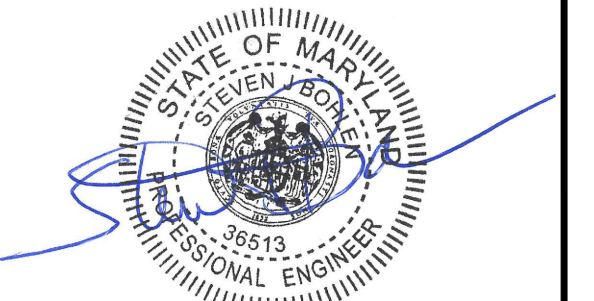
PROJECT NO.	656349
CADD FILE	656349 A1x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	1/16" = 1'

GRAPHIC SCALE  
 0 5 10 20  
 IF BORDER OVERLINE IS LESS THAN 1/8" USE GRAPHIC SCALES

**SHEET TITLE**  
 CONCEPTUAL  
 CRICKET  
 AND WALKWAY  
 PLAN

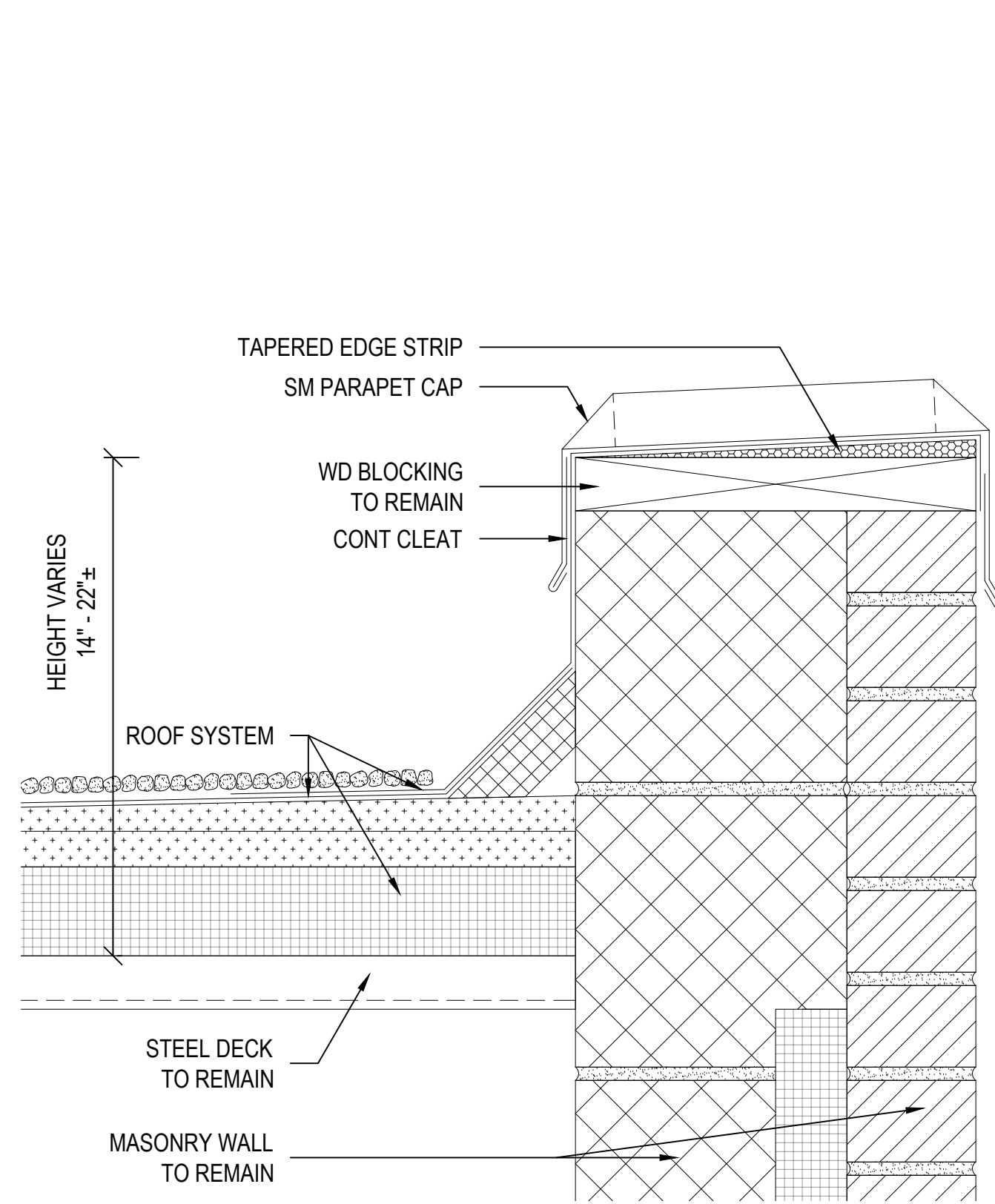
**DRAWING NO.**  
 A-401



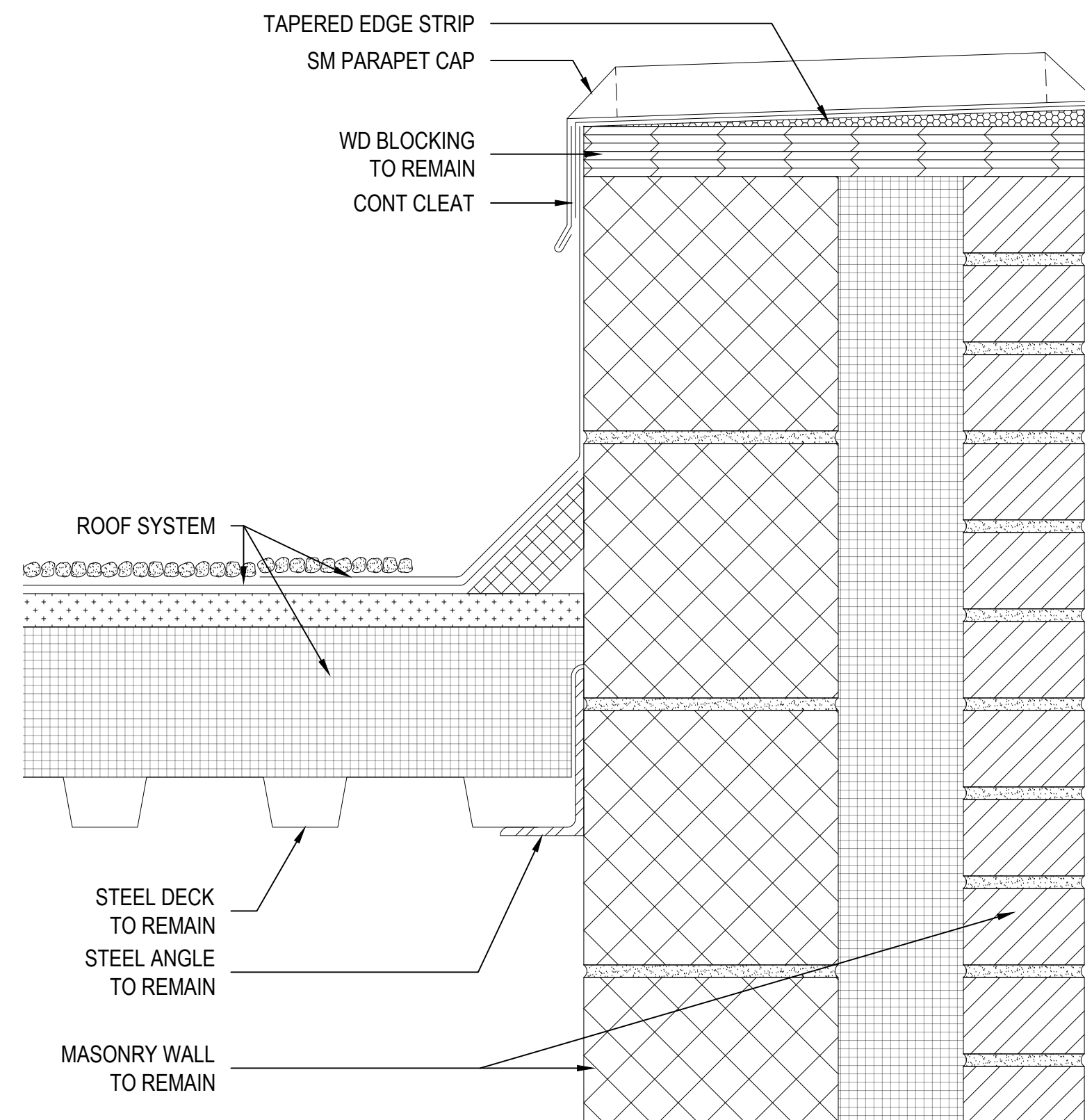


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 am a duly licensed professional engineer under the laws  
 of the State of Maryland.

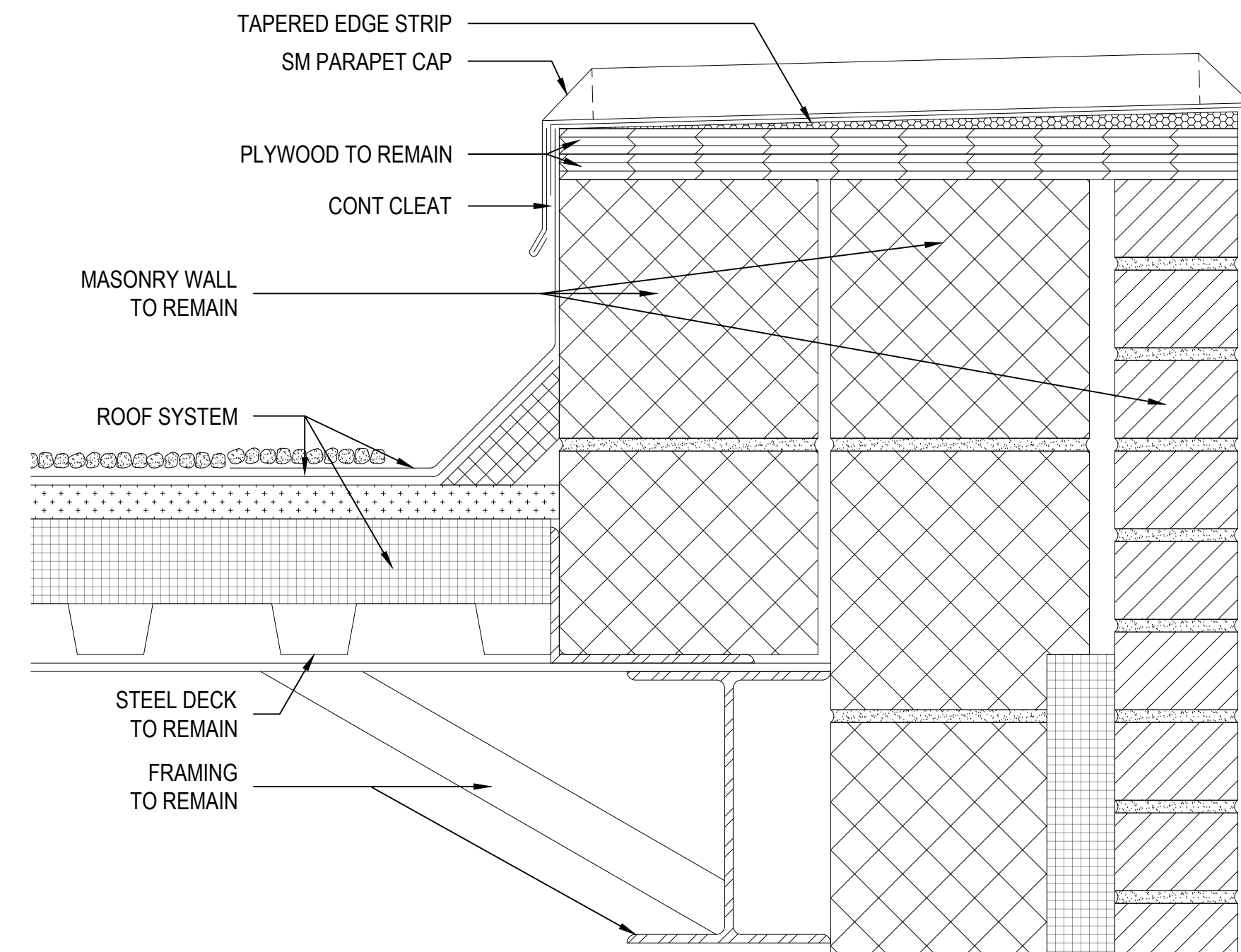
License No. 36513, Expiration Date: 3.27.23



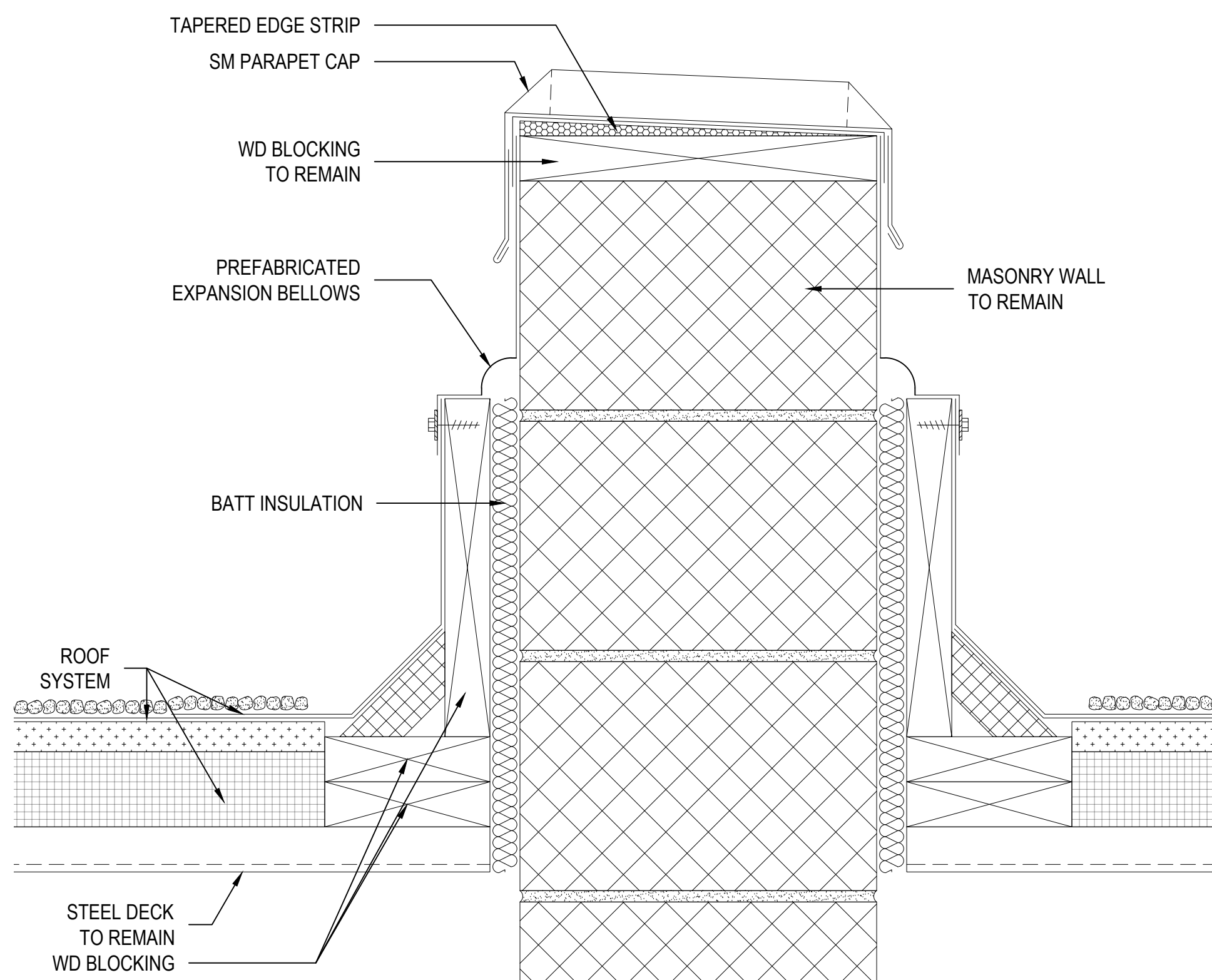
1  
 A501  
**PARAPET**  
 SCALE: 3" = 1'



2  
 A501  
**PARAPET - AREAS C & D**  
 SCALE: 3" = 1'



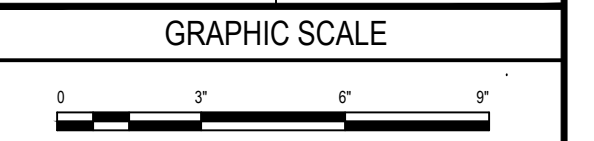
3  
 A501  
**PARAPET - AREA A**  
 SCALE: 3" = 1'



4  
 A501  
**EXPANSION JOINT**  
 SCALE: 3" = 1'

PROJECT	ROOF REPLACEMENT TRIADDELPHIA RIDGE ELEMENTARY SCHOOL 13400 TRIADDELPHIA ROAD ELLICOTT CITY, MARYLAND 21042	OWNER	HOWARD COUNTY PUBLIC SCHOOL SYSTEM 9020 MENDENHALL COURTS, SUITE A ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF
PROJECT NO.		656349	
CADD FILE		656349 A5x	
DESIGNED BY		EDE	
DRAWN BY		MLF	
CHECKED BY		SJB	
DATE		05/18/2022	
DRAWING SCALE		3" = 1'	



SHEET TITLE

**DETAILS  
 EXISTING  
 CONDITIONS**

DRAWING NO.	A-501
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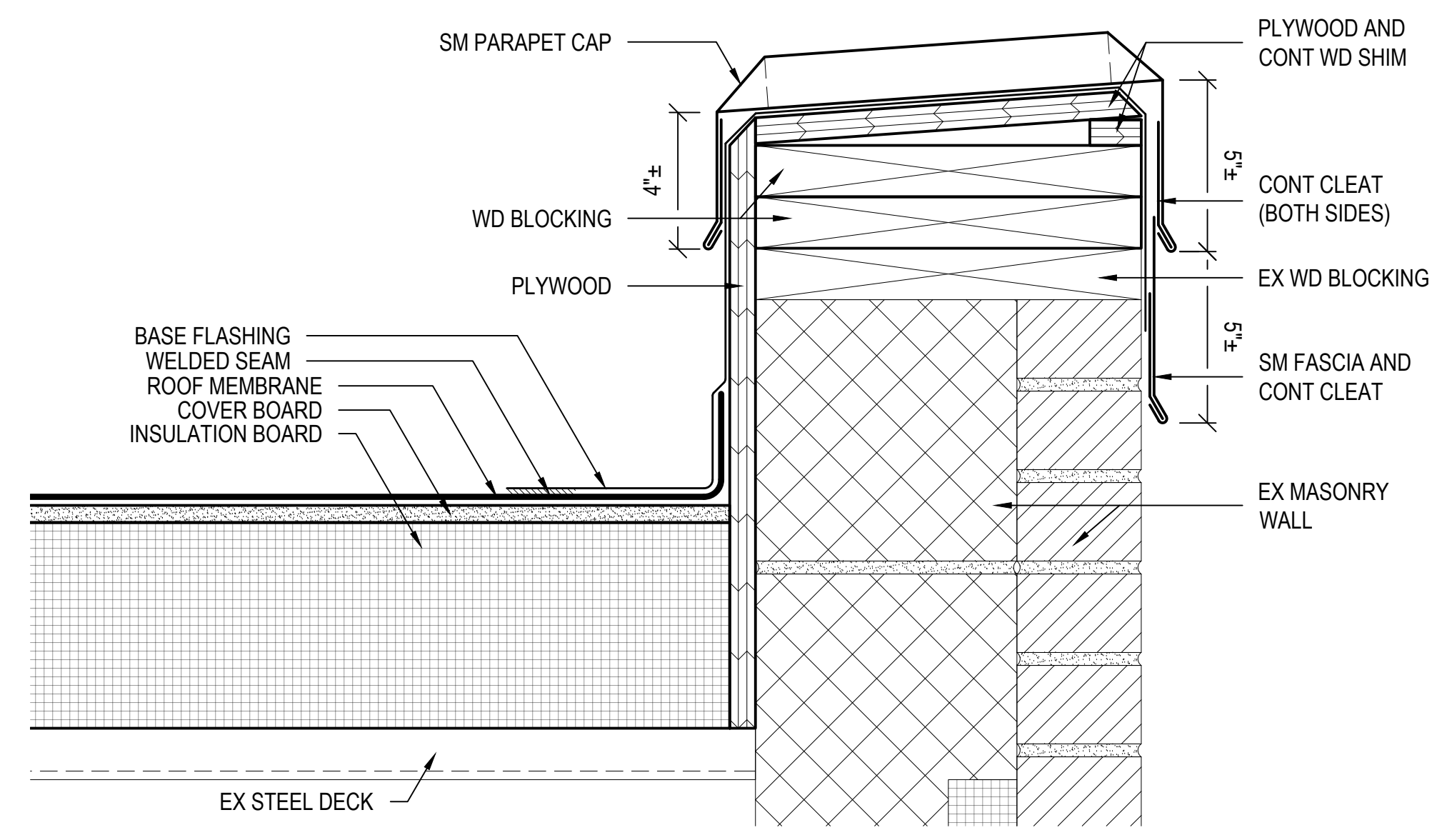
REMOVE ALL ITEMS UNLESS DESIGNATED TO REMAIN



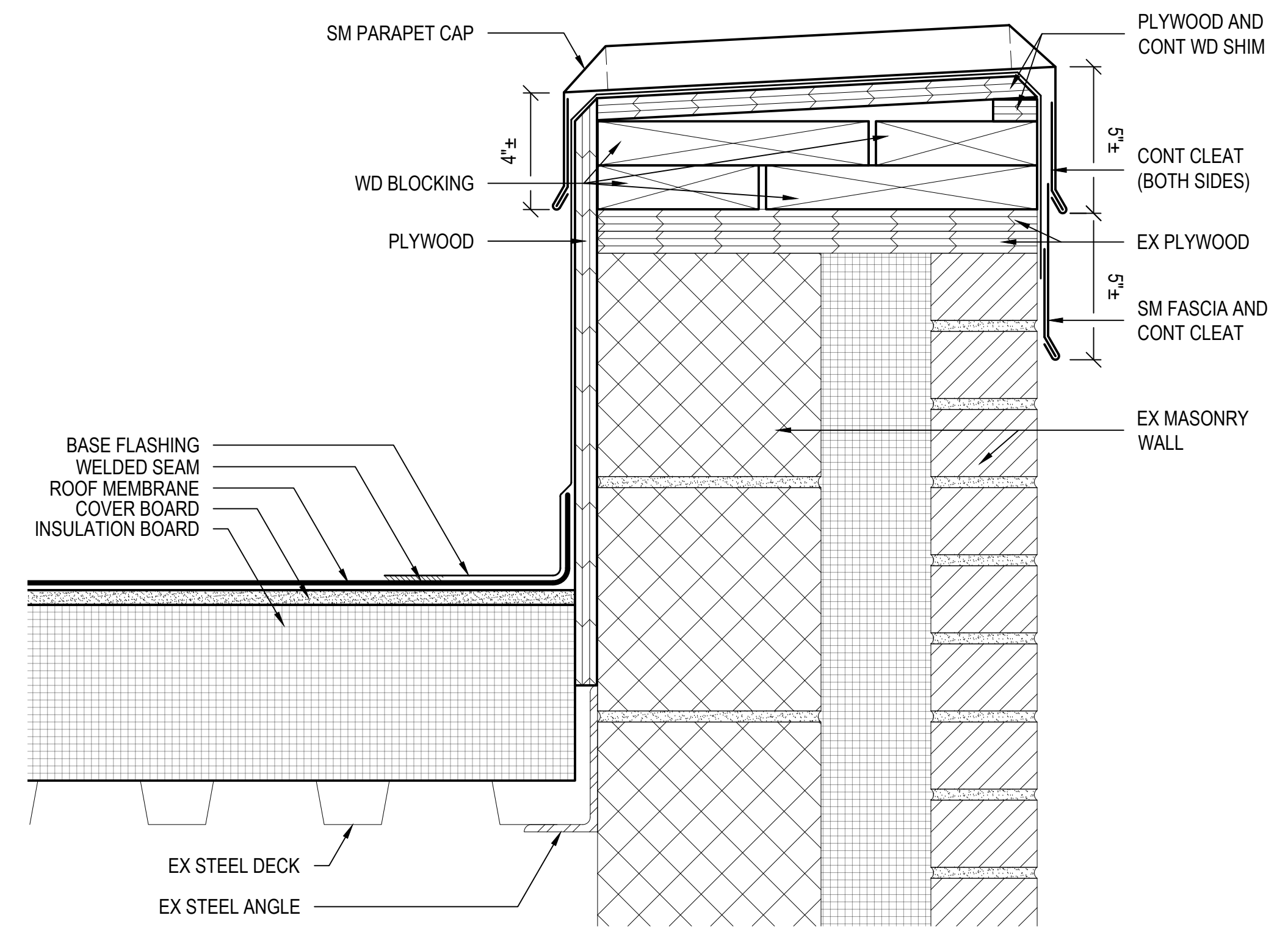


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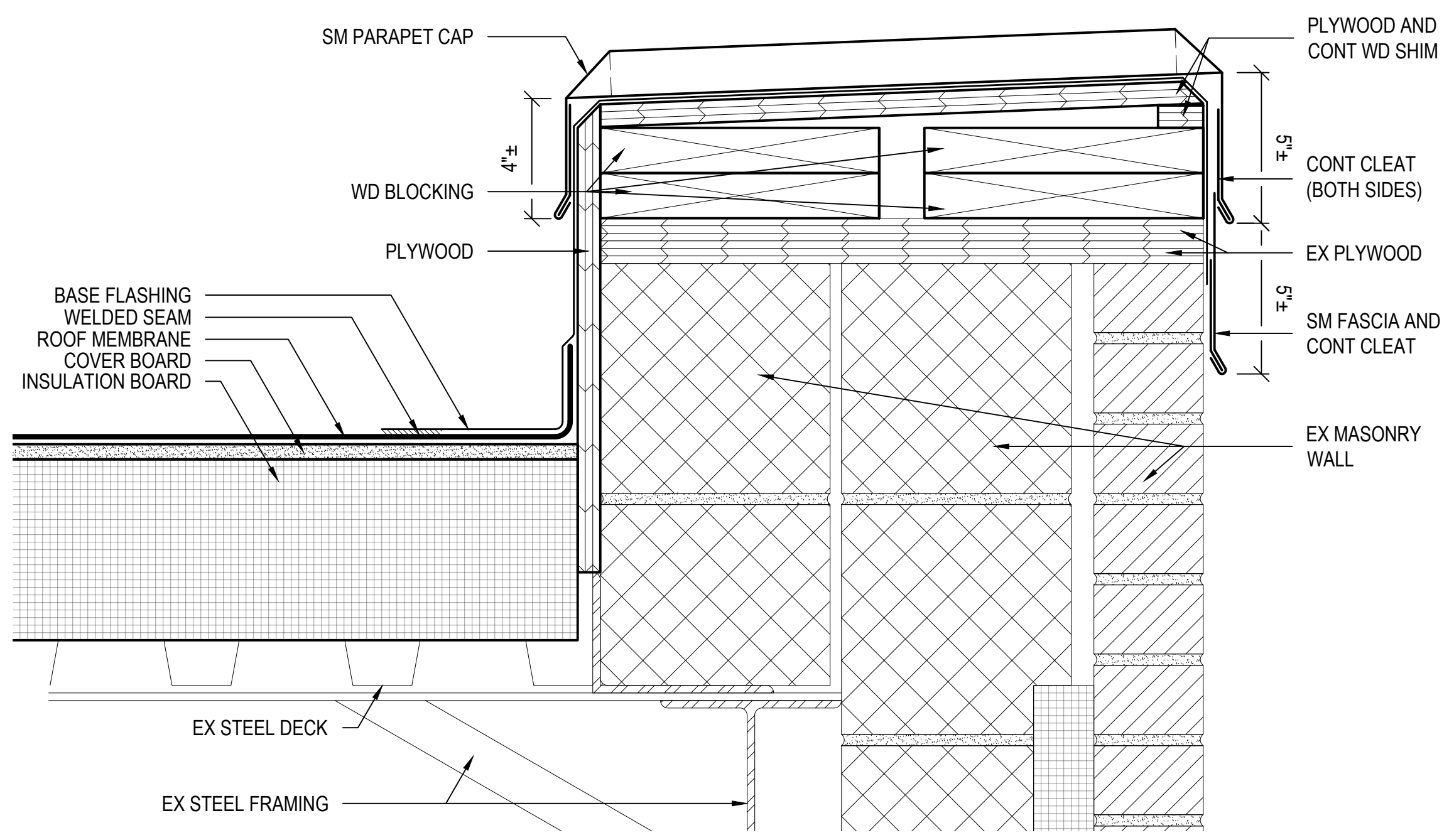
License No. 36513, Expiration Date: 3.27.23



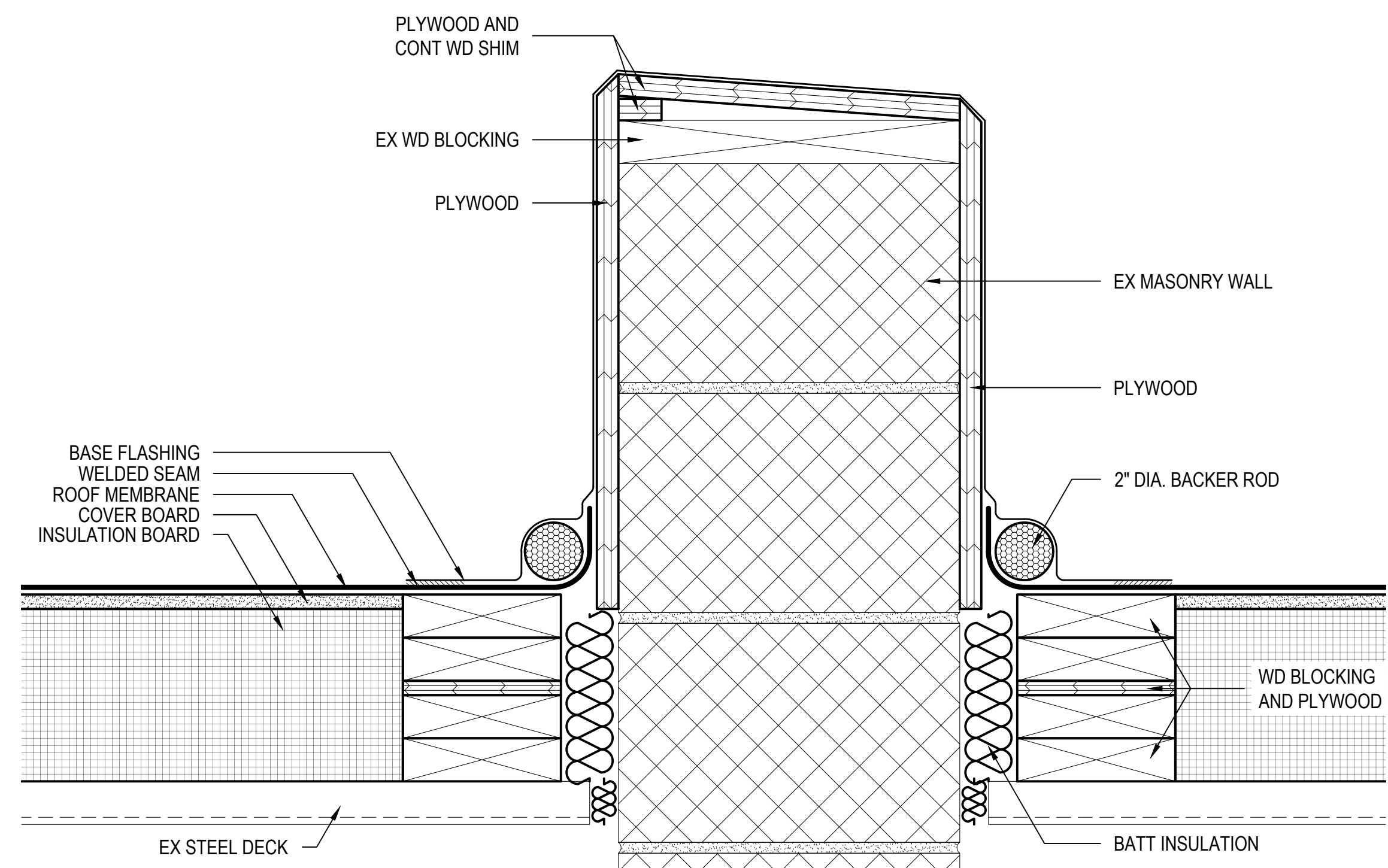
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A502  
**PARAPET**  
SCALE: 3" = 1"



2  
A502  
**PARAPET - AREAS C & D**  
SCALE: 3" = 1"



3  
A502  
**PARAPET**  
SCALE: 3" = 1"



4  
A502  
**EXPANSION JOINT**  
SCALE: 3" = 1"

PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042**

OWNER  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042**

NO.	DATE	DESCRIPTION	BY
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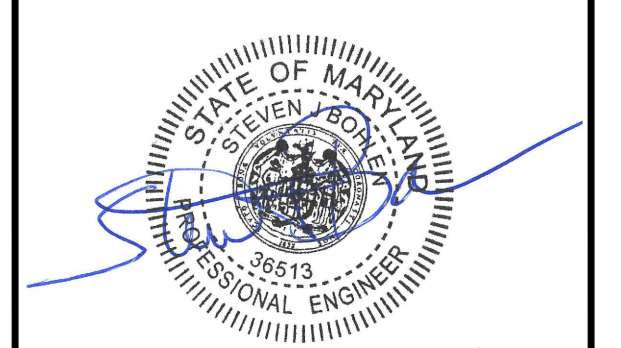
PROJECT NO.	656349
CADD FILE	656349 A5x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3" = 1"

GRAPHIC SCALE  
 0 3' 6' 9'

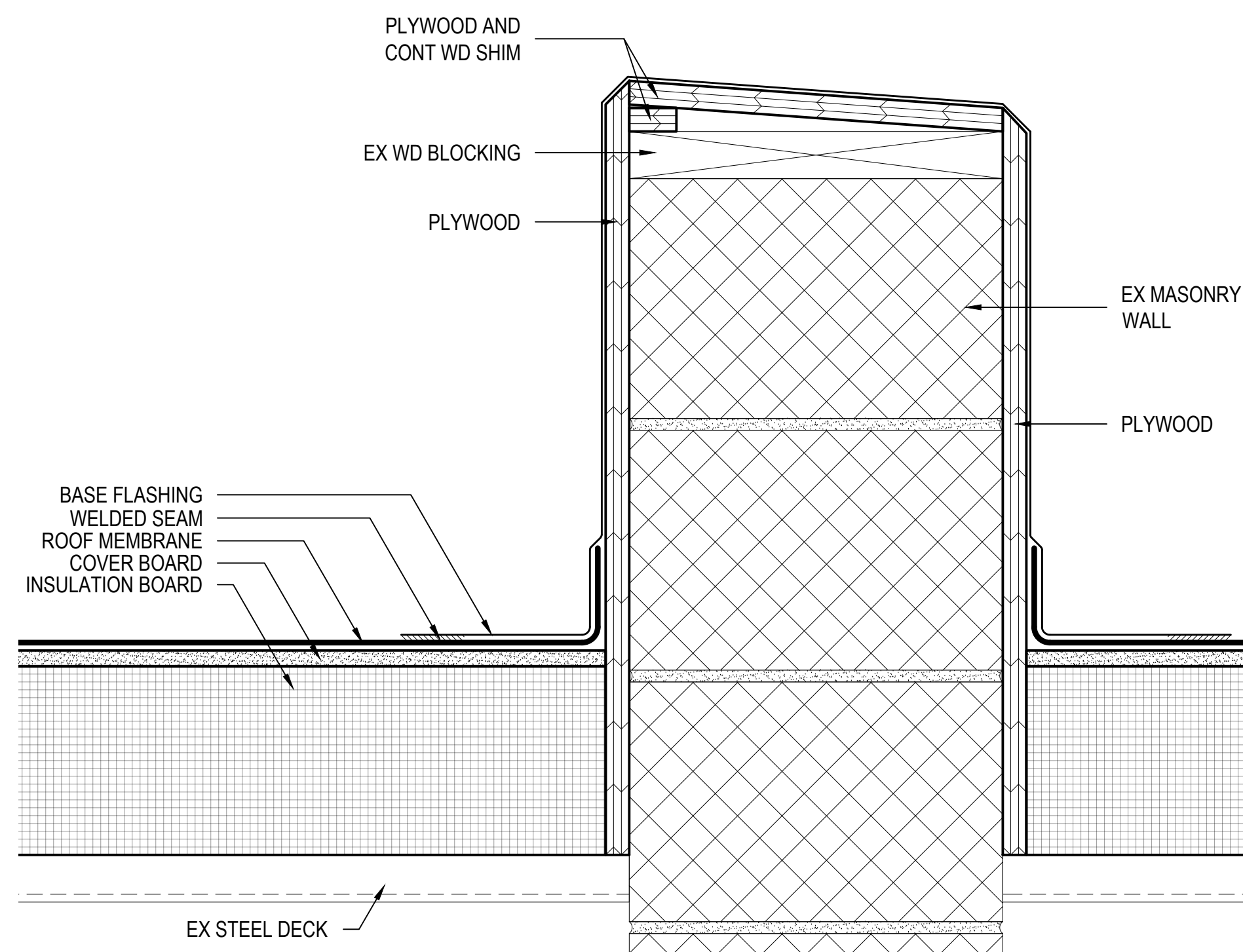
SHEET TITLE  
**DETAILS  
 NEW  
 CONSTRUCTION**

DRAWING NO.  
**A-502**

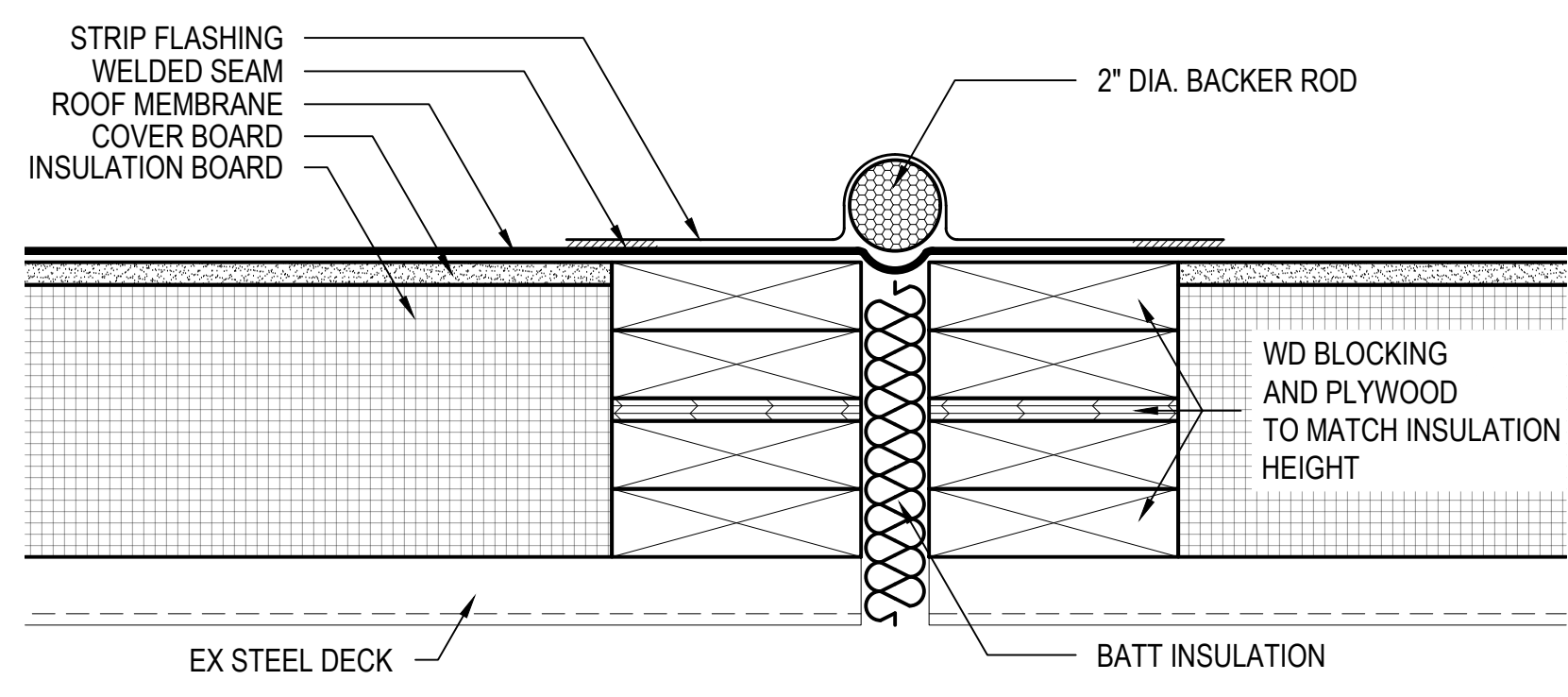




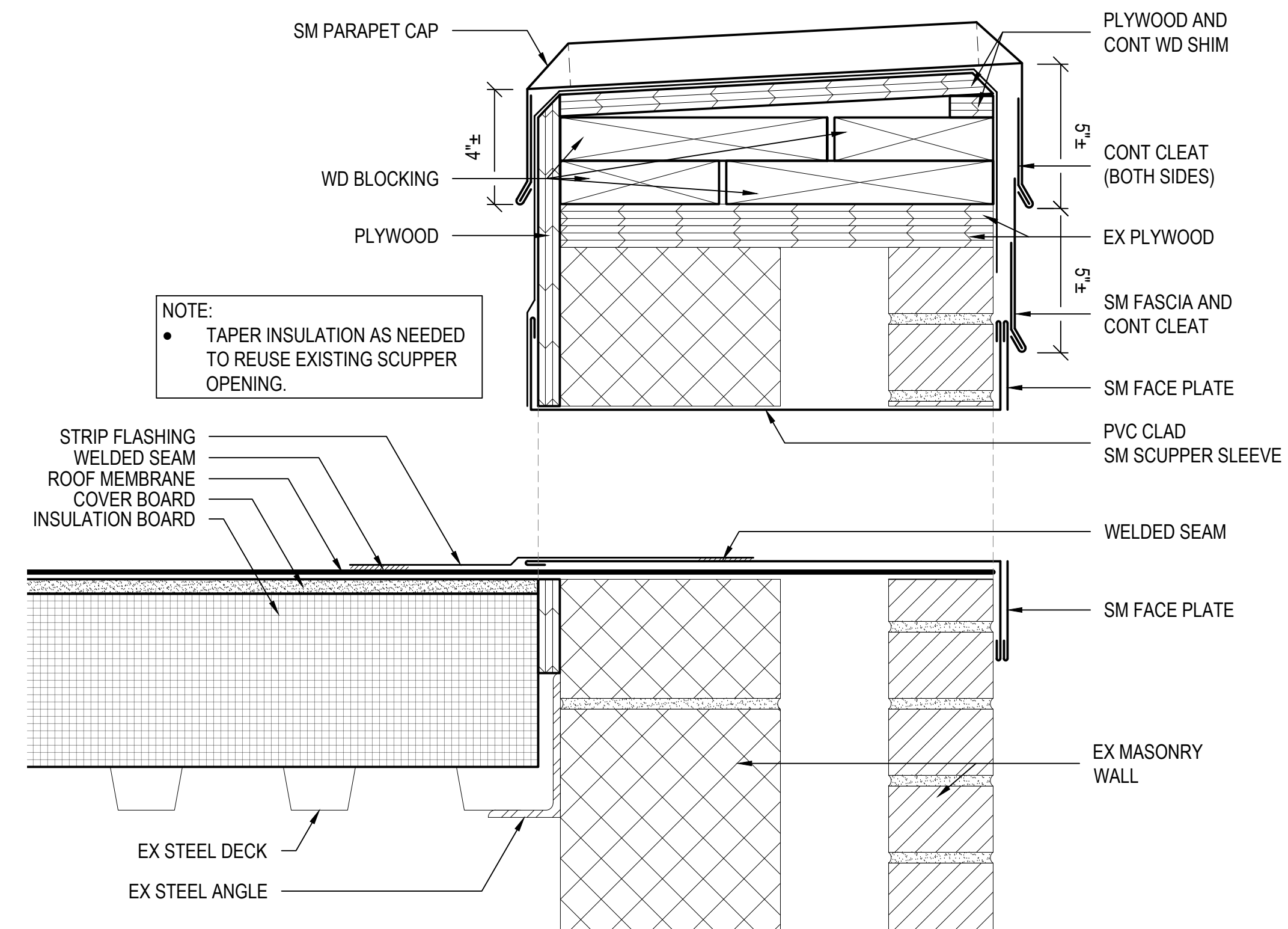
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**1 ROOF DIVIDER**  
 SCALE: 3" = 1"

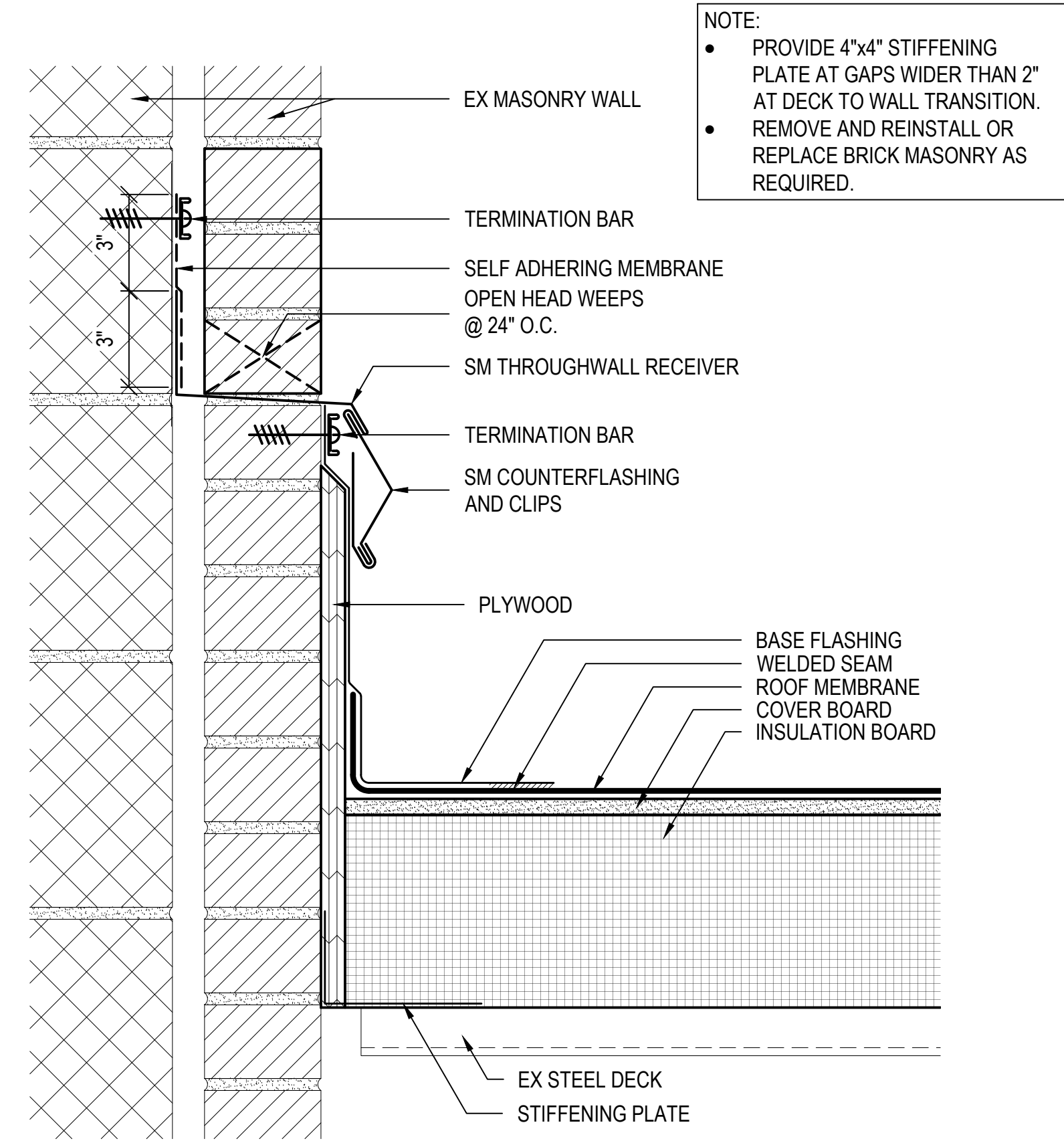


**2 EXPANSION JOINT**  
 SCALE: 3" = 1"



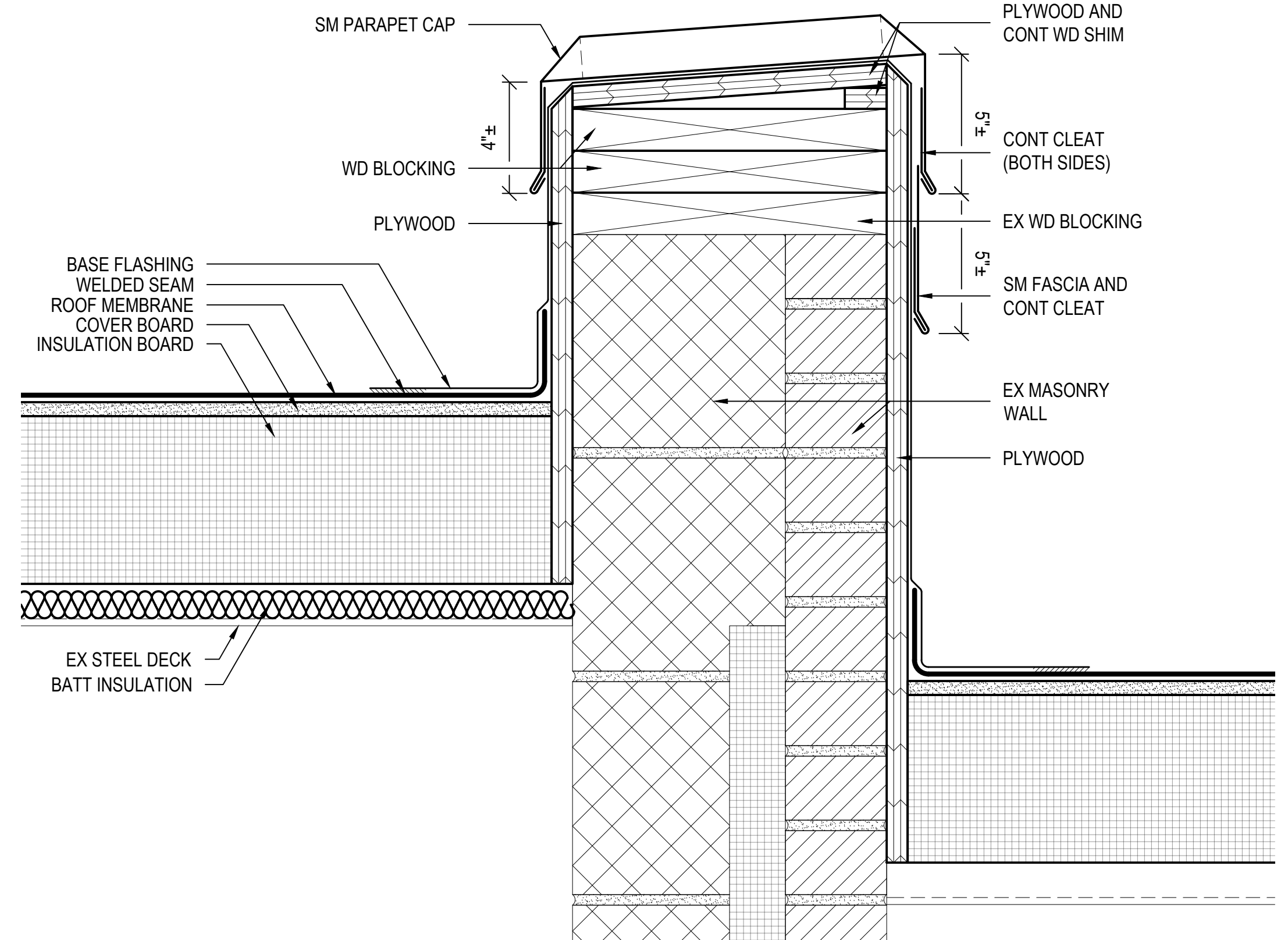
NOTE:  
 • TAPER INSULATION AS NEEDED TO REUSE EXISTING SCUPPER OPENING.

**3 OVERFLOW SCUPPER**  
 SCALE: 3" = 1"

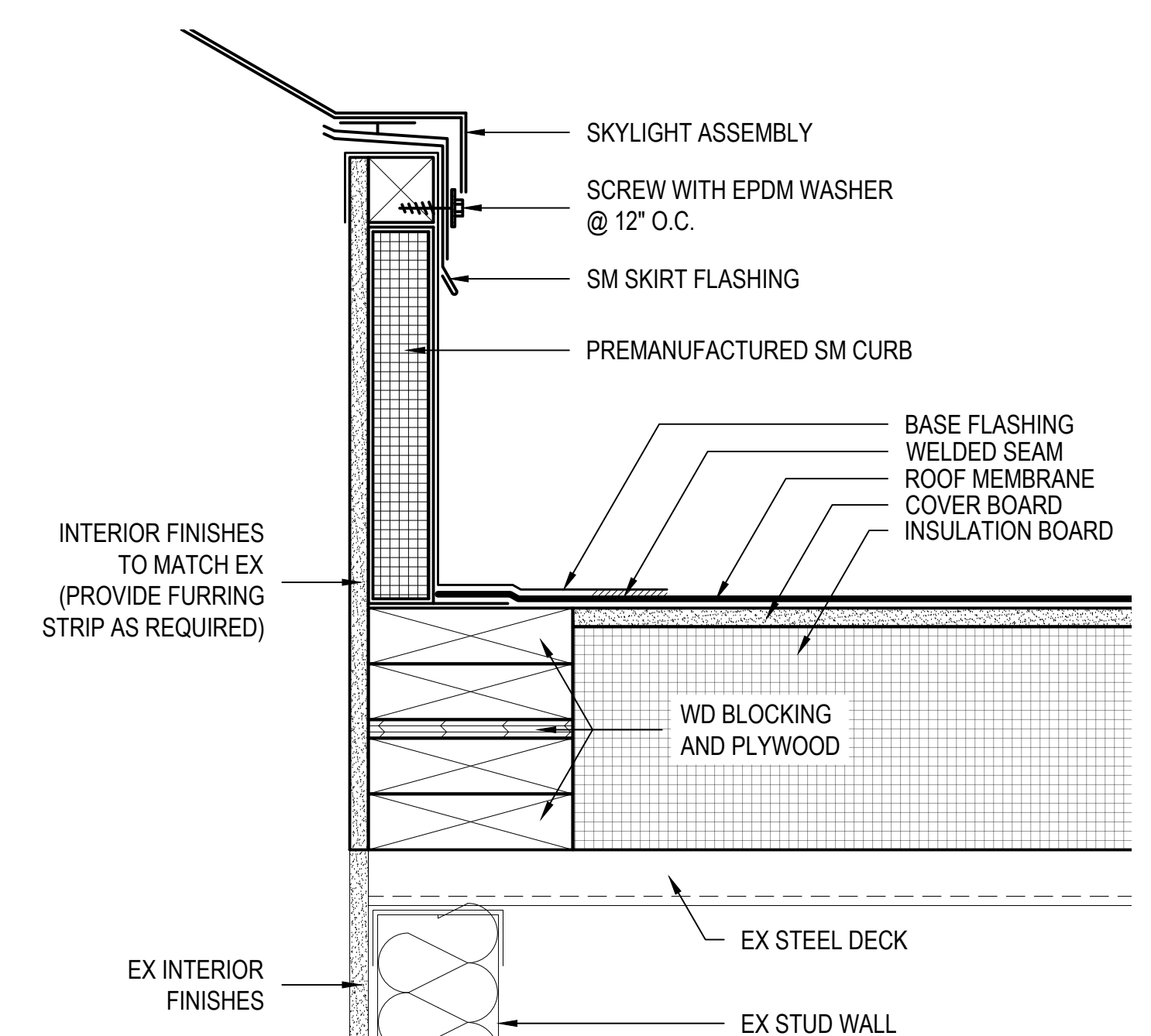


NOTE:  
 • PROVIDE 4"x4" STIFFENING PLATE AT GAPS WIDER THAN 2" AT DECK TO WALL TRANSITION.  
 • REMOVE AND REINSTALL OR REPLACE BRICK MASONRY AS REQUIRED.

**4 THROUGHWALL FLASHING**  
 SCALE: 3" = 1"



**5 ROOF TRANSITION - AREAS G - H**  
 SCALE: 3" = 1"



**6 SKYLIGHT - AREA A**  
 SCALE: 3" = 1"

PROJECT  
**ROOF REPLACEMENT**  
**TRIADELPHIA RIDGE ELEMENTARY SCHOOL**  
 13400 TRIADDELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
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PROJECT NO.	656349
CADD FILE	656349 A5x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3" = 1"

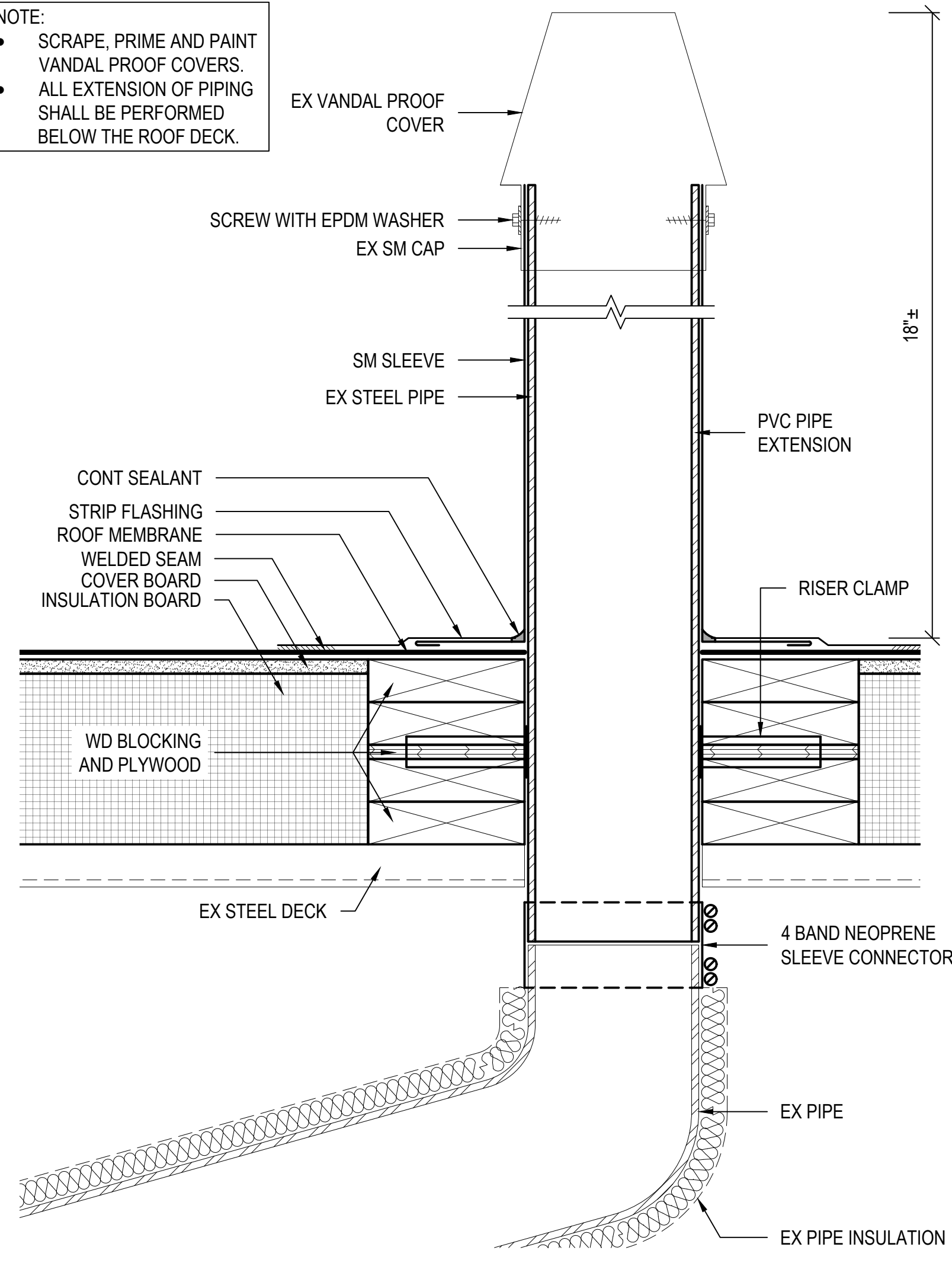


SHEET TITLE  
**DETAILS**  
**NEW CONSTRUCTION**

DRAWING NO.  
**A-503**

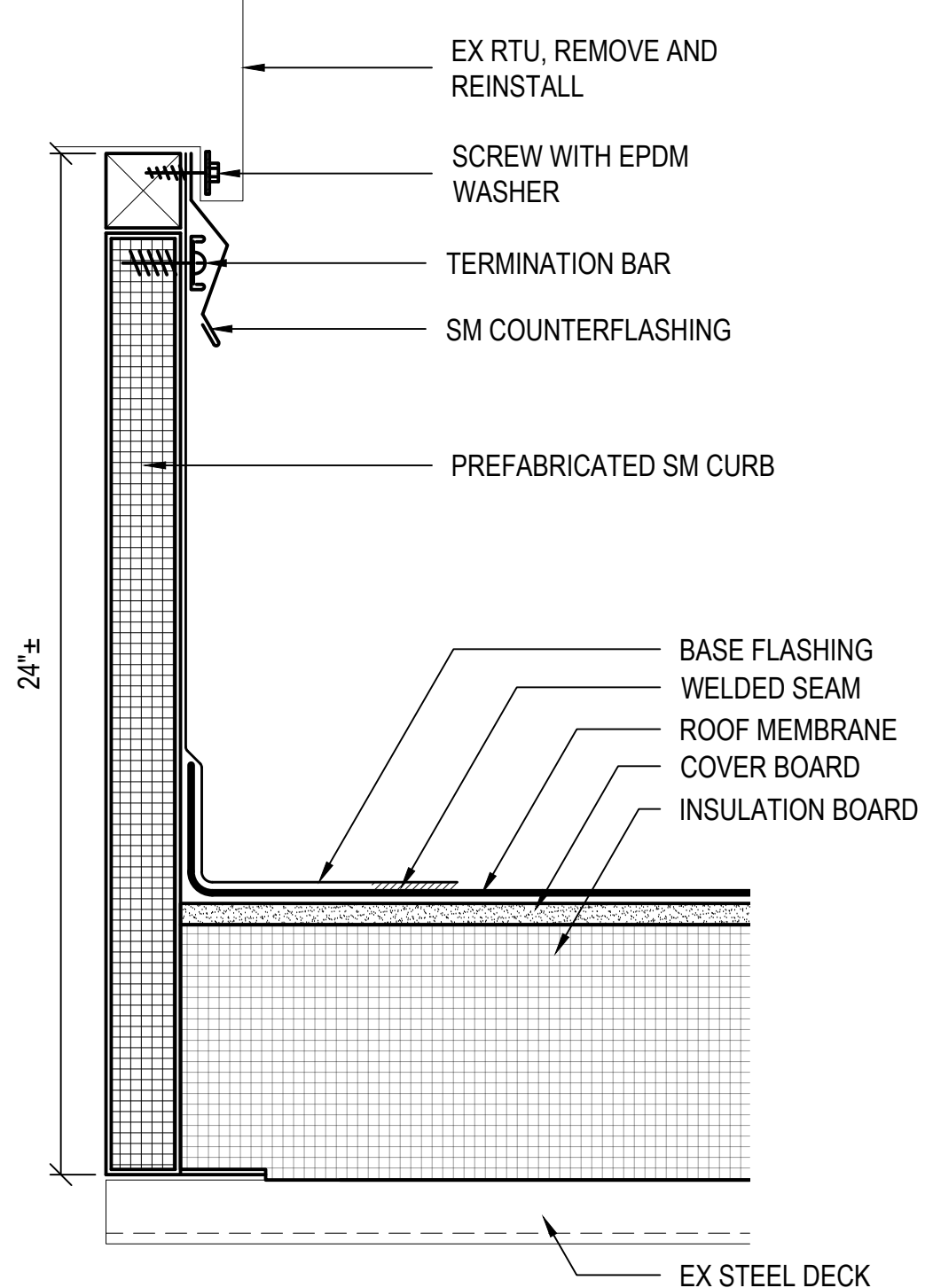


NOTE:  
 • SCRAPE, PRIME AND PAINT VANDAL PROOF COVERS.  
 • ALL EXTENSION OF PIPING SHALL BE PERFORMED BELOW THE ROOF DECK.

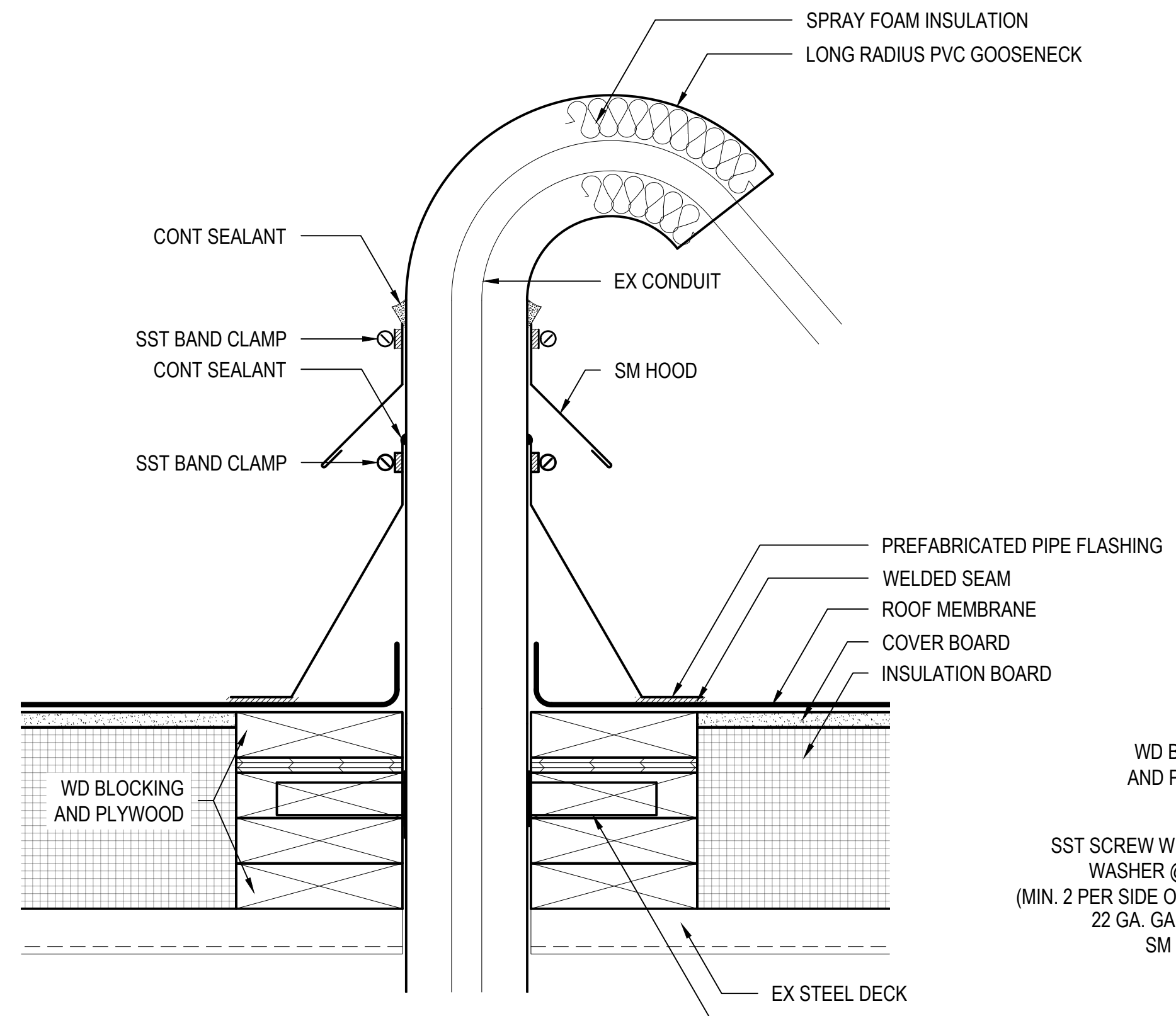


1 RADON VENT  
 A504 SCALE: 3" = 1"

NOTES:  
 • REFER TO MECHANICAL-ELECTRICAL DRAWINGS.  
 • PROVIDE NEW PVC CONDENSATE LINE AT EACH RTU. ROUTE TO NEAREST DRAIN AND SUPPORT AT 8' O.C. SEE DETAIL 3/A507.  
 • REMOVE AND REINSTALL EXISTING CURB-MOUNTED ELECTRICAL BOXES AS REQUIRED.  
 • DISCONNECT, RAISE, LENGTHEN OR OTHERWISE MODIFY THE EX ELECTRICAL OR MECHANICAL SUPPLIES OR RETURNS AS REQUIRED TO COMPLETE THE WORK.

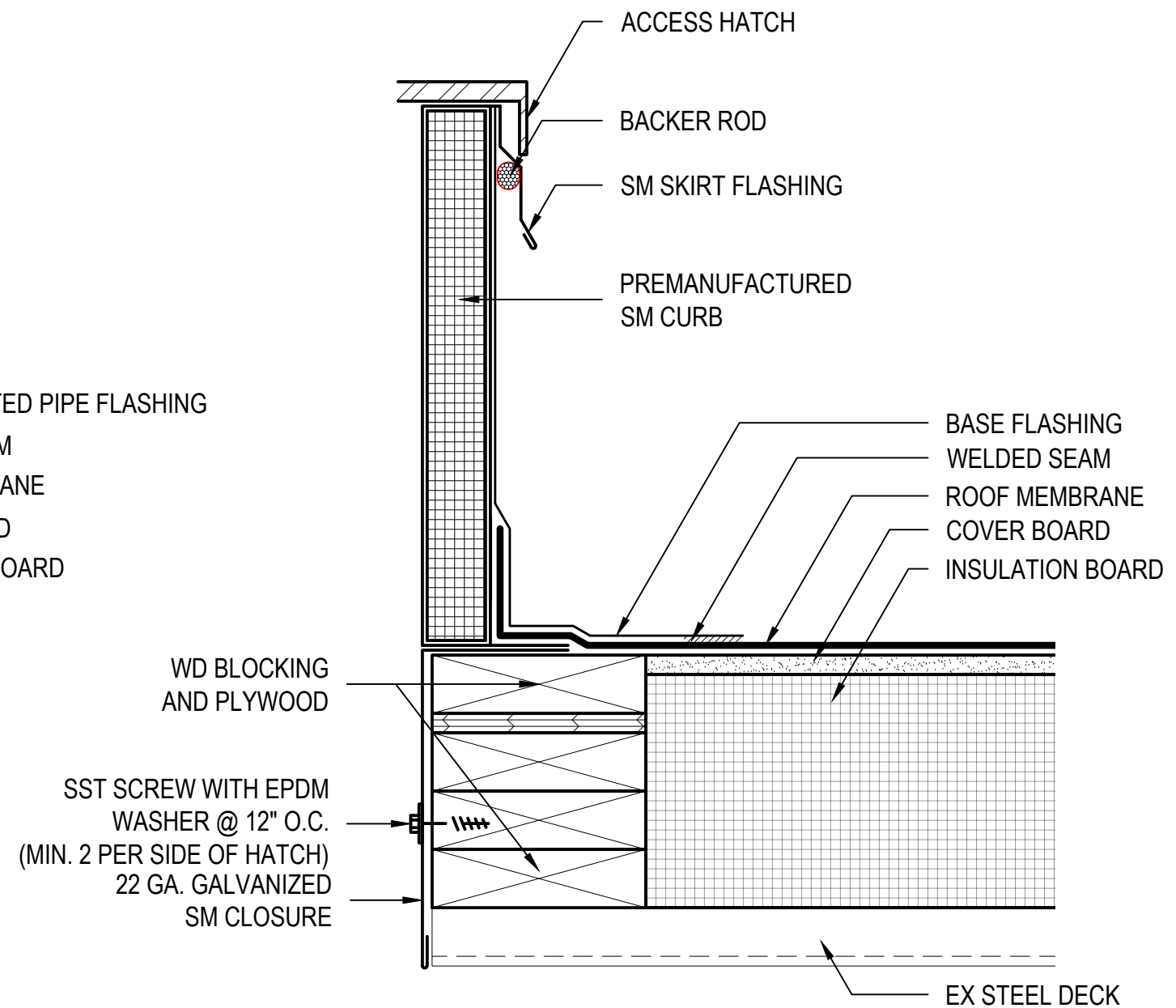


2 RTU CURB  
 A504 SCALE: 3" = 1"



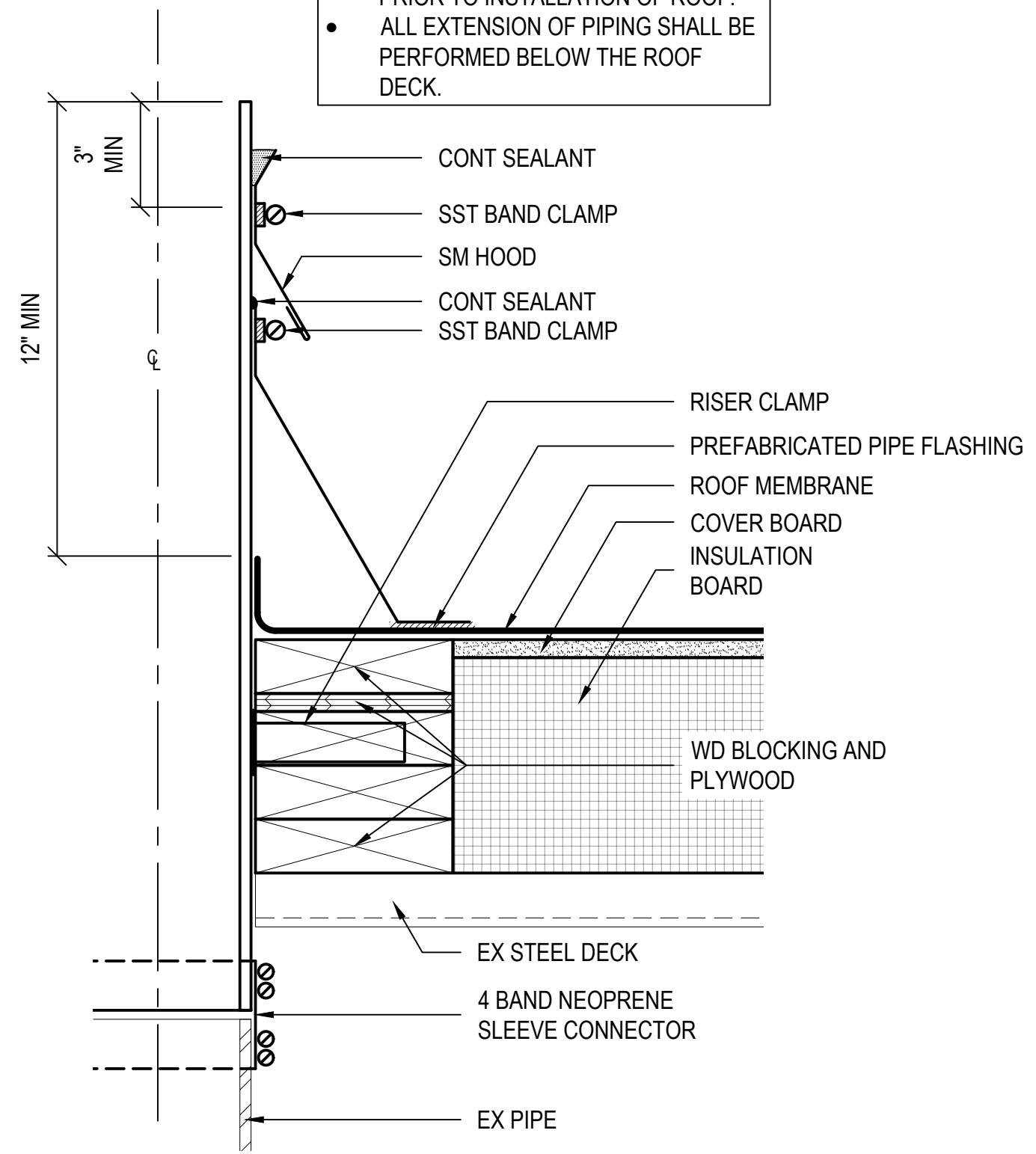
3 GOOSENECK  
 A504 SCALE: 3" = 1"

NOTE:  
 • PROVIDE FIXED HATCH RAILING SYSTEM WITH LOCKING GATE SECURED TO HATCH.



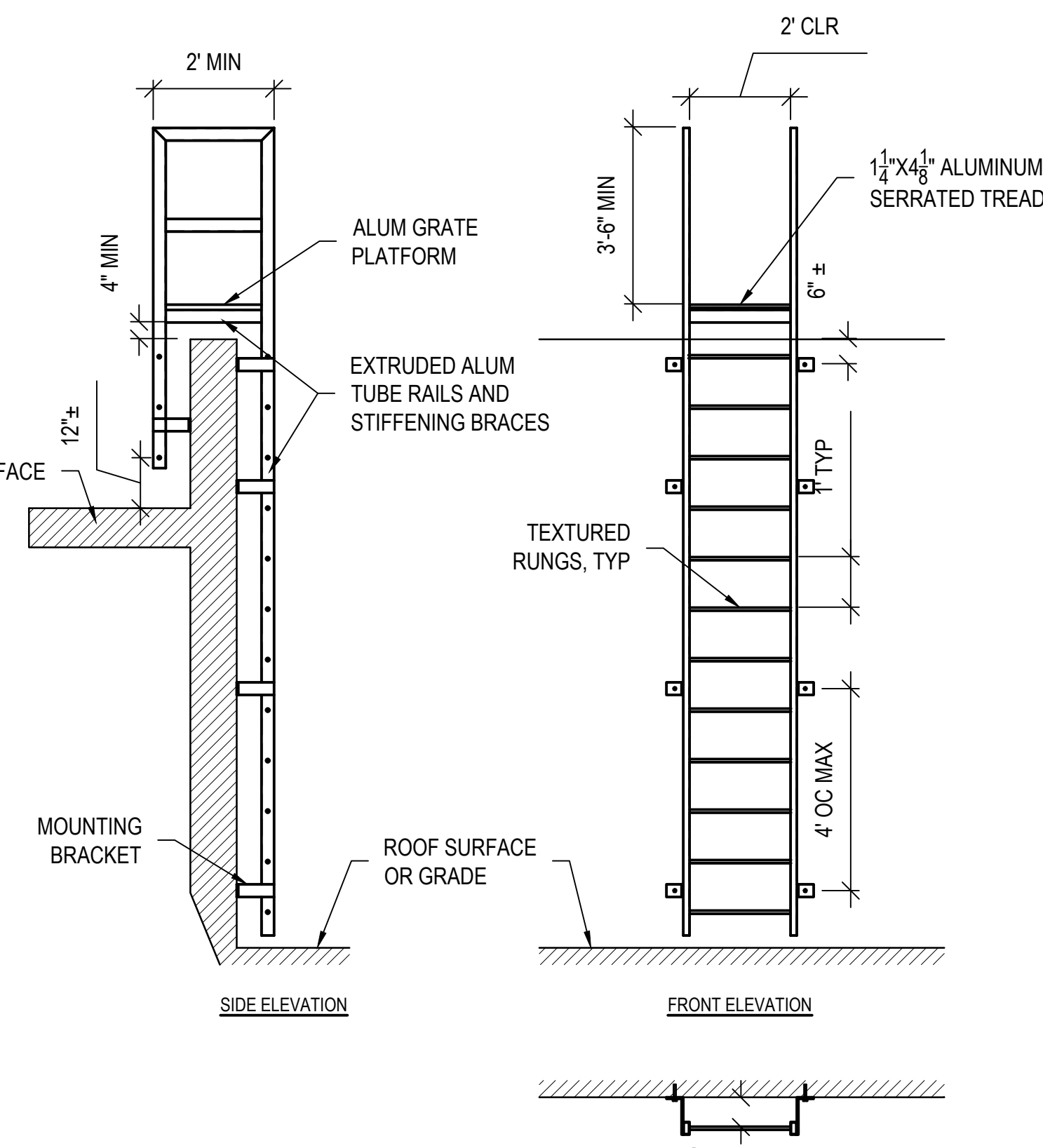
4 ACCESS HATCH  
 A504 SCALE: 3" = 1"

NOTE:  
 • EXTEND VENT PIPES MINIMUM 12" ABOVE FINISHED ROOF SURFACE PRIOR TO INSTALLATION OF ROOF.  
 • ALL EXTENSION OF PIPING SHALL BE PERFORMED BELOW THE ROOF DECK.



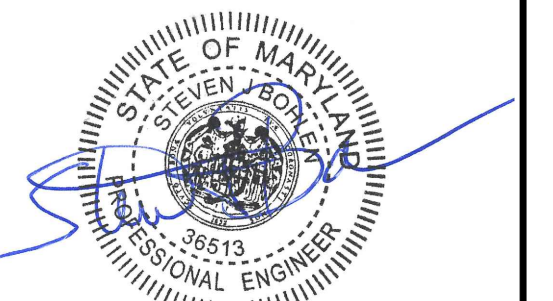
5 VENT PIPE/PIPE PENETRATION  
 A504 SCALE: 3" = 1"

NOTES:  
 1. ROOF TO ROOF LADDERS SHALL BE WALL MOUNTED AND SHALL NOT PENETRATE THE ROOF.  
 2. ACTUAL ROOF TRANSITION NOT DEPICTED. REFER TO DETAIL DRAWINGS FOR PARAPET CONFIGURATION. EXTEND LADDER RUNGS TO WITHIN 12" OF ROOF WHERE PARAPET HEIGHT EXCEEDS 12".  
 3. PROVIDE ADDITIONAL MOUNTING BRACKETS ON INTERIOR FACE OF PARAPET IF HEIGHT EXCEEDS 24".



6 ACCESS LADDER  
 A504 SCALE: 3/8" = 1"

ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING (EX)



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PROJECT  
 ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042  
 OWNER  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 9020 MENDENHALL COURTS, SUITE A  
 ELLICOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
1	05/18/2022	100% SUBMISSION	MLF

PROJECT NO.	656349
CADD FILE	656349 A5x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	AS NOTED

GRAPHIC SCALE  
 SHEET TITLE  
 DETAILS  
 NEW CONSTRUCTION

DRAWING NO.  
 A-504





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PROJECT  
**ROOF REPLACEMENT  
 TRIADDELPHIA RIDGE ELEMENTARY SCHOOL  
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OWNER  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
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DRAWING SCALE	AS NOTED

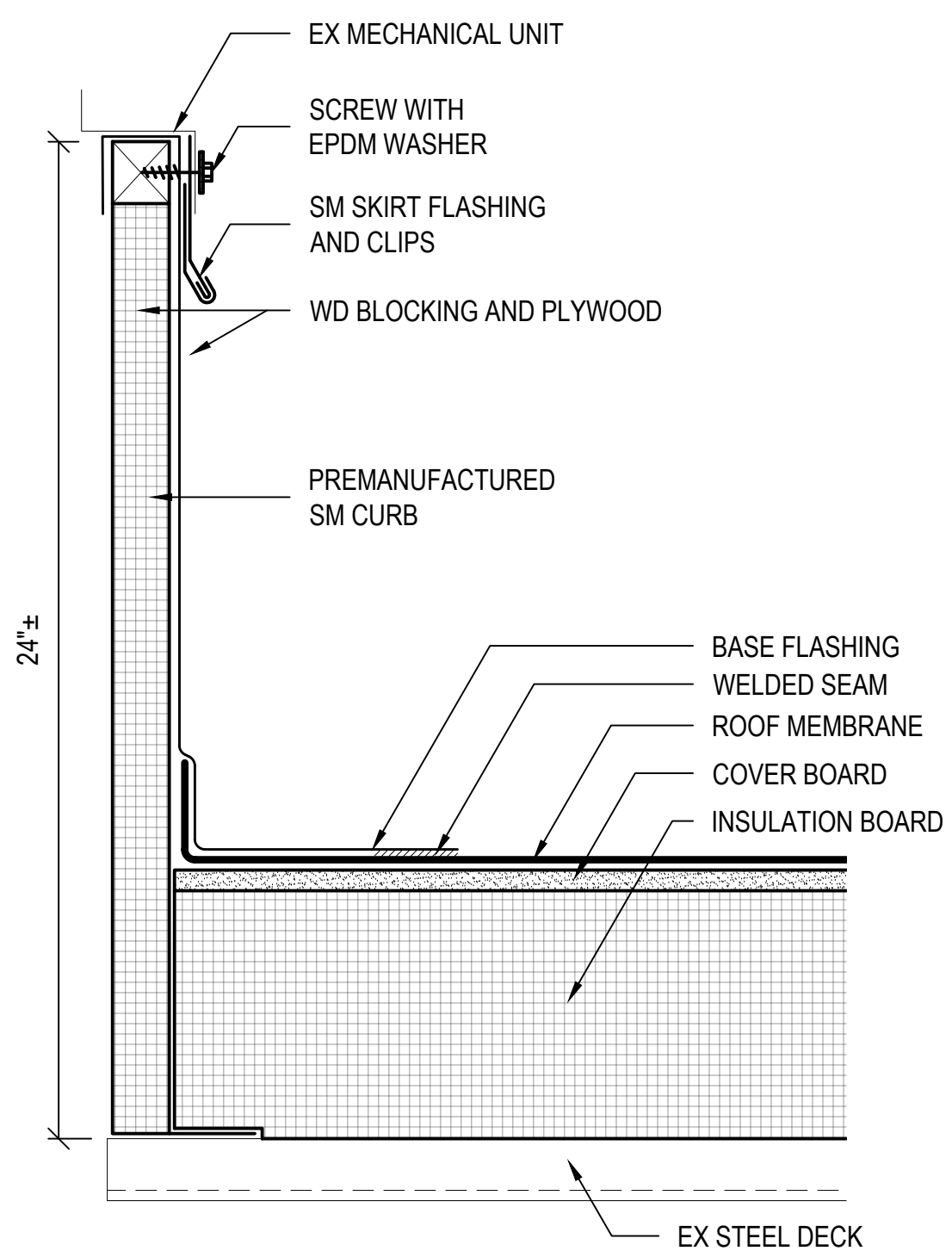
GRAPHIC SCALE

SHEET TITLE

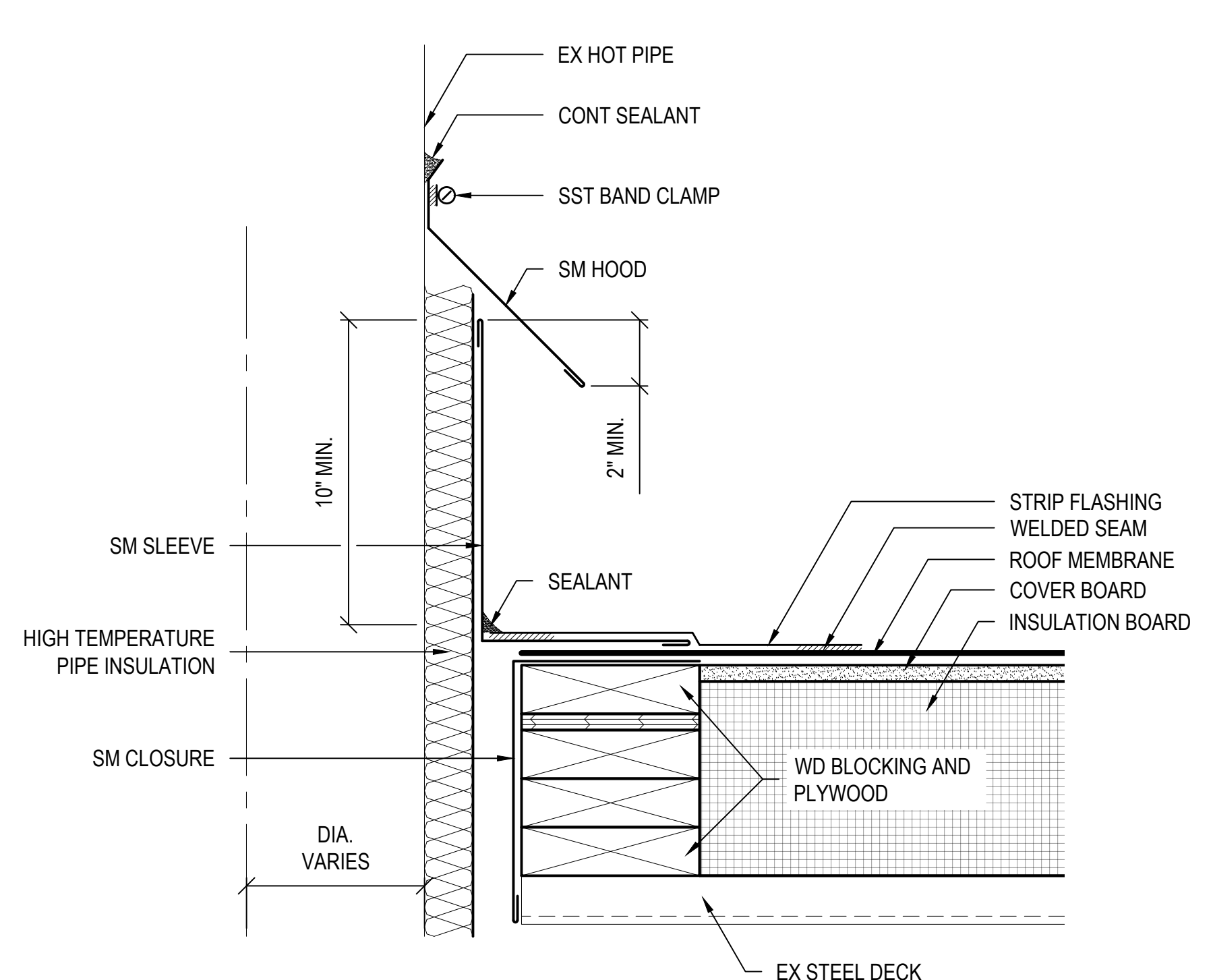
**DETAILS  
 NEW  
 CONSTRUCTION**

DRAWING NO.  
**A-505**

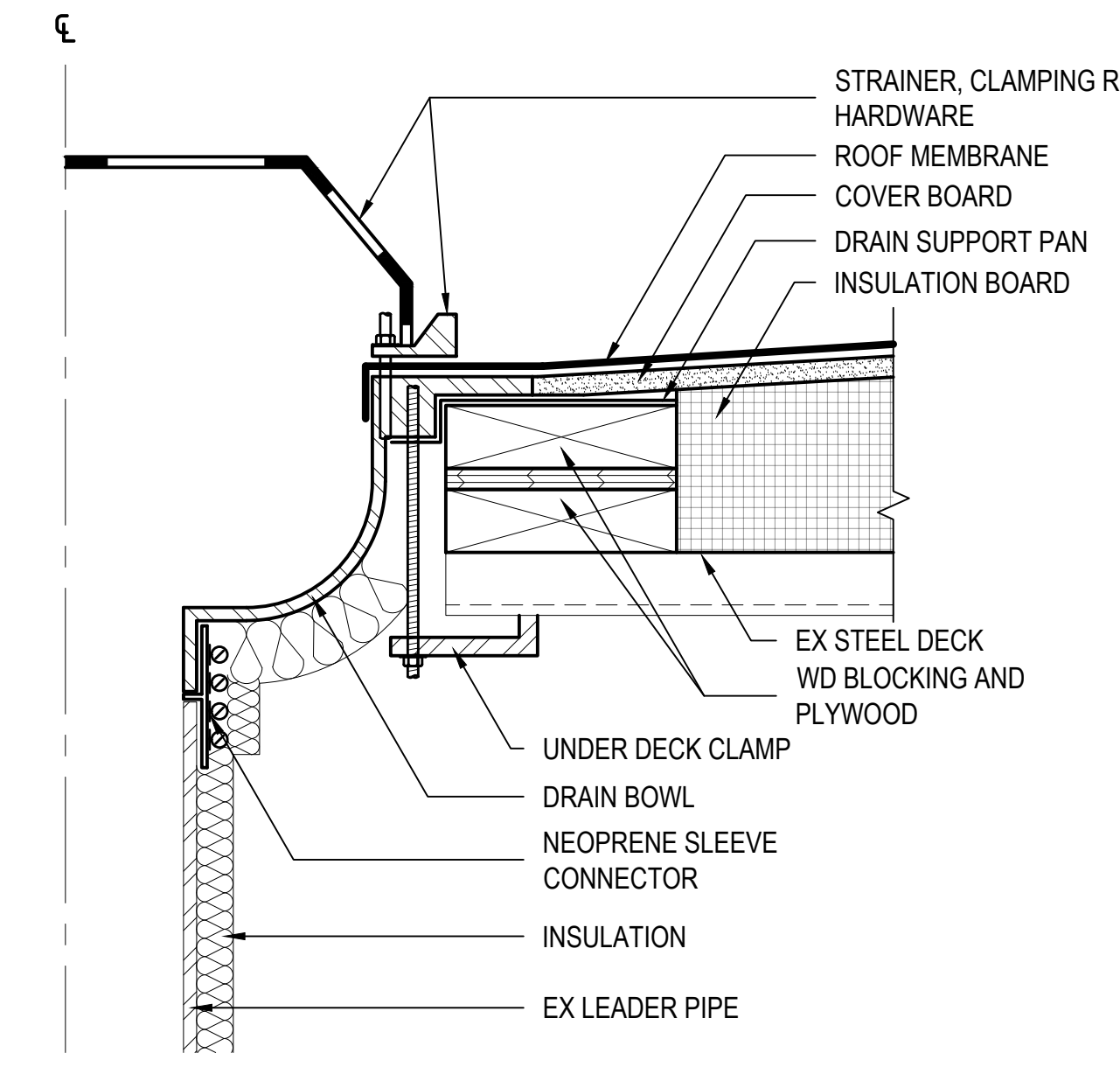
NOTE:  
 • DISCONNECT, RAISE, LENGTHEN OR OTHERWISE MODIFY THE EX ELECTRICAL CONDUIT AND DUCT WORK AS REQUIRED TO COMPLETE THE WORK.



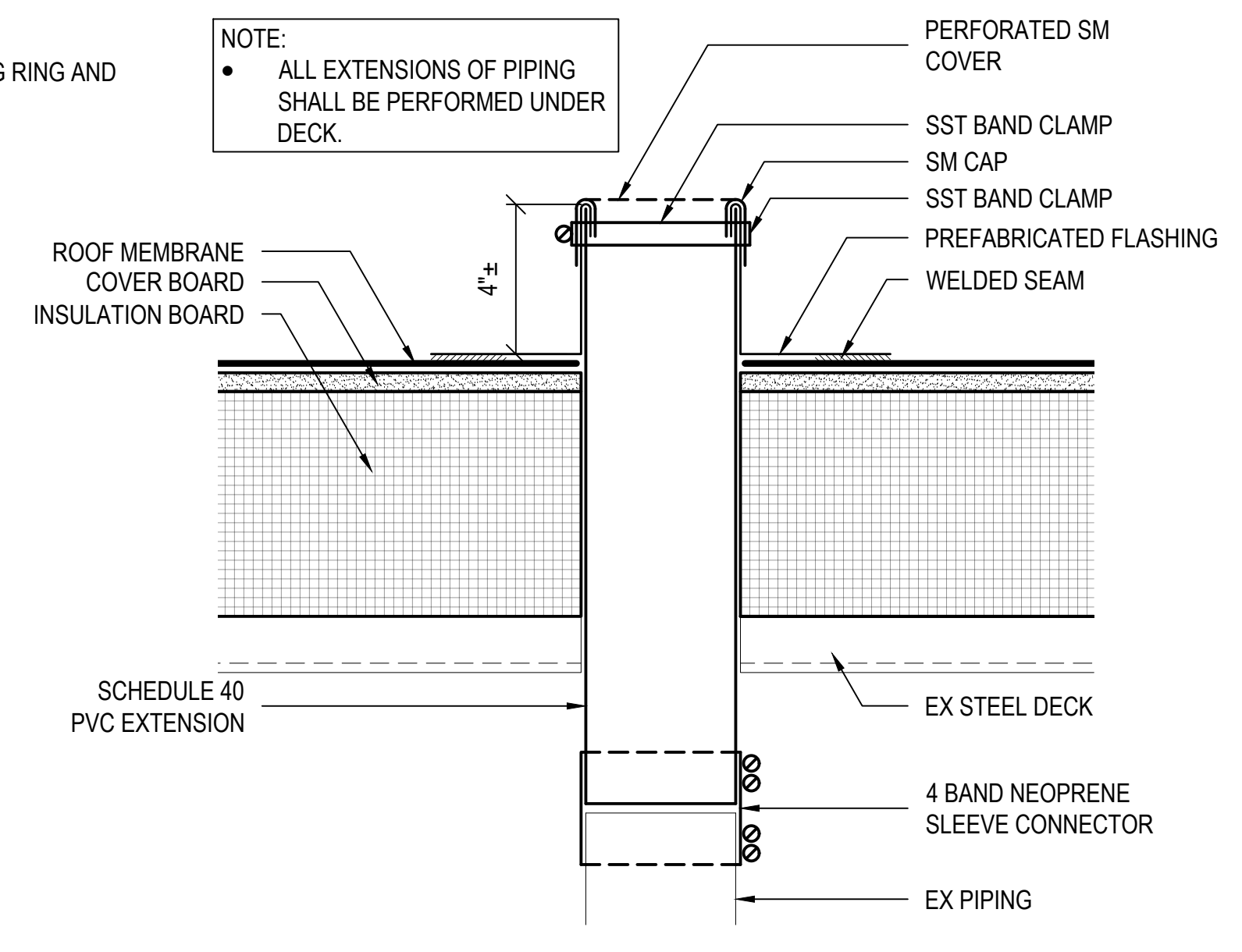
**1 FAN/VENT CURB**  
 SCALE: 3" = 1"



**2 HOT PIPE**  
 SCALE: 3" = 1"

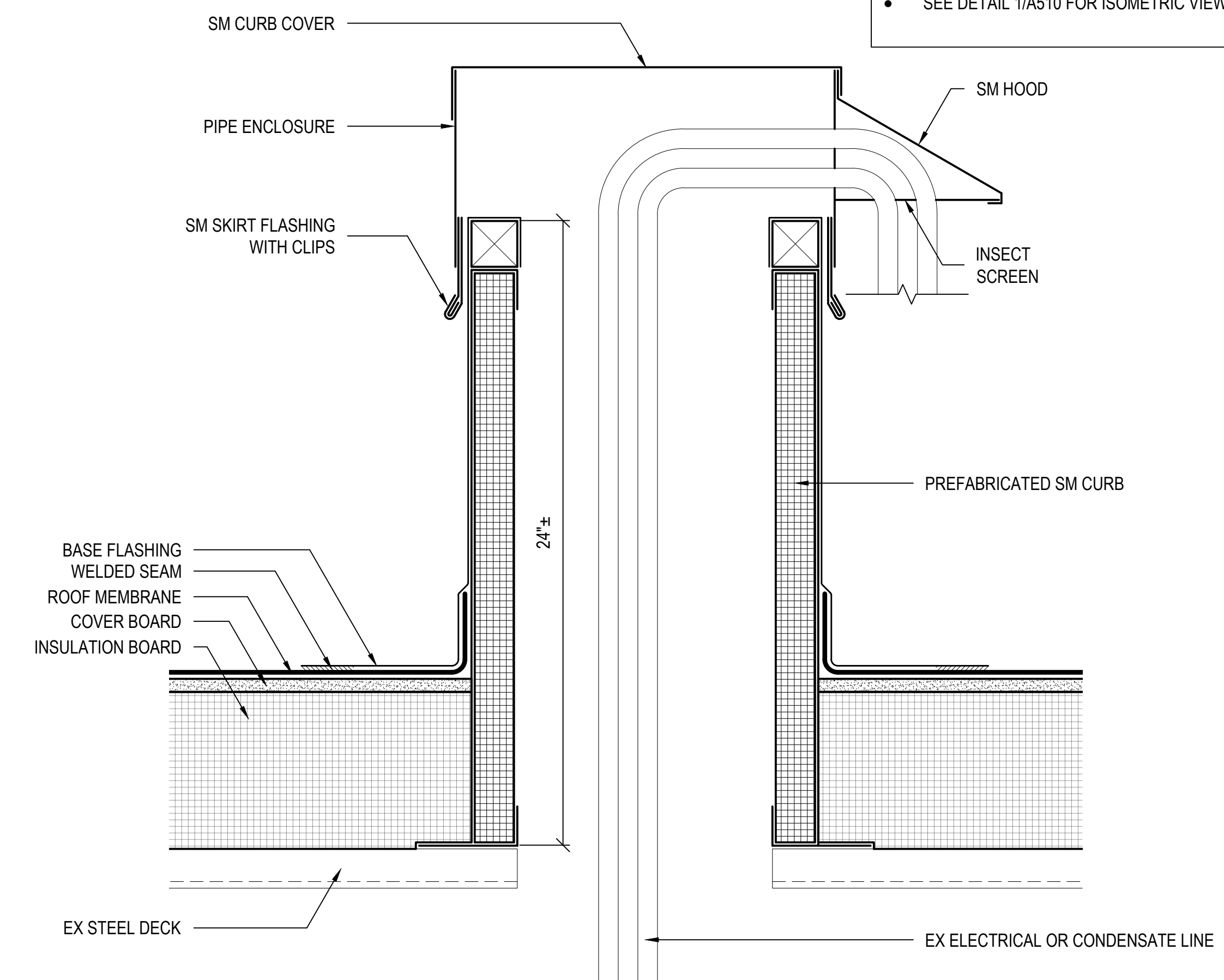


**3 ROOF DRAIN**  
 SCALE: 3" = 1"

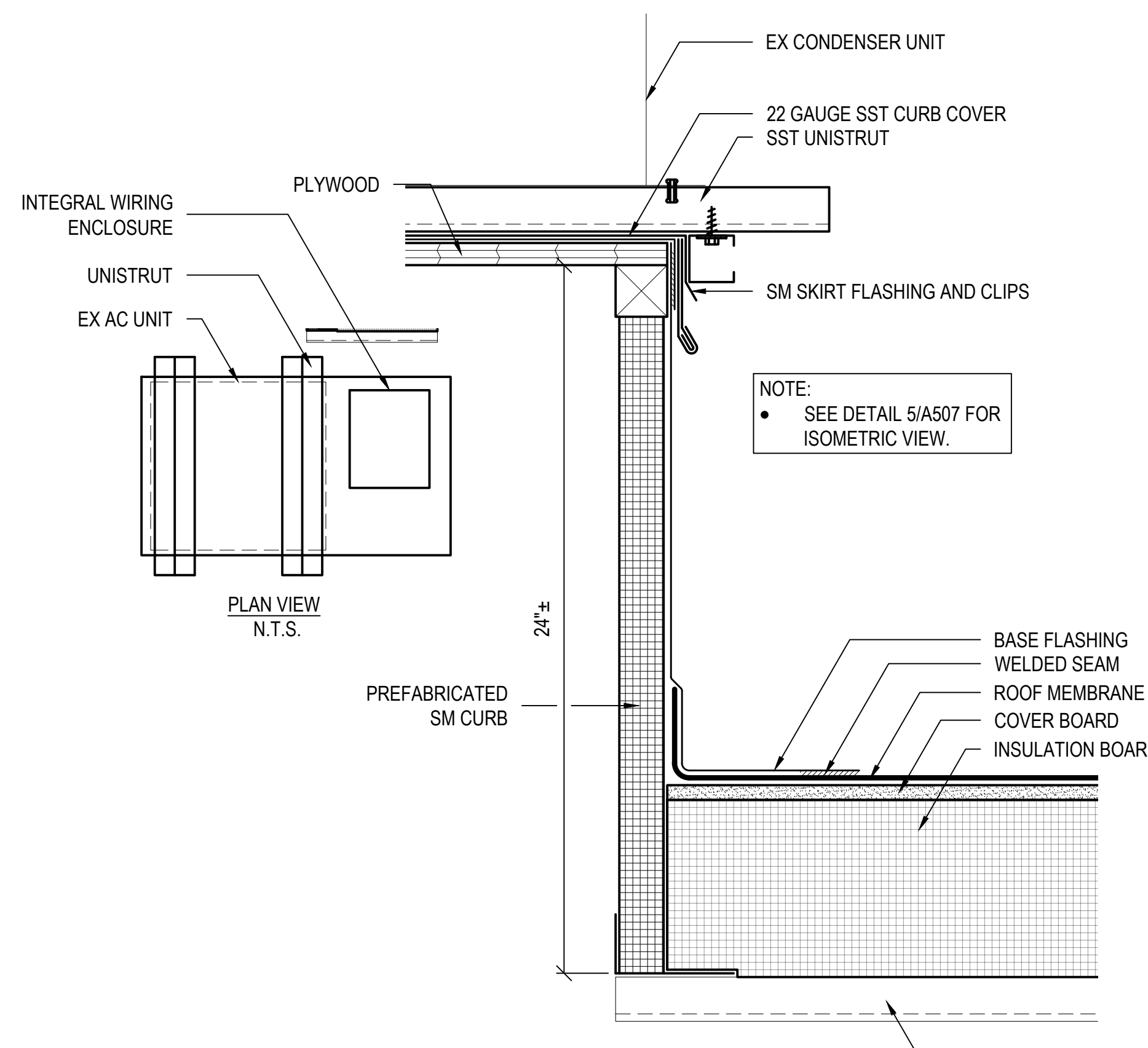


**4 OVERFLOW DRAIN**  
 SCALE: 3" = 1"

NOTES:  
 • REMOVE EXISTING MULTI-PIPE PENETRATION CURBS.  
 • SEE DETAIL 1/A510 FOR ISOMETRIC VIEW.

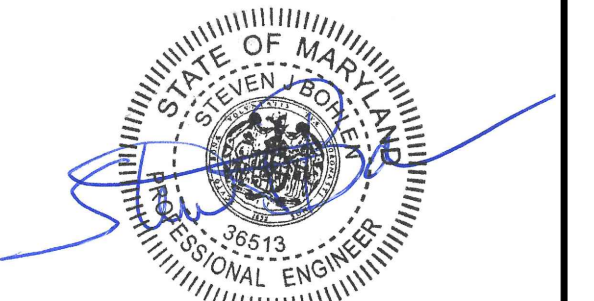


**5 MULTI-PIPE ENCLOSURE**  
 SCALE: NOT TO SCALE



**6 AC UNIT**  
 SCALE: 3" = 1"

ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING (EX)



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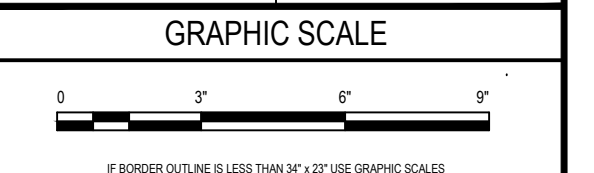
License No. 36513, Expiration Date: 3.27.23

PROJECT  
**ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042**

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 9020 MENDENHALL COURTS, SUITE A  
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1	05/18/2022	100% SUBMISSION	MLF
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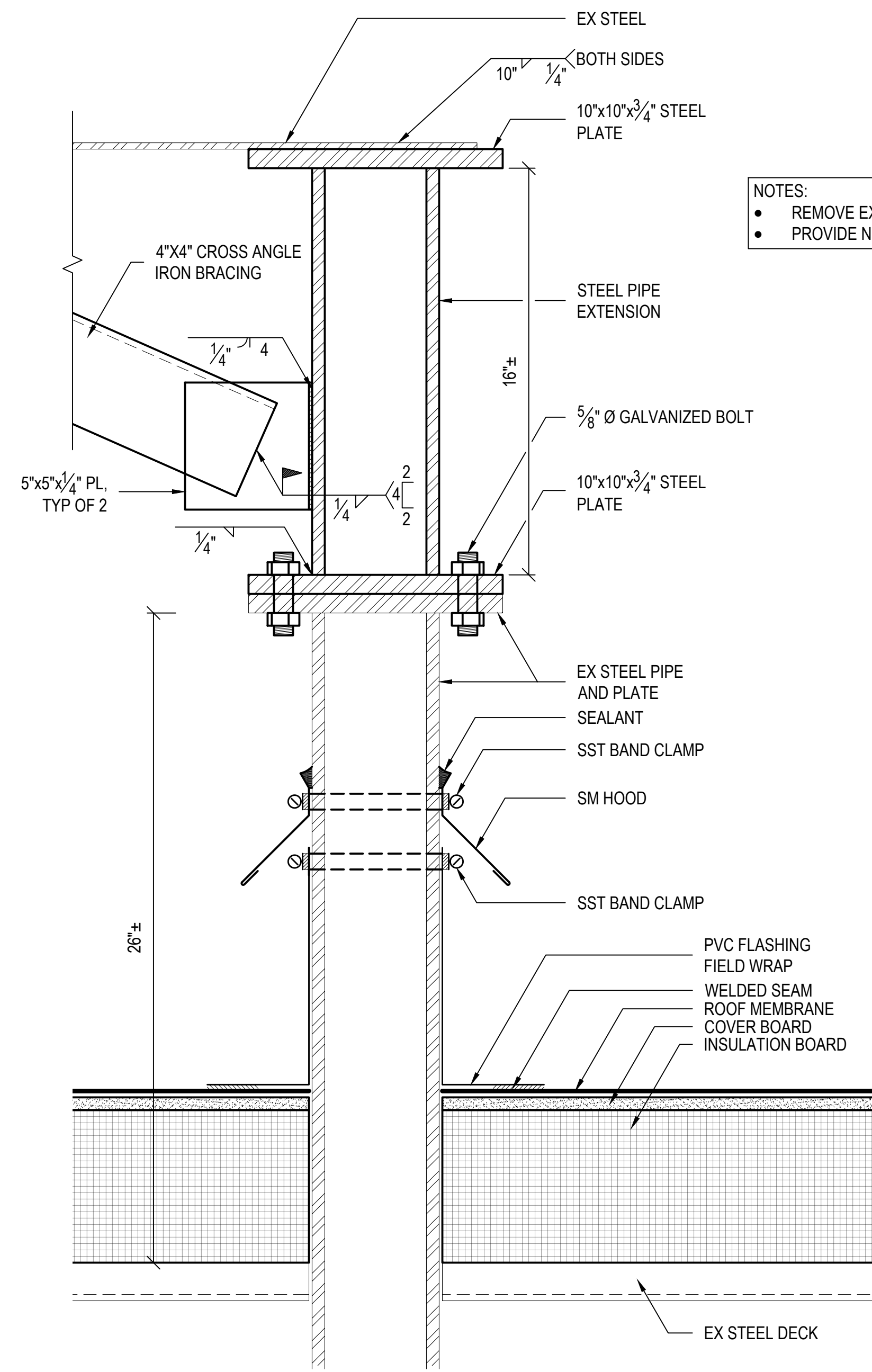
PROJECT NO.	656349
CADD FILE	656349 A5x
DESIGNED BY	EDE
DRAWN BY	MLF
CHECKED BY	SJB
DATE	05/18/2022
DRAWING SCALE	3" = 1'



SHEET TITLE

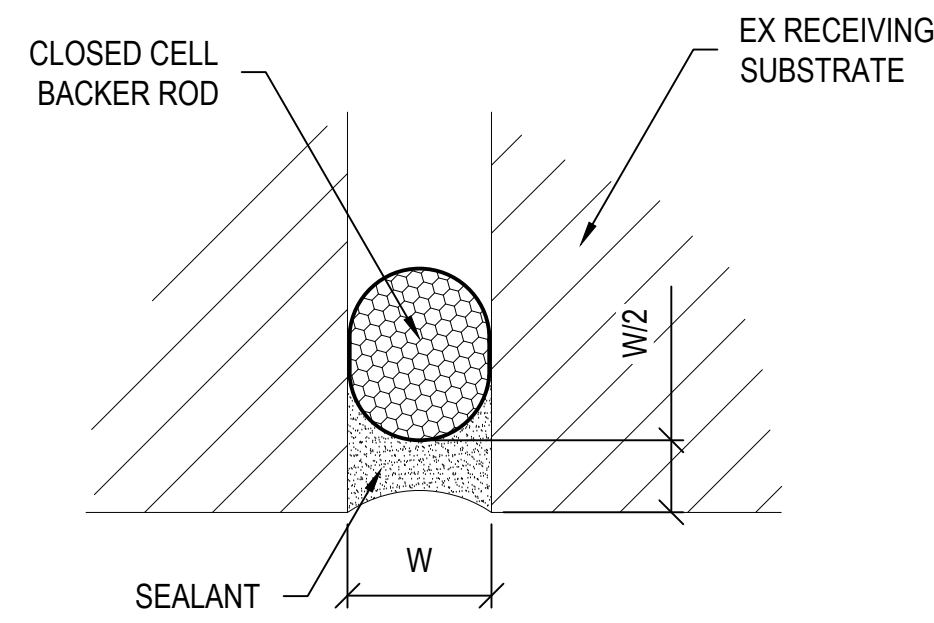
**DETAILS  
 NEW  
 CONSTRUCTION**

DRAWING NO.  
**A-506**



- NOTES:
- REMOVE EXISTING CROSS BRACING.
  - PROVIDE NEW BRACING, 2 PER POST.

- NOTE:
- SAWCUT JOINTS TO 1/2" WIDTH MINIMUM.

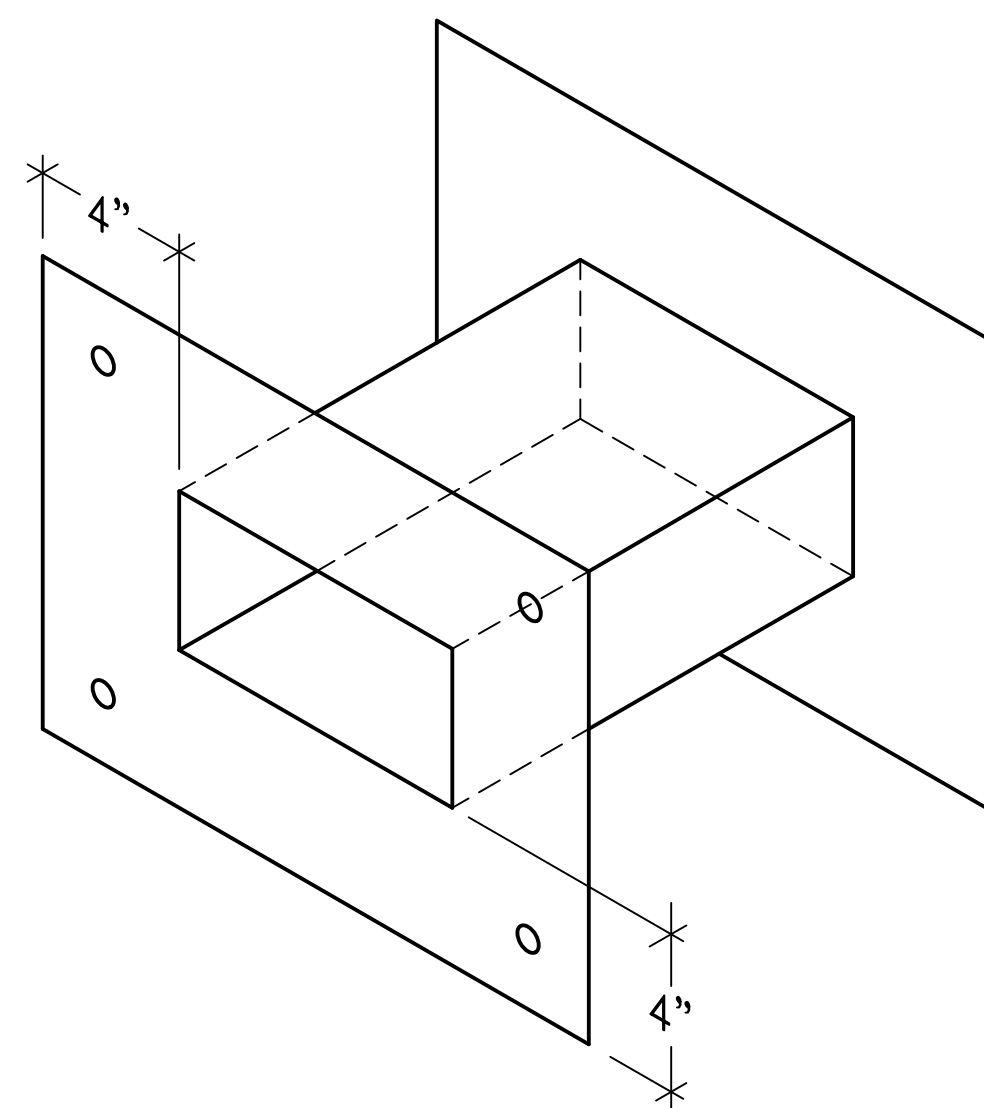


1  
 A506  
**SEALANT JOINT**  
 SCALE: 3" = 1'

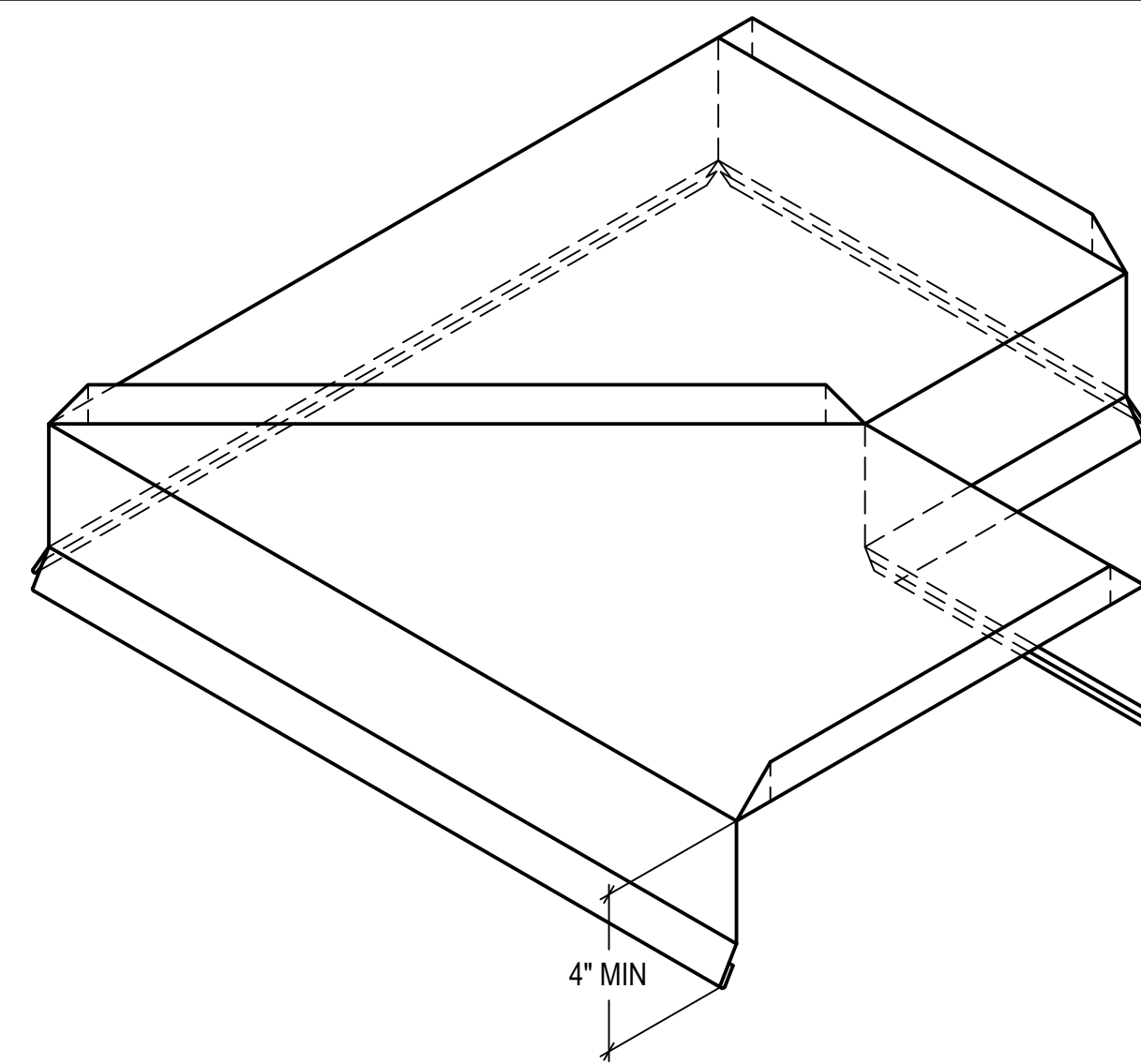
2  
 A506  
**STEEL FRAMING AUGMENTATION**  
 SCALE: 3" = 1'

ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING (EX)

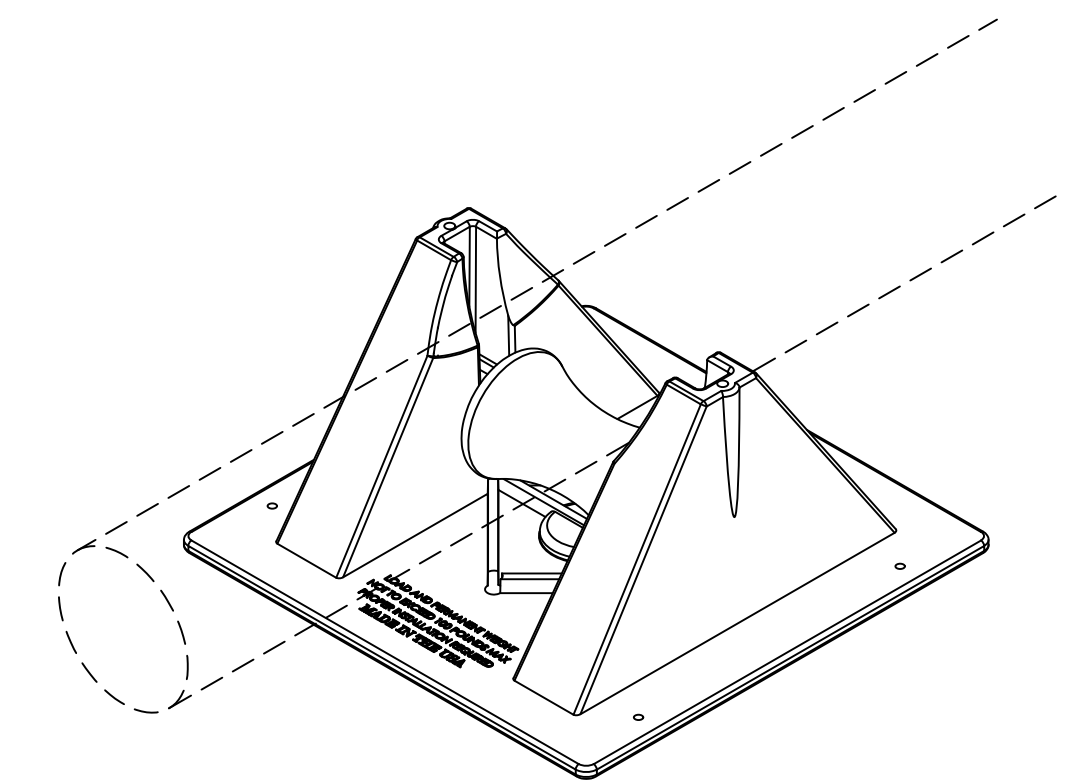




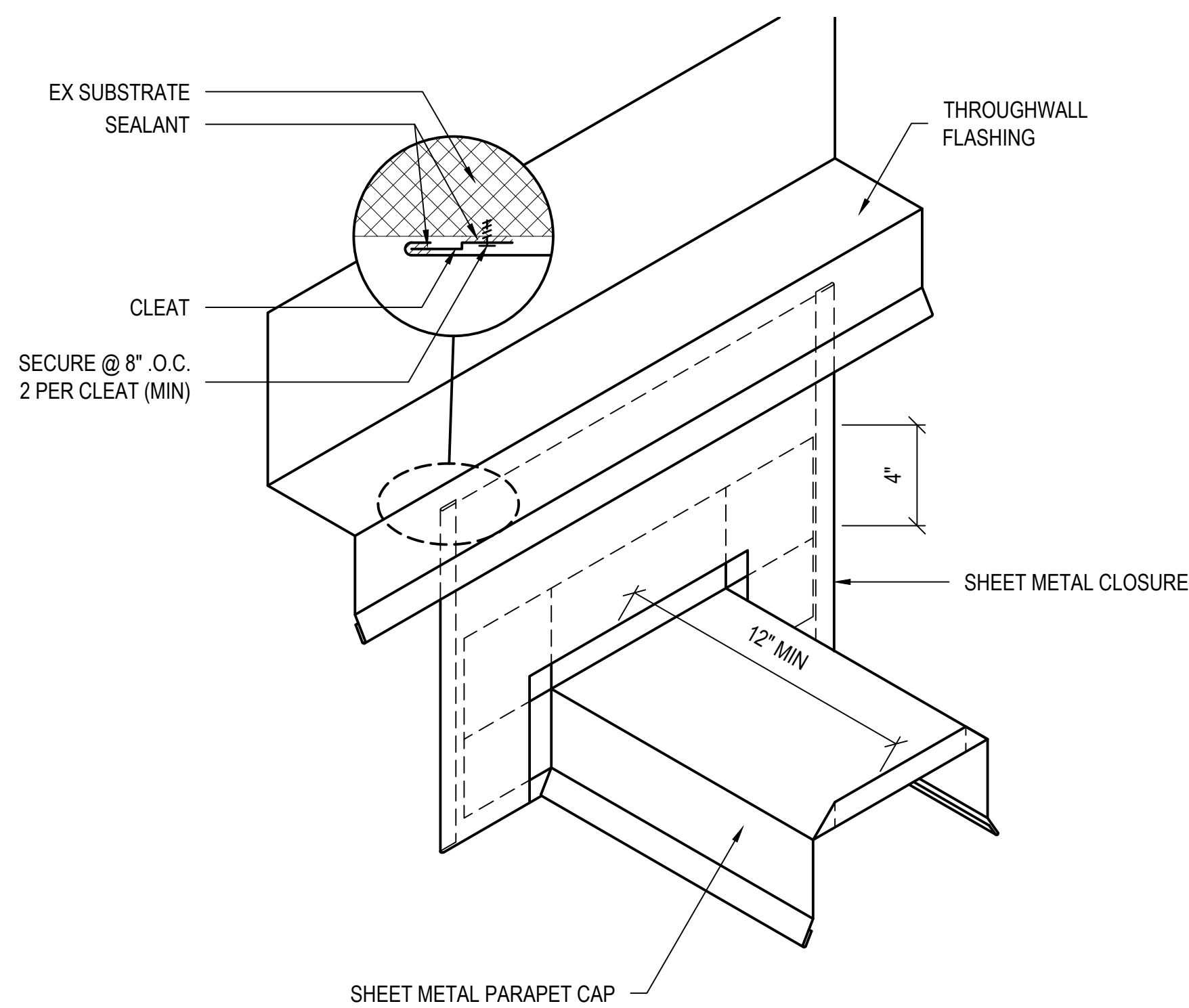
1 OVERFLOW SCUPPER  
A507 SCALE: NOT TO SCALE



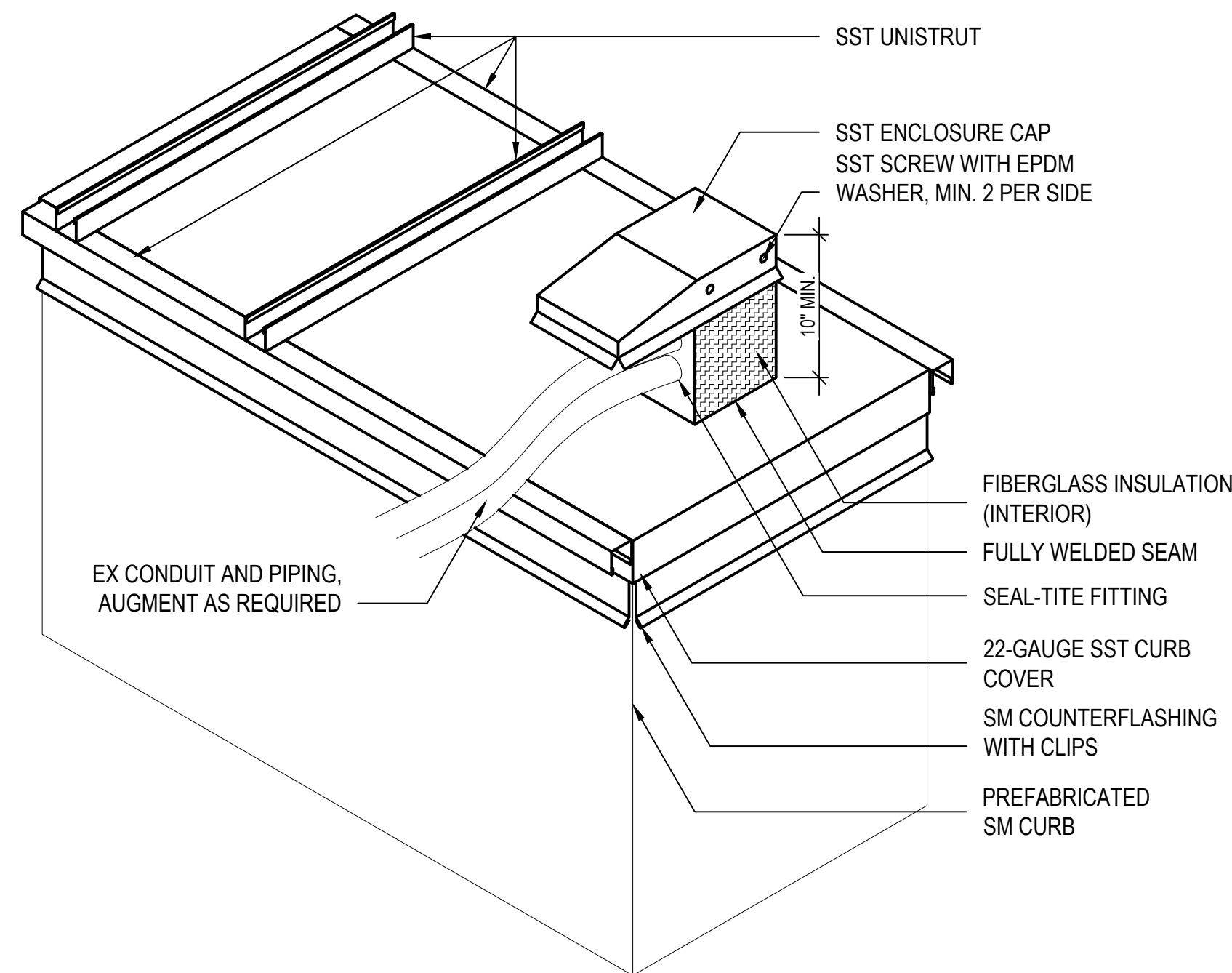
2 CORNER TRANSITION  
A507 SCALE: NOT TO SCALE



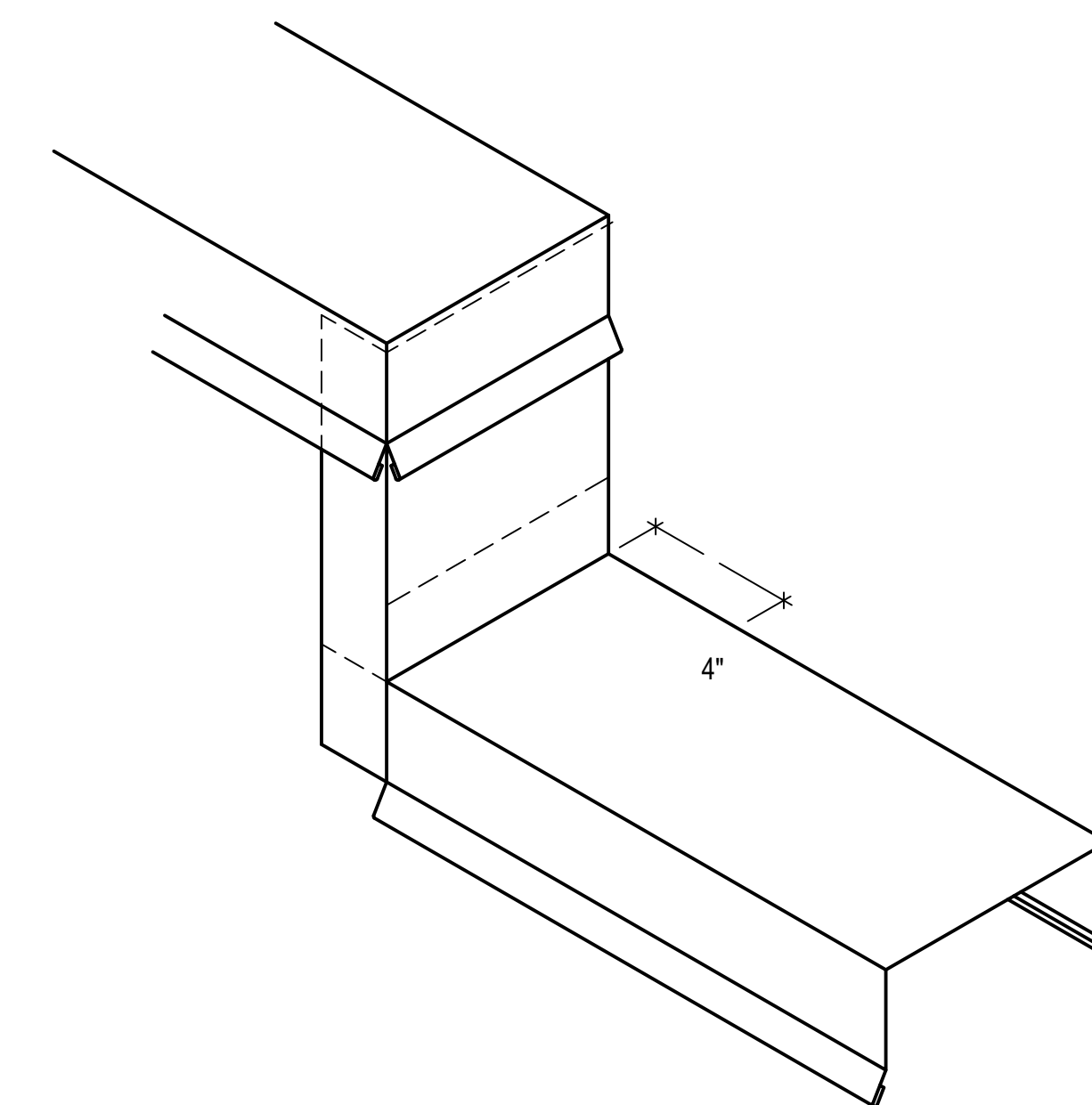
3 CONDUIT SUPPORT  
A507 SCALE: NOT TO SCALE



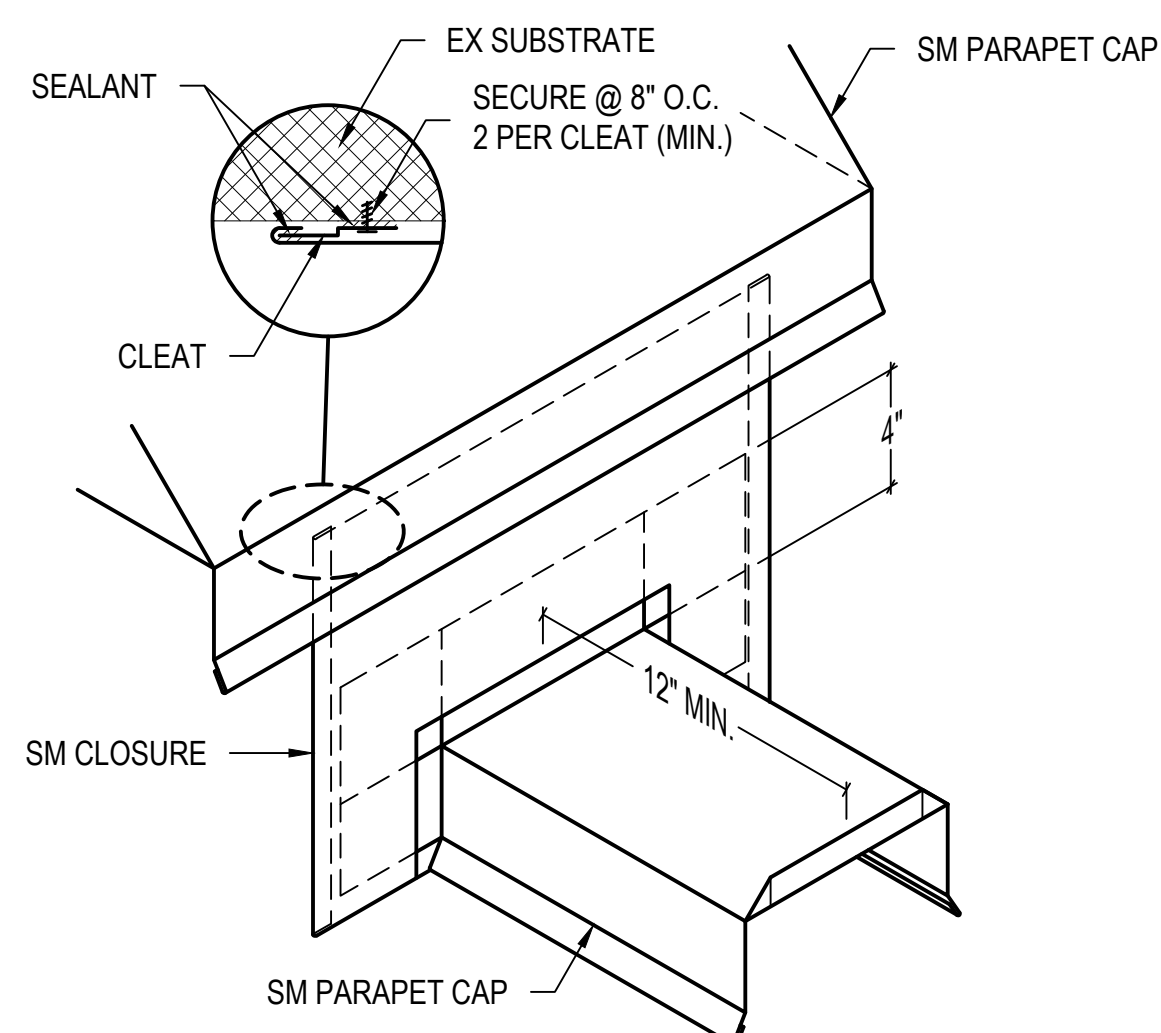
4 PARAPET CAP AT WALL  
A507 SCALE: NOT TO SCALE



5 AC UNIT CURB COVER  
A507 SCALE: NOT TO SCALE

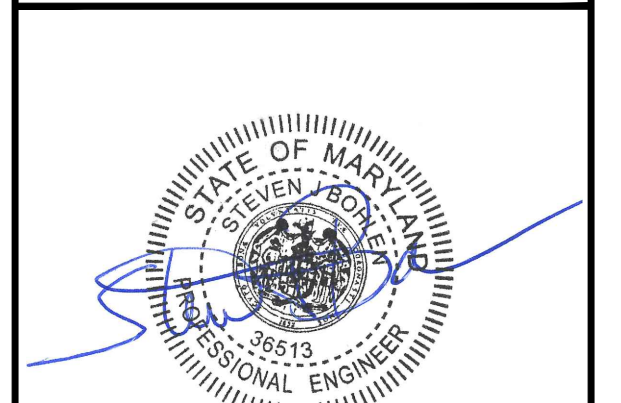


6 PARAPET TRANSITION  
A507 SCALE: NOT TO SCALE



7 PARAPET CAP AT RISING WALL  
A507 SCALE: NOT TO SCALE

- NOTES**
- ISOMETRIC DETAILS ARE PROVIDED FOR TO CONVEY ADDITIONAL INFORMATION RELATED TO MATERIAL CONNECTIONS OR ASSEMBLY WHERE NEEDED OR REQUIRED AT TRANSITIONS.
  - REFER TO DETAIL DRAWINGS SPECIFICATIONS FOR REQUIRED MATERIALS.
  - SCALE, REFERENCES AND NOTES ARE FOR CONCEPTUAL PURPOSES ONLY.
  - ACTUAL CONFIGURATIONS AND TRANSITIONS MAY DIFFER WITH VARYING SITE CONDITIONS. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.



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PROJECT  
ROOF REPLACEMENT  
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13400 TRIADELPHIA ROAD  
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HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
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1	05/18/2022	100% SUBMISSION	MLF
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PROJECT NO.	656349		
CADD FILE	656349 A5x		
DESIGNED BY	EDE		
DRAWN BY	MLF		
CHECKED BY	SJB		
DATE	05/18/2022		
DRAWING SCALE	NOT TO SCALE		

GRAPHIC SCALE  
SHEET TITLE

SHEET METAL ISOMETRIC DETAILS

DRAWING NO.  
A-507





Gale Associates, Inc.

Engineers Architects Planners

1122 Kenilworth Drive, Suite 206  
Towson, Md 21204-2143  
P 443-279-4500 F 443-279-4560  
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Design Solutions, LLC

Consulting Engineers

10 Gerard Avenue, Suite 109  
Timonium, MD 21093

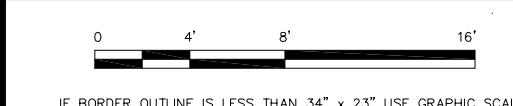
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PROJECT  
ROOF REPLACEMENT  
TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
13400 TRIADELPHIA ROAD  
ELLCOTT CITY, MARYLAND 21042  
OWNER  
HOWARD COUNTY PUBLIC SCHOOLS  
9020 MENDENHALL COURTS, SUITE A  
ELLCOTT CITY, MARYLAND 21042

NO.	DATE	DESCRIPTION	BY
PROJECT NO.	656345		
CADD FILE	Triadelphia ES-ME001		
DESIGNED BY	DS		
DRAWN BY	DS		
CHECKED BY	SC		
DATE	05/06/2022		
DRAWING SCALE	AS NOTED		

GRAPHIC SCALE



IF BORDER OUTLINE IS LESS THAN 34" x 22" USE GRAPHIC SCALES

SHEET TITLE

LEGEND,  
GENERAL NOTES  
& SCHEDULES

DRAWING NO.

ME-001



PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED AND APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NUMBER #22071, EXPIRATION DATE AUGUST 30, 2022.

### ROOFTOP UNIT SCHEDULE (EXISTING)

UNIT DESIG.	AREA SERVED	SUPPLY FAN				MANUFACT.	MODEL NO.	NOTES
		CFM (-)	ESP (IN-WG)	TSP (IN-WG)	MOTOR HP			
RTU-1	CLASSROOMS	6,778	2.25	3.65	10	MCQUAY	RDS-802-B	-
RTU-2	CLASSROOMS	5,000	2.25	4.20	10	MCQUAY	RDS-708-B-L	-
RTU-3	CLASSROOMS	5,700	0.80	2.25	5	MCQUAY	RDS-802-B	-
RTU-4	CLASSROOMS	8,300	2.25	3.70	10	MCQUAY	RDS-802-B	-
RTU-5	MEDIA CENTER	3,300	2.15	3.75	7-1/2	MCQUAY	RDS-708-B-S	-
RTU-6	EARLY CHILDHOOD	3,575	2.10	3.75	7-1/2	MCQUAY	RDS-708-B-S	-
RTU-7	ADMINISTRATION	7,700	2.13	4.30	15	MCQUAY	RDS-708-B-S	-
RTU-8	GYMNASIUM	2,000	1.15	1.65	1-1/2	MCQUAY	RDS-708-B-S	-
RTU-9	ADDITION	-	-	-	-	MCQUAY	RDS	-

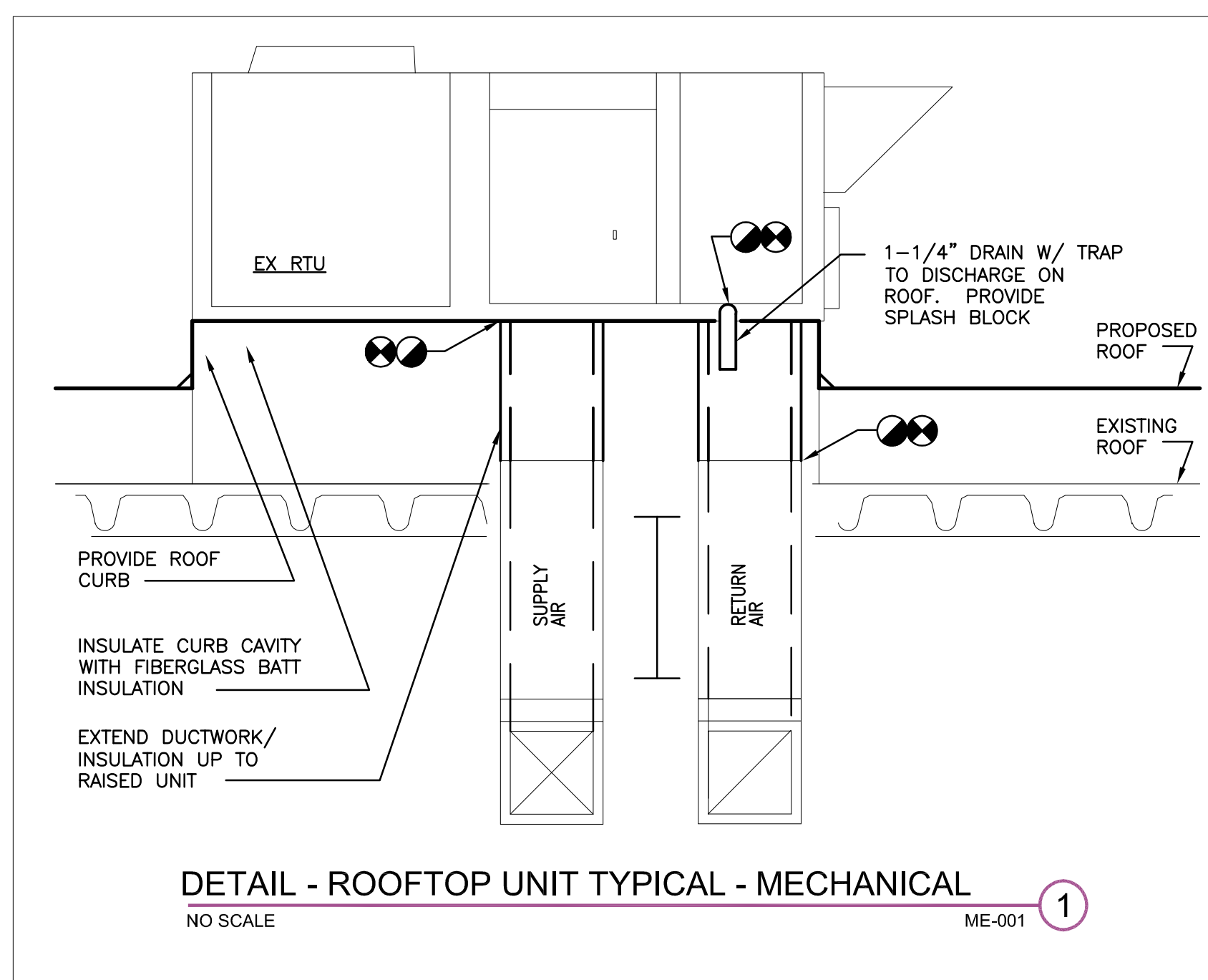
NOTES:  
1. ROOFTOP UNITS ARE EXISTING TO REMAIN. EXISTING UNITS ARE TO BE RAISED TO ACCOMMODATE NEW ROOF ELEVATION.

### DUCT INSULATION SCHEDULE

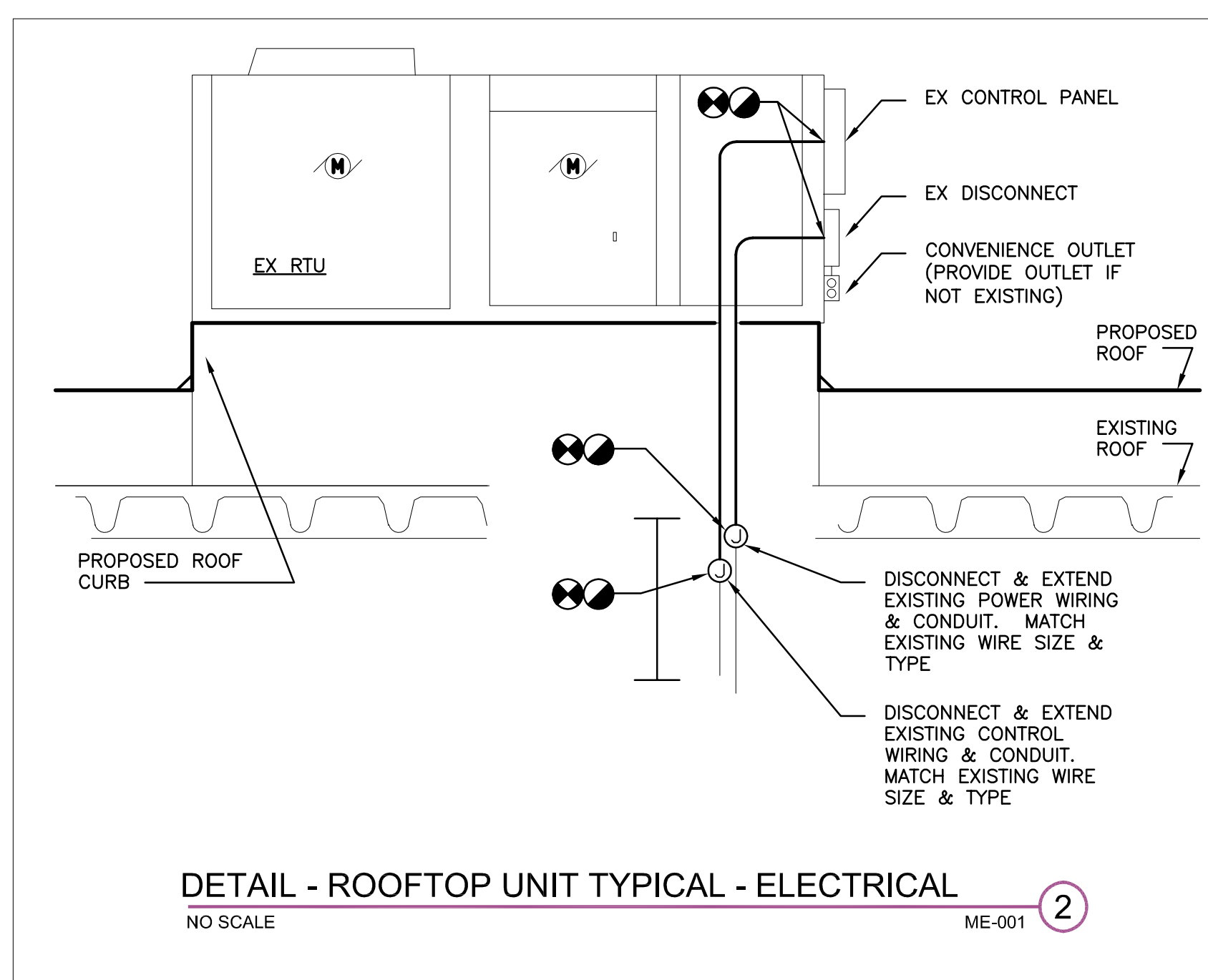
SYSTEM	SYSTEM	TYPE	THICKNESS
CONCEALED	SA/ RA	E	2"

INSULATION TYPES:  
TYPE E - FLEXIBLE GLASS FIBER BLANKET. MINIMUM DENSITY - 3/4-POUND PER CUBIC FOOT. FACTORY APPLIED JACKET: VAPOR RETARDANT BARRIER JACKET OF MINIMUM 0.001-INCH ALUMINUM FOIL REINFORCED WITH GLASS FIBER BONDED TO FLAME RESISTANT KRAFT PAPER. MAXIMUM MOISTURE VAPOR TRANSMISSION OF 0.02 PERMS.

NOTE: IF INSULATED DUCTWORK IS SUPPORTED FROM THE BOTTOM, PROVIDE CALCIUM SILICATE OR FOAM GLASS EQUAL TO THICKNESS OF ADJOINING INSULATION SUPPORT. VAPOR SEAL AND SIZE TO CARRY THE LOAD WITHOUT CRUSHING.



DETAIL - ROOFTOP UNIT TYPICAL - MECHANICAL  
NO SCALE ME-001 1



DETAIL - ROOFTOP UNIT TYPICAL - ELECTRICAL  
NO SCALE ME-001 2

### ELECTRICAL LEGEND

SYMBOL	ABBREV	DESCRIPTION
		CONCEALED CONDUIT AND/OR WIRING.
		JUNCTION BOX
		125 VOLT, 2 POLE, 3 WIRE, 20AMP WEATHER RESISTANT RECEPTACLE. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTING TYPE. "WP" INDICATES WEATHER PROOF WITH WHILE-IN-USE COVER.
		MOTOR
		DEMOLITION TO THIS POINT
	CX	CONNECT TO EXISTING

### GENERAL DEMOLITION NOTES - ELECTRICAL

- MINIMIZE OUTAGES. COORDINATE OUTAGES WITH OWNER. PERFORM WORK REQUIRING SUSTAINED EQUIPMENT OUTAGE CONTINUOUSLY AROUND THE CLOCK UNTIL WORK IS COMPLETE, UNLESS NOTED OTHERWISE.
- PRIOR TO DEMOLITION, FIELD VERIFY CONDUITS, CONDUCTORS, AND CABLES THAT PASS THROUGH AND SERVE AREAS OUTSIDE THE SCOPE OF WORK. MAINTAIN CONTINUITY OF SYSTEMS. PROTECT OR RELOCATE SYSTEMS TO PREVENT DAMAGE. RESTORE SYSTEMS TO NORMAL OPERATION. COORDINATE SYSTEM OUTAGES WITH OWNER.
- IDENTIFY NONFUNCTIONING EQUIPMENT AND DEVICES TO REMAIN AFTER DEMOLITION. NOTIFY OWNER IN WRITING PRIOR TO DEMOLITION. UPON COMPLETION OF WORK, ENSURE THAT EXISTING EQUIPMENT AND DEVICES OPERATE PROPERLY.
- IN AREAS REQUIRING THE PERFORMANCE OF WORK OF OTHER TRADES, CAREFULLY DISCONNECT, MAKE SAFE, REMOVE AND STORE ELECTRICAL ITEMS IN PATH OF WORK. REINSTALL AND RECONNECT SAME AFTER COMPLETION OF OTHER TRADE'S WORK. COORDINATE REMOVAL OF EQUIPMENT WITH OTHER TRADES PRIOR TO DEMOLITION.

### GENERAL NOTES - ELECTRICAL

- PROVIDE LABOR, MATERIALS, TOOLS, EQUIPMENT, COORDINATION, DELEGATED DESIGN AND INCIDENTALS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
- PERFORM WORK AS REQUIRED BY APPLICABLE CODES, REGULATIONS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION. MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED BY NATIONALLY RECOGNIZED TESTING LABORATORIES FOR INTENDED SERVICE.
- GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
- MAINTAIN RECORD DRAWINGS ON SITE. RECORD SET SHALL BE COMPLETE, CURRENT, AND AVAILABLE UPON REQUEST.
- REPAIR OR REPLACE DAMAGE TO FACILITIES AND EQUIPMENT AT NO ADDITIONAL EXPENSE TO OWNER. PATCH AND REPAIR DISTURBED AREAS TO MATCH ADJACENT SURFACES AND FINISHES.
- PROVIDE TEMPORARY POWER AND LIGHTING FOR OTHER TRADES AS REQUIRED TO COMPLETE PROJECT IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE COMPONENTS INDICATED ON RISER DIAGRAMS WHETHER OR NOT INDICATED ON PLANS, AND VICE VERSA.
- LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND REQUIRE COORDINATION WITH OTHER TRADES. ROUTING OF CONDUIT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO SHOW REQUIRED OFFSETS AND DETAILS. OBTAIN DRAWINGS AND SPECIFICATIONS FROM OTHER TRADES AND COORDINATE WITH OTHER TRADES.
- COORDINATE ELECTRICAL INSTALLATION WITH FIELD CONDITIONS. LOCATIONS SHOWN ARE DIAGRAMMATIC AND MAY REQUIRE ADJUSTMENT IN FIELD.
- COORDINATE LOCATIONS OF ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
- REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.
- PERMANENTLY LABEL NEW ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, DEVICE DESIGNATION AND SUPPLY CIRCUIT DESIGNATION.
- PROVIDE EACH CIRCUIT WITH A DEDICATED NEUTRAL UNLESS NOTED OTHERWISE.
- INSTALL ELECTRICAL WORK IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
- OWNER-FURNISHED EQUIPMENT: VERIFY AND COORDINATE ELECTRICAL ROUGH-IN REQUIREMENTS FOR OWNER-FURNISHED EQUIPMENT WITH OWNER PRIOR TO PULLING CONDUCTORS AND MAKING FINAL CONNECTIONS. LACK OF COORDINATION SHALL NOT JUSTIFY CHANGE ORDERS.
- WHERE SUBMITTED EQUIPMENT REQUIRES REVISION TO OVERCURRENT PROTECTION, CONDUIT, AND WIRING, COORDINATE AND MAKE CHANGE TO PROVIDE A COMPLETE INSTALLATION IN ACCORDANCE WITH APPLICABLE CODES.
- PRIOR TO SUBMITTING BID, VISIT SITE AND BECOME THOROUGHLY FAMILIAR WITH EXISTING CONDITIONS AND PROPOSED CONSTRUCTION
- COORDINATE WORK INDICATED ON DRAWINGS OF OTHER TRADES.

### MECHANICAL LEGEND

SYMBOL	ABBREV	DESCRIPTION
		SUPPLY DUCT TURNED UP
		SUPPLY DUCT TURNED DOWN
		RETURN, EXHAUST, OR OUTSIDE AIR DUCT TURNED UP
		RETURN, EXHAUST, OR OUTSIDE AIR DUCT TURNED DOWN
	RS	REFRIGERANT SUCTION
	RL	REFRIGERANT LIQUID
	D	DRAIN (CONDENSATE)
		PIPE TURNING UP
		PIPE TURNING DOWN
		TEE TURNED UP
		TEE TURNED DOWN
		DEMOLITION TO THIS POINT
	CX	CONNECT TO EXISTING
	EX	EXISTING
	EA	EXHAUST AIR
	RA	RETURN AIR
	RX	REMOVE EXISTING
	SA	SUPPLY AIR

### GENERAL DEMOLITION NOTES - MECHANICAL:

- NOTIFY OWNER, IN WRITING, AT LEAST FOURTEEN (14) DAYS IN ADVANCE OF ALL REQUIRED SHUTDOWNS OF WATER, SEWER, FIRE PROTECTION, GAS, ELECTRICAL SERVICE OR OTHER UTILITIES.
- WHEN WORKING IN AND AROUND THE EXISTING BUILDING, CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF EXISTING STRUCTURE AND MECHANICAL AND ELECTRICAL SERVICES WHICH SHALL REMAIN.
- REPAIR, REPLACE OR RESTORE TO THE SATISFACTION OF THE OWNER ALL EXISTING WORK DAMAGED IN THE PERFORMANCE OF DEMOLITION AND/ OR NEW WORK.
- THE EXISTING CONDITIONS (DUCTWORK, PIPING, EQUIPMENT, AND MATERIALS) SHOWN ON THE CONTRACT DOCUMENTS, ARE BASED ON INFORMATION OBTAINED FROM AVAILABLE RECORDS AND FIELD SURVEYS AND SHALL BE CONSIDERED DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY EXACT SIZES AND LOCATIONS OF ALL DUCTWORK, PIPING, EQUIPMENT AND MATERIALS PRIOR TO COMMENCING WITH NEW AND DEMOLITION WORK.
- EXISTING DUCTWORK INDICATED TO BE DISCONNECTED AND REMOVED SHALL INCLUDE HANGERS, SUPPORTS, ETC. DUCTWORK SHALL BE CAPPED WITH SIMILAR GAGE SHEETMETAL. SECURE CAP(S) WITH SHEETMETAL SCREWS AND SEAL WITH DUCT SEALER. NO EXISTING DUCTWORK SHALL BE LEFT UNCAPPED.
- PATCH TO MATCH EXISTING ALL NEW AND EXISTING OPENINGS IN WALLS, CEILINGS AND FLOOR SURFACES DAMAGED OR CREATED BY DEMOLITION WORK. PATCHING SHALL MATCH EXISTING ADJACENT SURFACES AS TO THICKNESS, TEXTURES, MATERIALS, AND COLOR. ALL PATCHING SHALL BE PERFORMED TO THE SATISFACTION OF THE OWNER AND AT NOT ADDITIONAL COST.

### GENERAL NOTES - MECHANICAL

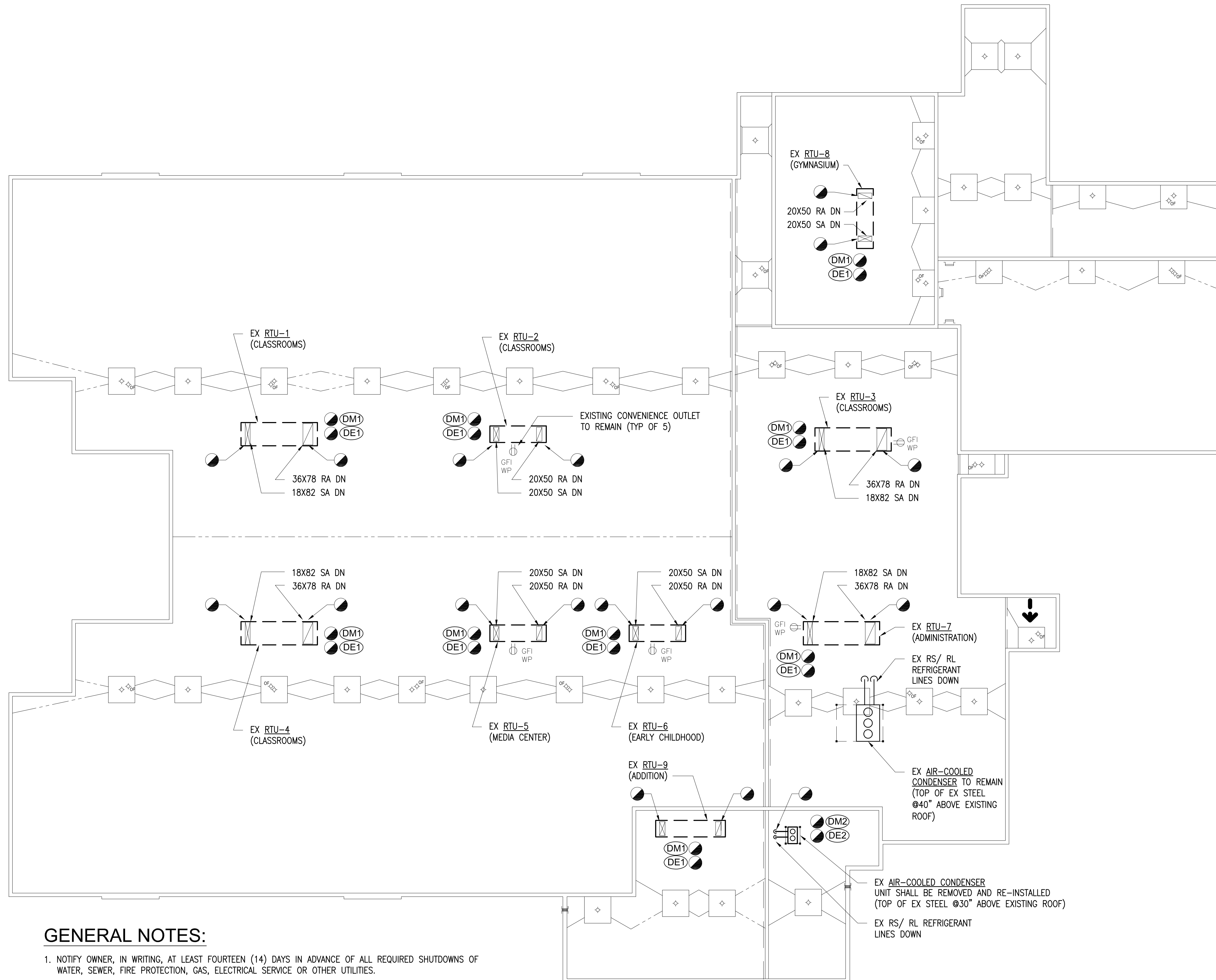
- PROVIDE HANGERS, ANCHORS, ETC., ON PIPING PER SUPPORT MANUFACTURE'S RECOMMENDATIONS.
- INSTALL DUCTWORK SO THAT VOLUME DAMPERS, EXHAUST FANS, ETC., CONTROLS ARE ACCESSIBLE. PROVIDE ACCESS PANELS PER SPECIFICATIONS.
- REFER TO ARCHITECTURAL DRAWINGS FOR ROOF, CEILING CONSTRUCTION TYPES AND DETAILS. VERIFY EXISTING STRUCTURAL JOISTS SIZES AND LOCATIONS.
- INSTALL EQUIPMENT IN SUCH A MANNER AS TO PROVIDE ADEQUATE SPACE FOR MAINTENANCE AND EQUIPMENT ACCESS.
- REPLACE FILTERS SERVING ROOFTOP UNIT EQUIPMENT PRIOR TO FINAL BALANCING OF AIR DISTRIBUTION SYSTEMS.
- EXISTING: PIPING, VALVING, DUCTWORK, ELECTRICAL CONDUITS, ETC. DO EXIST WITHIN THE CEILING SPACES OTHER THAN THAT WHICH IS SHOWN ON THE CONTRACT DRAWINGS.
- COORDINATE NEW & DEMOLITION WORK WITH EXISTING WORK TO REMAIN SO AS NO TO DAMAGE EXISTING WORK. ANY DAMAGE TO EXISTING WORK TO REMAIN SHALL BE REPLACED/ REPAIRED AT NO COST TO THE OWNER.
- SUPPLY AND RETURN DUCT OPENINGS NOT BEING USED SHALL BE PATCHED AND REPAIRED AIR TIGHT IN ACCORDANCE WITH SMACNA STANDARDS.
- CONDENSATE DRAIN PIPING SHALL RUN AT 2% SLOPE MINIMUM UNLESS NOTED OTHERWISE.
- FIELD CHECK PREMISES PRIOR TO SUBMITTING BID TO BECOME ACQUAINTED WITH EXISTING CONDITIONS AND TO DETERMINE THE BEST MANNER FOR INSTALLATION, DETAILS, OR PROPOSED DEPARTURES DUE TO ACTUAL FIELD CONDITIONS OR OTHER CAUSES SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO FINAL INSTALLATION. NO EXTRAS SHALL BE PAID IN INSTANCES WHERE DISCREPANCIES ARISE AND THE INSTALLER HAS FAILED TO VERIFY EXISTING JOB SITE CONDITIONS.
- ASSUME/ PROVIDE FLEXIBLE DUCTWORK FOR ALL CONNECTIONS.
- ASSUME ALL DIMENSIONS ARE INCHES, UNLESS OTHERWISE NOTED.

### DRAWING LIST

ME-001	LEGEND, GENERAL NOTES & SCHEDULES
ME-101	ROOF PLAN - DEMOLITION
ME-201	ROOF PLAN - NEW WORK



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**GENERAL NOTES:**

1. NOTIFY OWNER, IN WRITING, AT LEAST FOURTEEN (14) DAYS IN ADVANCE OF ALL REQUIRED SHUTDOWNS OF WATER, SEWER, FIRE PROTECTION, GAS, ELECTRICAL SERVICE OR OTHER UTILITIES.
2. DISCONNECT DUCTWORK, POWER AND CONTROL WIRING FOR ALL OTHER AFFECTED ROOFTOP EQUIPMENT (INCLUDING FANS & SPLIT SYSTEMS).

**DEMOLITION NOTES - MECHANICAL:**

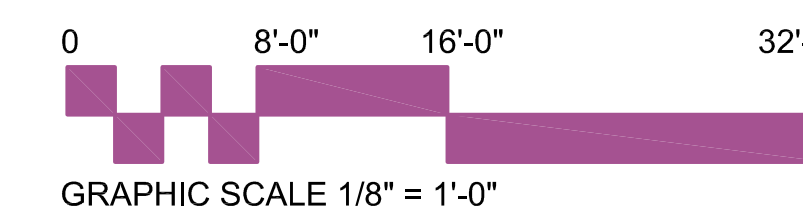
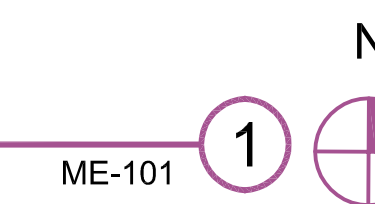
- (DM1) RTU: DISCONNECT EX DUCT SUPPLY AIR/ RETURN AIR DUCTWORK, DISCONNECT EX CONDENSATE DRAIN
- (DM2) ACCU: DISCONNECT EX REFRIGERANT PIPING.

**DEMOLITION NOTES - ELECTRICAL:**

- (DE1) RTU: DISCONNECT EX POWER AND CONTROL WIRING.
- (DE2) ACCU: DISCONNECT EX POWER AND CONTROLS WIRING.

**ROOF PLAN (DEMOLITION)**

1/8"=1'-0"



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**PROJECT**  
 ROOF REPLACEMENT  
 TRIADELPHIA RIDGE ELEMENTARY SCHOOL  
 13400 TRIADELPHIA ROAD  
 ELLICOTT CITY, MARYLAND 21042

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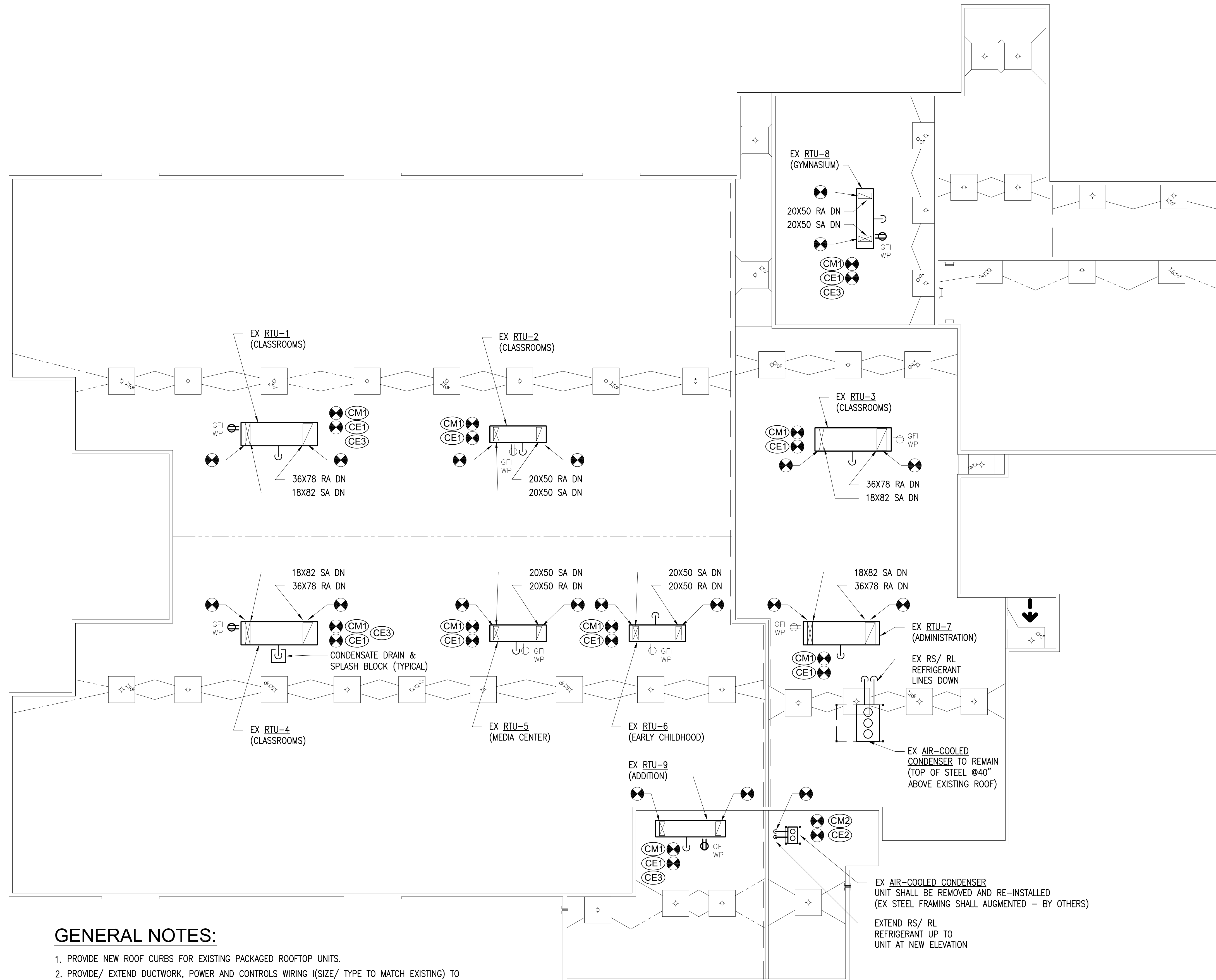
NO.	DATE	DESCRIPTION	BY
PROJECT NO.	656345		
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DRAWN BY	DS		
CHECKED BY	SCT		
DATE	05/06/2022		
DRAWING SCALE	AS NOTED		

GRAPHIC SCALE  
 SHEET TITLE

**ROOF DEMOLITION**

DRAWING NO.  
**ME-101**

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**GENERAL NOTES:**

1. PROVIDE NEW ROOF CURBS FOR EXISTING PACKAGED ROOFTOP UNITS.
2. PROVIDE/ EXTEND DUCTWORK, POWER AND CONTROLS WIRING (SIZE/ TYPE TO MATCH EXISTING) TO ALL OTHER AFFECTED ROOFTOP EQUIPMENT (INCLUDING FANS & SPLIT SYSTEMS).

**CONSTRUCTION NOTES - MECHANICAL:**

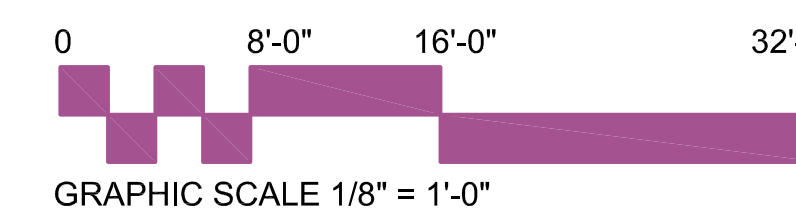
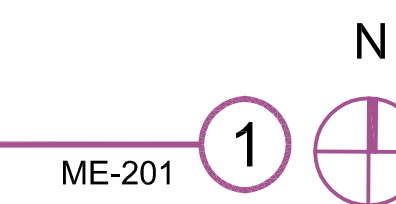
- (CM1) RTU: PROVIDE/ EXTEND SUPPLY AIR/ RETURN AIR DUCTWORK. PROVIDE NEW CONDENSATE DRAIN AND ASSOCIATED DRAIN SPLASH BLOCK.
- (CM2) ACCU: PROVIDE/ EXTEND REFRIGERANT LINES. LINE SIZE AND TYPE SHALL MATCH EXISTING.

**CONSTRUCTION NOTES - ELECTRICAL:**

- (CE1) RTU: PROVIDE/ EXTEND POWER AND CONTROLS WIRING AS REQUIRED. WIRE SIZE AND TYPE TO MATCH EXISTING.
- (CE2) ACCU: PROVIDE/ EXTEND POWER AND CONTROLS WIRING AS REQUIRED. WIRE SIZE AND TYPE TO MATCH EXISTING.
- (CE3) RTU: PROVIDE CONVENIENCE OUTLET.

**ROOF PLAN (NEW WORK)**

1/8"=1'-0"



GRAPHIC SCALE 1/8" = 1'-0"



PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED AND APPROVED BY ME AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NUMBER #22077, EXPIRATION DATE AUGUST 20, 2022.

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CHECKED BY	SCT		
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DRAWING SCALE	AS NOTED		

GRAPHIC SCALE  
 SHEET TITLE

**ROOF NEW WORK**

DRAWING NO.  
**ME-201**