



## A D D E N D U M

**Project No.:** 2401101

**Addendum No:** 1

**Project:** Pioneer JR-SR High School Roof Replacement **Date:** 2024-04-18

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### **TO: ALL BIDDERS OF RECORD**

ADDENDUM NO. 001, to Drawings and Specifications dated 04-01-2024, for the PIONEER JR-SR HIGH SCHOOL ROOF REPLACEMENT for the PIONEER REGIONAL SCHOOL CORPORATION; as prepared by ELEVATUS Architecture, 111 E. Wayne Street, Suite 555, Fort Wayne, IN 46802

This ADDENDUM 001 shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified and set forth in this ADDENDUM.

Each Bidder shall acknowledge receipt of this ADDENDUM 001 on the Bid Form.

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### **GENERAL:**

See Attached Sign in Sheet from Pre Bid meeting.

### **PROJECT MANUAL:**

#### ITEM NO. 1.01 - PROJECT MANUAL, 00 01 10, Table of Contents

- A. Re-issue specification section in its entirety to include specifications changed below.

#### ITEM NO. 1.02 - PROJECT MANUAL, 00 25 13 , Pre-Bid Conference

- A. Re-issue specification section in its entirety with changes below.
- a. Revise Paragraph 6 – Addendum##
    - 1. Remove 6. A in its entirety.
    - 2. Add 6.a – Final RFI's are due no later than April 16, 2024.
    - 3. Add 6.b – Addendum#1 will be issued on or about April 18, 2024.

#### ITEM NO. 1.03 - PROJECT MANUAL, 00 43 00, Supplemental Bid Proposal Form

- A. Re-issue specification section in its entirety with change below:
- a. Add if requested by Owner, I am willing to hold this bid for up to ninety (90) days after receipt of bids.  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, is there a change in Bid? \$ \_\_\_\_\_
  - b. Revise Bid Bond percentage in form of AIA A310 Bid Bond or similar from an acceptable surety to be 5%.

ITEM NO. 1.04 - PROJECT MANUAL, 00 73 00, Supplementary Conditions

- A. Re-issue specification section in its entirety with changes below:
- a. Revise paragraph 9.8.8 to add (for Gymnasium roof if only work selected)
  - b. Revise paragraph 9.8.9 to add (for Gymnasium roof if only work selected)
  - c. Add Paragraph 9.8.10 (Add) Substantial Completion Date: 7/15/2024 (for N2 Roof if both Alternates are selected)
  - d. Add paragraph 9.8.11 (Add) Substantial Completion Date: 7/31/2024 (for N2 Roof if both Alternates are selected)
  - e. Add paragraph 9.8.12 (Add) Substantial Completion Date: 11/14/2024 (for Gymnasium and N1 roof if both Alternates are selected)
  - f. Add paragraph 9.8.13 (Add) Substantial Completion Date: 11/30/2024 (for Gymnasium and N1 roof if both Alternates are selected)
  - g. Add paragraph 9.8.14 (Add) Substantial Completion Date: 11/14/2024 (for Gymnasium and N1 roof if only work selected)
  - h. Add paragraph 9.8.15 (Add) Substantial Completion Date: 11/30/2024 (for Gymnasium and N1 roof if only work selected)

ITEM NO. 1.05 - PROJECT MANUAL, 05 50 00, Metal Fabrications

- A. Add Specification Section I its entirety for work relating to prefabricated steel wall assembly.

ITEM NO. 1.06 - PROJECT MANUAL, 06 10 00, Rough Carpentry

- A. Re-issue specification section in its entirety with changes below.
- a. Add Paragraph 2.1.E in its entirety for Wood Component Intumescent Primer
  - b. Add paragraph 2.1.F in its entirety for Fire Retardant Treatment By Pressure Process

ITEM NO. 1.07 - PROJECT MANUAL, 07 54 16.30, Low Slope Hybrid Kee Membrane Roofing System

- A. Re-issue specification section in its entirety with change below:
- a. Add paragraph 1.7.C –
    - 1. Contractor shall submit shop drawings for ordering, manufacturing, and final inspection of the Roofing System. Drawings shall include roof outline, roof dimensions, roof penetrations, insulation type and thickness, piece layout, parapet size and location, and other information which may affect the suitability and installation of the Roofing System on the respective project.

ITEM NO. 1.08 - PROJECT MANUAL, 07 62 00, Sheet Metal Flashing and Trim

- A. Revise paragraph 2.3.C.b to state the color shall be black.

**DRAWINGS:**

**ITEM NO. 2.01 - DRAWING NO.AD134 Architectural Roof Plan-Demo-N -2**

- A. Revision of roof penetration demolitions and notations.

**ITEM NO. 2.02 - DRAWING NO.A-132 Architectural Roof Plan - M**

- A. Added description to overflow drain note
- B. Added general note regarding roof slope, design, and shop drawings

**ITEM NO. 2.03 - DRAWING NO.A-133 Archtiectural Roof Plan – N-1**

- A. The area divider wall is to be included in the alternate #1 bid total.
- B. Roof section N1 is to include a tapered insulation layout that slopes to existing drain's locations. The insulation layout design is to be developed by the tapered insulation manufacturer and meet a minimum of 1/8":12. The manufacturer's provided layout drawing is to be submitted to Elevatus for review and approval prior to installation.
- C. Added description to overflow drain note
- D. Added general note regarding roof slope, design, and shop drawings
- E. Adjust the insulation as needed.
- F. Revision of fill void with rock wool insulation.

**ITEM NO. 2.04 - DRAWING NO.A-134 Architectural Roof Plan-New-N-2**

- A. Removal of Roof Penetrations.
- B. Added description to overflow drain note
- C. Added general note regarding roof slope, design, and shop drawings

Submitted By:

Cory D Miller, AIA

**ELEVATUS**  
ARCHITECTURE

cc: ☐ File: G:\002024\2401101 Pioneer Regional SC - Gym Roof\0800 Bidding\0810 Addenda\Addendum 01\2401101 Pioneer Roof Addendum1 2024-04-18.docx  
☐ Owner:  
☐ Contractor:  
☐ Consultant:  
☐ Consultant:





Pioneer Regional School Corporation  
417 S. Chicago St.  
Royal Center, IN. 46978

Pre-Bid Meeting Sign-In Sheet: April 11, 2024

Project Name: Pioneer Jr/Sr High School 2024 Roof Improvement

NAME	COMPANY NAME/ADDRESS	CONTACT EMAIL
<i>[Signature]</i>	Pioneer	
EMILY HOWER	ELEVATUS	
NIK VILAMAA	ELEVATUS	
Austin Popenbaker	Gueland	
Noah Leof	Gueland	
Mike Huntington	AAA	
Jerad Elert	CMS Roofing	





Pioneer Regional School Corporation  
417 S. Chicago St.  
Royal Center, IN. 46978

NAME	COMPANY NAME/ADDRESS	CONTACT EMAIL
Garrett VanBrocklin	Fort Wayne Roofing	
Clarence Tribbey	wolf	
STEVE UNMUE	WOLF	
DEVIN SHIVERY	Morris & Sons Roofing, Inc.	DEVIN @ MORRIS AND SONS ROOFING . COM



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**SECTION 00 25 13 - PRE-BID CONFERENCE**

**PRE-BID CONFERENCE**

for the

Pioneer Regional SC - Gym Roof  
Royal Center, Indiana

- A. There will be a pre-bid conference held on April 11, 2024 @ 11:30 AM, at the Pioneer Regional School Corporation, 413 S. Chicago St., Royal Center, IN, consisting of review of the project. At this time the Owner's representatives and Architect will discuss the project requirements and procedures. Contractors are highly encouraged to attend. Failure to attend does not relieve the bidder from the responsibility to carry out the work in the manner discussed at the conference. This pre-bid conference does not relieve the bidders to the on-site inspection of the project requirements.
- B. Pre-bid conference shall be in person only.
  1. Typical Agenda:
    - a. Introductions:
    - b. Owners Representative:
    - c. Project Architect:
    - d. Project CA Coordinator:
    - e. Description of Project:
    - f. Owner Comments
    - g. Architectural
  2. Bid Due Date:
    - a. Bids will be accepted at the date, time and place indicated in the Advertisement for Bids.
  3. Instructions to Bidders:
    - a. Review bidding requirements, bonds, bid proposal forms, insurance requirements, etc.
  4. Project Requirements:
    - a. Start Date for the project is no later than 30 calendar days after the signing of the Agreement or the official Notice to Proceed from the Owner
    - b. Substantial Completion date for the project will be no later than August 31, 2024
  5. Contract Information:
    - a. AIA A101 Standard Form of Agreement Between Owner and Contractor
  6. Addendum ##:
    - a. Final RFI's are due no later than April 16, 2024
    - b. Addendum #1 will be issued on or about April 18, 2024
    - ~~a. Addenda will be issued during the bidding period; bidders are required to acknowledge receipt of the addenda on the Bid Proposal form.~~
  7. Other Items



8. Bidders Questions

END OF SECTION



**SECTION 00 43 00 - SUPPLEMENTAL BID PROPOSAL FORM**

BID PROPOSAL FORM  
(BASE BID SINGLE PRIME CONTRACT)

Bidder  
Address  
Phone #

SINGLE PRIME BID

To: <Location Name>  
<Address>  
<City>, <State> <ZIP>

Project: Pioneer Regional SC - Gym Roof  
417 S Chicago St  
Royal Center, Indiana 46978

I have received and carefully reviewed the Contract Documents prepared by:  
Elevatus Architecture  
111 East Wayne, Suite 555  
Fort Wayne, Indiana.

I have also received Addenda Nos. (\_\_\_\_\_) and have included their provisions in my Bid Proposal. I have examined the Documents, Drawings, and the site, and submit the following Proposal, IN DUPLICATE.

If requested by Owner, I am willing to hold this bid for up to ninety (90) days after receipt of bids.

Yes No If yes, is there a change in Bid? \$

In submitting this Proposal, I agree to the following:

- A. To hold my bid(s) open for thirty (30) days after receipt of bids.
- B. To accept the provisions in the Instructions to Bidders, regarding Bid Security.
- C. To enter into and execute a Contract, if awarded on the basis of this Proposal, and if required to furnish 100% Performance Bond and Labor and Material Payment Bonds in accordance with the Instructions to Bidders.
- D. To submit Certificates of Insurance for the coverage specified.
- E. To accomplish the Work in accordance with the Contract Documents.
- F. To complete the Work covered by this Proposal within *(fill-in)* \_\_\_\_\_ (list calendar days) from the date of written order or signing of Agreement with the Owner to proceed with the Work at which work under this Proposal is completed.

BASE BID: I agree to execute the work under the following Base Bid indicated for the lump sum amount given therein.

BASE BID AMOUNT

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



**Pioneer Regional SC - Gym Roof**  
Royal Center, Indiana

(State amount in words) \_\_\_\_\_

ALTERNATES - Refer to specification Section 01 23 00 Alternates for complete descriptions of the alternates listed below.

ALTERNATE NO. 1: New roof system in Area N-1 as indicated on the drawings.

Add (\$ \_\_\_\_\_)

ALTERNATE NO. 2: New roof system in Area N-2 as indicated on the drawings.

Add (\$ \_\_\_\_\_)

**UNIT PRICES - Refer to specification Section 01 22 00**

**Unit Prices for complete descriptions of the Unit Prices listed below.**

No.	Classifications	Unit	For Additions	For Deductions
1	Roof Decking	sq, ft,	_____	_____
2	Replace Roof Drain body connected to existing piping	Ea.	_____	_____

**LIST OF SUBCONTRACTORS**

Roofing & Flashing subcontractor

\_\_\_\_\_

Sealants & Caulking subcontractor

\_\_\_\_\_

I have also attached or completed the following required submissions:  
5% Bid Security in form of Cashier's Check or Certified Check

(or)

~~10~~5% Bid Bond in form of AIA A310 Bid Bond or similar from an acceptable surety

AIA A305-2020, Contractor's Qualification Statement

Non-Collusive Certification, which is part of this Bid Proposal Form, is signed, dated and notarized



Use this form if Bidder is Sole Proprietor:

IN TESTIMONY WHEREOF, the Bidder has hereunto set his hand this \_\_\_\_\_ day of \_\_\_\_\_, 2024

Bidder \_\_\_\_\_

Address \_\_\_\_\_

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

Phone \_\_\_\_\_

Signature \_\_\_\_\_

\* \* \* \* \*

Use this form if Bidder is a Partnership:

IN TESTIMONY WHEREOF, the Bidder (a firm) has hereunto set their hands this \_\_\_\_\_ day of \_\_\_\_\_, 2024

\_\_\_\_\_  
(Firm Name)

Address \_\_\_\_\_

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

Phone \_\_\_\_\_

Signature \_\_\_\_\_

(Individual Names)

Signature \_\_\_\_\_

(Individual Names)

\* \* \* \* \*

**Pioneer Regional SC - Gym Roof**  
Royal Center, Indiana

Use this form if Bidder is a Corporation or LLC:

IN TESTIMONY WHEREOF, the Bidder (a Corporation) has caused this proposal to be signed by its President and Secretary, and affixed its corporate seal this \_\_\_\_\_ day of \_\_\_\_\_ 2024.

\_\_\_\_\_  
(Name of Corporation)

Address \_\_\_\_\_

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

Phone \_\_\_\_\_

\_\_\_\_\_  
(President)

(C O R P. S E A L)

\_\_\_\_\_  
(typed)

\_\_\_\_\_  
(Secretary)

\_\_\_\_\_  
(typed)

(THIS BID SHALL BE FURNISHED IN DUPLICATE, WITH BOTH COPIES ENCLOSED IN THE SEALED BID ENVELOPE INCLUDING THE NON-COLLUSIVE CERTIFICATION)



**NON-COLLUSIVE CERTIFICATION**

No bid will be accepted that does not have this form completely executed and notarized.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or any competitor;
2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor;
3. No attempt has been made or will be made by the bidder to insure any other person, partnership, or corporation to submit or not to submit a bid for the purpose of restricting competition;
4. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf.
5. That attached hereto (if corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signature of this bid or proposal in behalf of the corporation bidder.

\_\_\_\_\_  
(Individual)

\_\_\_\_\_  
(Corporation)

Date:

By:

This Non-Collusive Bidding Certificate must be submitted with the Bid.

Notary;

Notarized and witnessed this day \_\_\_\_\_, 2024.

END OF BID PROPOSAL FORM

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**SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS**

The following supplements modify, change, delete from, or add to the "General Conditions of the Contract for Construction," AIA Document A201-2017 edition. Where an Article of the General Conditions is modified or a Paragraph, Subparagraph, or a Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

ARTICLE 1 - GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

- 1.1.1 Add the following sentence of this Subparagraph to read as follows:  
The Contract Documents will also include Lien Waiver, Partial Waiver, Notice to Bidders, Instructions to Bidders, Addenda and its attachments, and any other documents specifically agreed by the parties to be included in the Contract Documents. Bonds as covered in the Instructions to Bidders shall be considered a part of the Contract Documents.
- 1.1.3 (Add the following sentence to the end of the Subparagraph) "...The Contractor acknowledges and agrees that the Contract Documents are sufficient to provide for the completion of the Work and include Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in accordance with applicable laws, codes, and customary standards of the construction industry."
- 1.1.9 (Add the following) MISCELLANEOUS DEFINITIONS
- .1 The term "product" as used herein includes materials, systems, and equipment.
  - .2 The term "supplier" as used herein, includes a firm or organization furnishing or delivering products directly to the jobsite, and because of such direct delivery, could be construed under the lien laws of the State in which the work is being performed as having lien rights against the funds due the Contractor. Suppliers of material and equipment, delivering to Contractor or Subcontractor on an open account basis and not having lien rights on the Work, will not be considered suppliers within the meaning of the Contract Documents.
  - .3 A bidder selected to enter into a Contract with the Owner for Work included under the bidder's proposal is termed an "Awardee," until such time as he is awarded a Contract and becomes the Contractor.
  - .4 Where "complete" is used, it shall mean "complete with connections, supports, attachments and incidental items necessary for a finished and properly operating assembly or installation."
  - .5 Where "drawing" is used, it shall mean plans and detail drawings, both large and small scale, furnished by the Architect and Engineer for the purpose of showing the Work to be done.
  - .6 The term "furnish" - to supply (only) to another party for their use of installation, including cost of delivery and unloading at the jobsite.
  - .7 The term "install" - to distribute, uncrate, assemble, and fix into the intended final positions, the installer to provide all miscellaneous hardware and supplies required to anchor and support securely, clean-up, and dispose of rubbish.

- .8 The term "connect" - to bring service(s) to point of installation and make final connections to the service(s) to the installed equipment, and to provide miscellaneous auxiliary appurtenances necessary to make operable for its intended use.
- .9 The term "provide" - to furnish, install, and connect complete.
- .10 The term "or equal" means an equal approved in writing by the Architect at least 10 days prior to bid receipt, and listed in an Addendum.
- .11 The term "Contractor" refers to the Prime Contractor that has the direct contract with the Owner. Any person providing work on the Project other than the Prime Contractor is a "Subcontractor."

## 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

### 1.2.4 (Add) "If there should be a conflict between two or more of the Contract Documents, the following order of interpretation shall apply:

- .1 The terms and conditions as set forth in the Bidding Requirements, including legal advertisement thereof, shall have full force and effect until such time as the Standard Form of Agreement between Owner and Contractor is executed between the Owner and the Awardee.
- .2 Where there is a conflict between the Bidding Requirements and the Contract Documents, the Contract Documents shall govern.
- .3 Where requirements specifically set forth in AIA A101, 2007 ed., Standard Form of Agreement Between Owner and Contractor are in conflict, AIA A201, 2007 ed., General Conditions of the Contract for Construction shall govern.
- .4 Where there is conflict between the requirements of the General Conditions of the Contract and the Supplementary Conditions, the requirements of the Supplementary Conditions shall govern, except where the requirements set forth in the Supplementary Conditions are contrary to law, in which case the legal requirements shall govern. The General Conditions of the Contract shall take precedence over other Contract Documents.
- .5 Where there is conflict between the Drawings and Specifications and conflict within the Drawings or within the Specifications, the conflict, where applicable, shall be resolved by providing better quality or greater quantity as provided in the Supplementary Conditions, Clause 3.2.4.

### 1.2.5 (Add) "It is the intent of the Contract Documents to accomplish a complete and first-rate installation in which there shall be installed new products of the latest and best design and manufacturer, and workmanship shall be thoroughly first class, executed by competent and experienced workmen.

- .1 Details of preparation, construction, installation, and finishing encompassed by the Contract Documents shall conform to the best practices of the respective trades, and that workmanship, construction methods, shall be of first class quality so as to accomplish a neat and first class finished job.
- .2 Where specific recognized standards are mentioned in the Specifications, it shall be interpreted that such requirements shall be complied with.



- .3 The intent of the Contract Documents is to include all labor, equipment, and materials necessary for the proper and timely execution and completion of the Work, even though such labor, equipment, materials are not expressly included in the Contract Documents.
- .4 The Contract Documents are complimentary, and what is required by one will be as binding as if required by all.
- .5 The Contractor will be required to perform all parts of the Work, regardless of whether the parts of the Work are described in Sections of the Contract Documents applicable to other trades."

## ARTICLE 2: OWNER

### 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 2.2.2 (Add the following to the first sentence) "...including those charges and costs related to zoning changes, environmental impact statements, and similar requirements related to use of the site."
- 2.2.3 (Replace with the following) "The Owner shall not be responsible for furnishing surveys (unless required for the execution of the Work and requested by the Contractor in writing) or other information as to the physical characteristics of, legal limitations of, or utility locations for the Project site, but as necessary for the Work, shall furnish or cause to be furnished to the Contractor a legal description of the project site, which shall not constitute one of the Contract Documents. The Contractor shall confirm the location of each utility; shall relocate or dispose of each on-site utility and shall cap each utility as required by the Work or the Specifications. The Contractor shall not be entitled to additional compensation resulting from its failure to confirm the location of the site utilities or existing structures prior to the opening of its bid."

### 2.3 OWNER'S RIGHT TO STOP THE WORK

- 2.3.1 (Add the following text to the end of the Subparagraph) "This right shall be in addition to, and not in limitation of, the Owner's rights under Paragraph 13.4."

## ARTICLE 3: CONTRACTOR

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

- 3.2.5 (Add) "Where there is a conflict in or between the Drawings and Specifications, the Contractor shall be deemed to have estimated on the more expensive way of doing the Work and the larger quantity required. Only changes or interpretations covered by Addenda or written from the Architect will be permitted during construction of the Work. The Contractor shall perform no portion of the Work at any time without Contract Documents or where required, received Shop Drawings, Product Data, or Samples for such portion of the Work."
- 3.2.6 (Add) "Before ordering material or performing any Work, the contractor shall verify all measurements at the Project site. Any differences between dimensions on the Drawings and actual measurements shall be brought to the Architect's attention for consideration before the Work proceeds. Where actual measurements require more material and work than the Drawings call for, such material and Work shall be supplied at the cost of the Contractor. No extra compensation will be allowed because of difference between actual measurements and dimensions indicated on the Drawings. The Contractor shall assume full responsibility for accuracy of measurements obtained at the work site."

3.2.7 (Add) "Mechanical and Electrical Drawings are diagrammatic only. Actual work involved shall be installed from received Shop Drawings with all measurements obtained at the Project Site by the Contractor.

3.2.8 (Add) "Dimensions which are lacking from the Drawings shall be obtained from the Architect or field verified. In no case will the Contractor assume that the Drawings are scaled."

### 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 (Add last sentence) "Additional provisions pertaining to coordination are included in Division 1, General Requirements."

### 3.5 WARRANTY

3.5.1 (Add) "In addition to any other warranties, guarantees, or obligations set forth in the Contract Documents or applicable as a matter of law and not in limitation of the terms of the Contract Documents, the Contractor warrants and guarantees that:

- .1 The Owner will have good title to the Work and materials and equipment incorporated into the Work will be new.
- .2 The Work and materials and equipment incorporated into the Work will be free from defects, including defects in the workmanship or materials.
- .3 The Work and equipment incorporated into the Work will be fit for the purpose for which they are intended.
- .4 The Work and materials and equipment incorporated into the Work will be merchantable.
- .5 The Work and materials and equipment incorporated into the Work will conform in all respects to the Contract Documents.

3.5.2 (Add) "The Contractor shall, upon completion of the Work, assign to the Owner all warranties obtained or obtainable by, the Contractor from manufacturers and suppliers of equipment and materials incorporated into the Work by written instrument of assignment in a form acceptable to the Owner.

3.5.3 (Add) "For a period of one year from the date of final completion and acceptance of the Work by the Owner, as evidenced by the date of the Substantial Completion, the Contractor warrants to the Owner all movable windows, apparatus, machinery, mechanical and electrical equipment. For the same period, the Contractor warrants to Owner to make good, at his own expense, any defects, shrinkages, warpings or other faults in Work required under this Contract arising out of defective materials or workmanship, ordinary wear and tear excepted."

3.5.4 (Add) "As part of the above warranty, it is expressly understood and agreed that the Contractor warrants that the Contractor's portion of the Work shall be waterproof and weatherproof in every respect for a period of two (2) years from the Date of Substantial Completion."

3.5.5 (Add) "The Contractor warrants and represents to the Owner that the Drawings and Specifications for the Work are suitable and adapted for said Work, and guarantees the sufficiency of said Drawings and Specifications for their intended purpose and agrees that it will perform said construction work and complete same to the entire satisfaction of the Owner and Architect."

- 3.5.6 (Add) "In addition to all of Contractor's warranties and obligations to correct defective Work provided by law or as set forth in any of the Contract Documents, the Contractor agrees, upon notice from Owner or Architect, immediately to repair, restore, correct and cure, at Contractor's expense, all defects and omissions in workmanship and materials and all failures to comply with the Contract Documents which appear within one (1) year from the Date of Substantial Completion. Contractor shall pay for, and if requested, correct, repair, restore and cure any damage or injury, whenever the same shall occur or appear, resulting from any defects, omissions or failure in workmanship and materials, and indemnify, hold harmless, and defend Owner against any and all claims, losses, costs, damages and expenses, including attorney's fees, suffered by Owner as a result of such damage or injury, whenever such damage or injury shall occur or appear."
- 3.5.7 (Add) "The foregoing guarantees and warranties shall not shorten any longer warranty or liability period provided for by law or in the plans, drawings or specifications or otherwise received from Contractor or any subcontractor, material supplier or manufacturer of Contractor nor supersede the terms of any liability for defective Work, but shall be in addition thereto, and shall be in addition to all manufacturer's and factory warranties."
- 3.5.8 (Add) "All guarantees or warranties upon any Work, labor, materials, or equipment by any subcontractor or material supplier of Contractor shall be deemed made by Contractor to Owner. All guarantees and warranties shall survive Owner's final acceptance of the Project. Neither the acceptance of any of the Work by Owner, in whole or in part, nor any payment, either partial or final, by Owner to Contractor, shall constitute a waiver by Owner of any claims against Contractor for defects in the Work, whether latent or apparent, and no such payment or acceptance of the Work by Owner shall release or discharge Contractor or Contractor's surety from any such claims for breach of such warranties."
- 3.6 TAXES
- 3.6.1 Owner is exempt from local, state, and federal taxes and shall not be responsible for any taxes levied on the Contractor. Refer to Section 01 11 00 for additional requirements relating to taxes
- 3.9 SUPERINTENDENT
- 3.9.1 (Add the following sentence) "The Superintendent shall be satisfactory to the Architect and the Owner, and the Architect and Owner shall have the right to require the Contractor to remove a Superintendent and replace with a Superintendent who is satisfactory to the Architect and Owner. The Contractor shall not replace the Superintendent without the consent of the Architect and Owner, except with another Superintendent who is satisfactory to the Architect and Owner."
- 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
- Delete this Paragraph in its entirety. Refer to Section 01 33 00 - Submittals, for provisions on this subject. References to Paragraph 3.12 elsewhere in the Contract Documents shall read as referring to that Section in the Specifications.
- 3.13 USE OF SITE
- Delete this Paragraph in its entirety. Refer to Section 01 33 00 - Submittals, for provisions on this subject. References to Paragraph 3.13 elsewhere in the Contract Documents shall read as referring to that Section in the Specifications.
- 3.19 (Add the following) NON-INTERFERENCE



- 3.19.1 (Add) The Contractor shall perform Work so as not to interfere with the Owner's ongoing activities and so as not to create any hazards to the Owner's employees or members of the public using the Owner's property.

#### ARTICLE 4: ARCHITECT

##### 4.1 GENERAL

- 4.1.1 (Add) "...The term "Architect," "Architect/Engineer," or "Engineer" as used herein means the Architect or his authorized representative."

##### 4.2 ADMINISTRATION OF THE CONTRACT

- 4.2.4 Delete the last sentence in its entirety.
- 4.2.7 Delete this Subparagraph in its entirety. Refer to Specification Section 01 33 00 01300 - Submittals, for provisions on the subject. References to subparagraph 4.2.7 elsewhere in the Contract Documents shall read as referring to that Section in the Specifications.
- 4.2.11 (Add to the end of the first sentence) "...referring specifically to this Subparagraph 4.2.11."

#### ARTICLE 5: SUBCONTRACTORS

##### 5.2 AWARD OF SUBCONTRACTORS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 (Delete the first sentence of this Subparagraph and substitute the following)  
"The Contractor shall furnish to the Architect in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work, in accordance with the requirements under Specification Section 01 30 00, Submittals, in a form acceptable to the Architect, for review by the Owner and the Architect.
- 5.2.4 (Add the following sentence at the end of this Subparagraph) "...The Owner may require the Contractor to change a Subcontractor or Sub-subcontractor previously approved, and, if at such time the Contractor is not in default under this Agreement, the Contract sum shall be increased or decreased by the difference in the cost resulting from the change."

##### 5.3 SUBCONTRACTUAL RELATIONS

- 5.3.1 (Add) ... "Notwithstanding the provisions of Subparagraph 5.3.1, any part of the Work performed for the Contractor by a Subcontractor or its Sub-subcontractor shall be pursuant to a written Subcontract between the Contractor and such Subcontractor (or the Subcontractor and its Sub-subcontractor at any tier). Architect will assume no responsibility for reviewing, monitoring, or verifying activities or relationships involving a Subcontractor or its Sub-subcontractor."
- 5.3.2 (Add) "The Contractor shall not enter into a subcontract, contract agreement, purchase order, or other arrangement ("Arrangement") for the furnishing of portions of the materials, services, equipment or Work with a party of entity if such party to entity is an Affiliated Entity (as defined below), unless such Arrangement has been approved by the Owner of such affiliation relationship and details relating to the proposed Arrangement. The term "Affiliated Entity" means an entity related to or affiliated with the Contractor or with respect to which the Contractor has direct or indirect ownership or control, including, without limitation, an entity owned in whole or part by the Contractor.

**ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

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

6.1.5 (Add) "Refer to Specification Section 01010 - Summary of the Work, for provisions concerning the administrative responsibilities of the Prime Contractor."

**6.2 MUTUAL RESPONSIBILITY**

6.2.4 Delete the word ... "wrongfully" ... in this Subparagraph.

6.2.6 (Add) "If any such other Contractor initiates legal or other proceedings against the Owner on account of damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at its own expense, by counsel reasonably acceptable to the Owner, and if judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for attorneys' fees and court or other costs which the Owner has incurred over and above those paid for directly by the Contractor."

**ARTICLE 7: CHANGES IN THE WORK**

**7.2 CHANGE ORDERS**

7.2.2 (Replace with the following) "Methods used in determining adjustments to the Contract Sum shall be those listed in Subparagraph 7.3.3."

**7.3 CONSTRUCTION CHANGE DIRECTIVES**

7.3.3 (Delete Clause .4 from Subparagraph 7.3.3 and add the following Clauses)

7.3.3.4 An itemized cost breakdown for each change required as provided in Subparagraph 7.3.7.

7.3.3.5 (Add) "The cost of the Contractors overhead and profit on any Change Order shall be:

- .1 For extra Work completed by the Contractor with his own labor, 10 percent (10%) shall be added as the allowance for overhead and profit.
- .2 For extra Work completed by Subcontractors of the Contractor, 5 percent (5%) shall be added as the allowance for overhead and profit.
- .3 For Work deleted which would have been completed by Subcontractors of the Contractor, 10 percent (10%) shall be credited to the Owner as the allowance for overhead and profit.
- .4 For Work deleted which would have been completed by Subcontractors of the Contractor, 5 percent (5%) shall be credited to the Owner by the Contractor as the allowance for overhead and profit."

7.3.7 (Change the last phrase in the first sentence) "...an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount." ... to read ... "a fixed percentage fee as provided in Clause 7.3.3.5 for profit and overhead."

- 7.3.8 (Revise the last sentence of Subparagraph 7.3.8 to read as follows) ... "When both additions and deletions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase or decrease, if any."
- 7.3.10 (Add the following sentence at the end of the subparagraph) "When either the Owner or the Contractor disagree with the determination made by the Architect concerning adjustments in the Contract Sum and Contract Time, such disagreement shall be resolved in the manner set forth in Article 15 Claims and Disputes."
- 7.3.11 (Add) "In order to facilitate checking of quotations for extras or credits, proposals, (except those so minor that their propriety can be seen by inspection), shall be accompanied by a complete itemization of costs including labor, materials, and Subcontractors. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$500 be approved without such itemization. The Contractor shall submit same to the Architect within 14 days after receipt of proposal request."

## ARTICLE 8: TIME

### 8.1 DEFINITIONS

- 8.1.2 (Delete and replace with the following) "The date of commencement of the Work is the effective date established in the Agreement or the date established in the Notice to Proceed given by the Owner or Architect."

### 8.3 DELAYS AND EXTENSION OF TIME

- 8.3.1 (Delete and replace with the following) "If the Contractor is delayed at any time in its progress of the Work by one of the delays for which an extension of time is permitted and gives the Architect written notice specifically describing the delay within 48 hours of its commencement, the date for the Substantial Completion of the Work will be extended by Change Order for such reasonable time as the Architect may determine. The failure to give such notice will constitute an irrevocable waiver of the contractor's right to seek an extension of the time for completion will be delays caused by the i) Architect, or the Owner, ii) physical damage to the Project over which the Contractor has no control, iii) labor disputes beyond the control of the Contractor, and iv) unusually severe weather conditions not reasonably anticipated (temperature, rain, or other precipitation within a range of twenty percent (20%) of normal amounts for the time of the year covered by the Agreement shall not be considered unusually severe weather conditions). Extensions of time will only be granted pursuant to the procedures for Change Orders set forth in the General Conditions. The Contractor agrees not to make claims for compensation for delays or acceleration in the performance of the Work resulting from acts or failure to act by the Owner, the Architect, or the employees, agents, or representatives of the Owner, or the Architect and agrees that such claim shall be fully compensated by an extension of time to complete the Work, regardless of when granted."
- 8.3.4 (Add) "If in the opinion of the Architect the Work is behind where it is supposed to be in the Project Time Schedule or it is likely that the Work will not be substantially complete by the applicable date for Substantial Completion, the Contractor upon written notice from the Architect and without additional cost or compensation will increase its work force and, if requested by the Architect, work such overtime to make up for the delay. Should the Contractor fail to increase its work force, work overtime, or proceed to make up for the delay to the satisfaction of the Architect or the Owner, the Architect or the Owner, in addition to other remedies under this Agreement and other Contract Documents, will have the



right to cause other Contractors to work overtime and to take whatever other action is deemed necessary to avoid delay in the Substantial Completion of the Work and of the Project, and the cost and expense of such overtime and other action will be borne by the Contractor and may be set off against sums due the Contractor."

## ARTICLE 9: PAYMENTS AND COMPLETION

### 9.2 SCHEDULE OF VALUES

Delete this Paragraph in its entirety. Refer to Specification Section 01 33 00 - Submittals, for provisions on this subject. References to Paragraph 9.2 elsewhere in the Contract Documents shall read as referring to that Section in the Specifications.

### 9.3 APPLICATIONS FOR PAYMENT

9.3.1 Delete this Subparagraph, Clauses 9.3.1.1 and 9.3.1.2, and substitute the following) "Applications for payment shall be made at approximately 30 day intervals in accordance with the dates established in the Standard Form of Agreement Between Owner and Contractor. At least 15 days before each progress payments falls due, the Contractor shall submit to the Architect, in quintuplet, an itemized Application for Payment, supported by such data sustaining the Contractor's right to payment as the Owner, or the Architect may require. The form of Application for Payment shall be AIA Document G702 - Application and Certification for Payment, supported by AIA Document G703 - Continuation Sheet. No other forms of Application for Payment will be acceptable. Continuation Sheet G703 shall be prepared the same as in the Schedule of Values submitted by the Contractor. Contractor's payment will be made within thirty (30) days after the Contractor's payment application is approved by the Architect. The Contractor will only be paid as described in the Owner-Contractor Agreement.

9.3.1.1 (Add) "Contractor shall submit with each monthly Application for Payment, 1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous Application, was submitted and the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, and 2) release or waivers of liens arising out of the Contract from each Subcontractor, materialmen, supplier, and laborer of the Contractor in the form of Partial Lien Waiver provided with the Contract Documents or such other form as may be approved by the Architect and Owner, (or) and 3) City (or County if applicable) of <\_\_\_\_\_> Claims Form available from the city Clerk's office located in<\_\_\_\_\_>.

9.3.2 (To this Subparagraph, add the following) "Payment to Contractor for materials stored off site is discouraged. Where circumstances indicate that the Owner's best interest is served by off-site storage, the Contractor shall make written request to the Architect for approval to include such material costs in his next progress payment. The Contractor's request shall include the following information:

- .1 A list of the fabricated materials consigned to the project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the project and that they will not be used for another purpose.
- .3 A letter from the Bonding Company indicating agreement to the arrangements and that payment to the Contractor shall not relieve either party or their responsibility to complete the facility.

- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as additionally insured.
  - .5 Costs incurred by the Architect to inspect material in off-site storage shall be paid by the Contractor.
  - .6 Subsequent pay requests shall itemize the materials and their cost which were approved on previous pay requests and remain in off-site storage
- 9.3.3 (Replace with the following) "The Contractor warrants the title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment and is free and clear of all liens and encumbrances. The Contractor will indemnify the Owner and the Owner's property from any liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors or their Sub-subcontractors, regardless of tier, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials, equipment, services or supplies relating to the Work, and from all cost and expenses, including attorneys' and consultants' fees incurred by the Owner in evaluating or defending against such liens, claims, security interests or encumbrances.
- 9.3.4 (Add) "Partial payments to the Contractor for labor performed under either a unit or lump sum price Contract shall be made at the rate of 90 percent (90%) of the Contract Sum.
- .1 When the payment is made on account of materials or equipment not yet incorporated into the Project, such materials and equipment will become the property of the Owner; provided that if such materials or equipment are stolen, destroyed, or damaged before being fully incorporated into the Project, the Contractor will be required to replace them at its own expense, if not covered by builder's risk policy.
  - 2 At the time the Work is fifty percent (50%) complete, the Contractor may request that no further retainage be withheld from future progress payments. If such request is approved by the Owner, and if the manner of completion and the Work and its progress are and remain satisfactory to the Architect, and in the absence of good and sufficient reasons, the Architect will, on presentation by the Contractor of Consent of Surety (use AIA G707A), authorize any remaining partial payments to be paid in full."
- 9.3.5 (Add) "Partial or full payment to the Contractor(s) for material, equipment, or work in place shall not start the warranty period, refer to Division 1, Specification Section 01 60 00."
- 9.3.6 (Add) "An escrow amount shall be established in a financial institution, and an escrow agent, selected by Owner at time Contracts are executed. The establishing of an operation of the escrow account shall be in compliance with the requirements of Indiana Code 36-1-12-14.
- .1 The escrow agent shall promptly invest escrowed principal in such obligations as shall be selected by the escrow agent in its discretion.
  - .2 The escrow agent shall hold the escrowed principal and income until receipt of notice from the Owner and the Contractor, or the Contractor and Subcontractor, specifying the portion or portions of the escrowed principal to be released from the escrow and to whom such portion or portions are to be released. Upon receipt of such notice the escrow agent shall promptly remit the designated portion of escrowed principal and the same proportion of then escrowed income.

.3 The escrow agent shall be compensated for its services as the parties may agree in an amount not to exceed 50 percent of the escrowed income of the escrow amount.

.4 See paragraph 9.10.3 for provisions of retainage in escrow and final payment.

#### 9.4 CERTIFICATES FOR PAYMENT

9.4.1 (Change text) ... "seven days" ... to read ... "fifteen days".

#### 9.5 DECISIONS TO WITHHOLD CERTIFICATION

9.5.1 (Delete Clauses .1 through .7 and replace with the following)

.1 The Contractor is in default of the performance of any of its obligations under the Contract Documents, including, but not limited to: failure to provide sufficient skilled workers; work, including equipment or materials, which is defective or otherwise does not conform to the Contract Documents; failure to conform to the Project Time Schedule; or failure to follow the directions of or instructions from the Architect or Owner.

.2 The Contractor is in default of the performance of any of its obligations under another Contract, which it has with the Owner.

.3 The filing of the third party claims or reasonable evidence that third party claims have been or will be filed.

.4 The Work has not proceeded to the extent set forth in the Application for Payment.

.5 Representations made by the Contractor are untrue.

.6 The failure of the Contractor to make payments to its Subcontractors, materialmen, or laborers.

.7 Damage to the Owner's property or the property of another Contractor or person.

.8 The determination by the Architect that there is a substantial possibility that the Work cannot be completed for the unpaid balance of the Contract Sum.

.9 Liens filed or reasonable evidence indicating the probable filing of such liens with respect to the Project."

9.5.4 (Add) "Contractor's application for a payment shall reflect an equal percentage amount (within 2-3 percent) for labor and materials for Work completed. The Architect may adjust applications where labor exceeds materials or where materials exceed labor quantities in the Work completed columns."

9.5.5 (Add) "If the Contractor disputes a determination by the Architect with regard to Certificate of Payment, and during any related dispute resolution, litigation, or other proceeding, the Contractor nevertheless shall continue to execute the Work as described in the Contract Documents."

#### 9.7 FAILURE OF PAYMENT

9.7 (Change text) Each time "seven" appears in this Subparagraph, replace with "fourteen".



9.8 SUBSTANTIAL COMPLETION

9.8.1 (After ... "Contract Documents" ... insert the following) "...and when all required occupancy permits, if any, have been issued..."

9.8.2 (Add the following at the end of this Subparagraph) "...The time fixed by the Architect for the completion of all items on the list accompanying the Certificate of Substantial Completion shall not be greater than 14 days. The Contractor shall complete items on the list within such 14 day period. If the Contractor fails to do so, the Owner in its discretion may perform the Work by itself or others and the cost thereof shall be charged against the Contractor. If more than one inspection by the Architect for the purpose of evaluating corrected work is required by the subject list of items to be completed or corrected, it will be performed at the Contractor's expense.

.1 At the time the Architect commences the Substantial Completion Inspection, if the Architect discovers excessive additional items requiring completion or correction, the Architect may decline to continue the inspection, instructing the Contractor as to the general classification of deficiencies which must be corrected before the Architect will resume the Substantial Completion Inspection. If the Contractor fails to pursue the Work so as to make it ready for Substantial Completion Inspection in a timely fashion, the Architect shall, after notifying the Contractor, conduct inspections and develop a list of items to be completed or corrected. This list of items shall be furnished to the Contractor who shall proceed to correct such items within 7 days. The Architect will conduct additional inspections. The Architect will involve the Owner for 1) The cost of inspections between the termination of the initial Substantial Completion Inspection and the commencement of the satisfactory Substantial Completion Inspection, 2) The cost of inspection or review after the 7 day period established for the completion of the list by the Contractor. The Contractor shall reimburse the Owner for such cost, and the Owner may offset the amounts payable to the Architect for such services from the amounts due the Contractor under the Contract Documents."

9.8.6 (Add) "The Contractor shall fully complete all Work under its Contract within fourteen (14) days of receiving a Certificate of Substantial Completion with attached list of items required to be completed or corrected. Failure to do so may serve as cause for the Owner to declare the Contractor in default and terminate the Contractor pursuant to Paragraph 14.2 of these Supplementary General Conditions."

9.8.7 (Add) "If Final Completion is not achieved within the allowable contract time, the contractor is subject to liquidated damages of \$1000 per calendar day past the stated Final Completion date, excluding federally or state recognized holidays."

9.8.8 (Add) Substantial Completion Date: **7/15/2024**  
**(for Gymnasium roof if only work selected)**

9.8.9 (Add) Final Completion Date: **7/31/2024**  
**(for Gymnasium roof if only work selected)**

9.8.10 (Add) Substantial Completion Date: **7/15/2024**  
**(for N2 roof if both Alternates are selected)**

9.8.11 (Add) Final Completion Date: **7/31/2024**  
**(for N2 roof if both Alternates are selected)**

9.8.12 (Add) Substantial Completion Date: 11/14/2024  
(for Gymnasium and N1 roof if both Alternates are selected)

9.8.13 (Add) Final Completion Date: 11/30/2024  
(for Gymnasium and N1 roof if both Alternates are selected)

9.8.14 (Add) Substantial Completion Date: 11/14/2024  
(for Gymnasium and N1 roof if only work selected)

9.8.15 (Add) Final Completion Date: 11/30/2024  
(for Gymnasium and N1 roof if only work selected)

9.9 PARTIAL OCCUPANCY OR USE

9.9.4 (Add) "Agreements as to the acceptance of the Work not complying with the requirements of the Contract Documents shall be in writing."

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.2 (Add the following to the end of this Subparagraph) "...The Contractor shall furnish such evidence as may be necessary to show that any out-of-state subcontractor or supplier has fully met the requirements of payment of taxes as established in any law of the State or local subdivision thereof which may be in effect at the time of final payment. The Owner will require the submission of such proof or evidence before final payment will be approved or made. The following must be submitted to the Architect before approval of final payment:

- .1 Affidavit of payment as required under this Paragraph shall be in the form of AIA Document G706 - Contractor's Affidavit of Payment of Debt and Claims.
- .2 Release of liens as required under this Paragraph shall be in the form of AIA Documents G706A - Contractor's Affidavit of Release of Liens, or as may otherwise be reasonably requested or required to comply with Indiana law.
- .3 Consent of Surety as required under this Paragraph shall be in the form of AIA Document G707 - Consent of Surety Company to Final Payment.
- .4 Submit releases and final unconditional waivers of lien from major subcontractor and supplier.
- .5 Submit certification stating that no materials containing asbestos were incorporated into the Work."
- .6 Submit certification that all punch list items have been completed."

9.10.3 (Add the following to the end of this Subparagraph) "...Final Payment, constituting the unpaid balance of the Contract Sum, shall be paid to the Contractor in full, including retainage or escrowed principal and escrowed income by the escrow agent, no less than 61 days following the date of Substantial Completion. If at that time there are remaining uncompleted items, an amount equal to 200 percent of the value of each item as determined by the Architect shall be withheld until said items are completed, and a Final Certificate of Payment issued by the Architect."

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

- 10.1.2 (Add) "In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB), which results in exposure after the use of any permissible personal protective equipment that exceeds limits established by the Governmental agencies having jurisdiction over exposure to asbestos or PCB, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner in writing. Thereafter, the Contractor shall not resume Work until such time testing of the affected area by a qualified consultant hired by the owner confirms that exposure after the use of any permissible personal protective equipment is within permissible limits.

10.2 SAFETY OF PERSONS AND PROPERTY

- 10.2.1 After "take" in line 1 of this subparagraph add "all".

10.4 EMERGENCIES

- 10.4.1 (Add) "Nothing in this paragraph shall be construed as relieving the Contractor from the cost and responsibility for emergencies covered hereby, which with normal diligence, planning, and the close supervision of the Work as required under the Contract, could have been foreseen or prevented. The General Contractor shall provide the Owner and Architect a list of names and telephone numbers of the designated employees for each Subcontractor to be contacted in case of emergency during non-working hours. A copy of the list will also be displayed on the jobsite."

ARTICLE 11: INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

- 11.1.1 (First line following the word "maintain", modify as follows): "... in a company or companies with ratings of no less than A- as determined by A.M. Best Company licensed to do business in the jurisdiction in which the project is located and to which the Owner has no reasonable objection ..."

- 11.1.2 (Add the following Clauses) "The Contractor's Insurance required by subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

- .1 Workers' Compensation:
  - a. State: Statutory
  - b. Applicable Federal (e.g., Longshoremen's): Statutory
  - c. Employer's Liability: Statutory
- .2 Commercial General Liability Insurance, including Contractual Liability Insurance against the liability assumed hereinabove, and including Contractors' Protective Liability Insurance if the Contractor sublets to another all or any portion of the Work, with the following minimum limits:
  - a. Bodily injury (including death) and property damage with a combined single limit of \$5,000,000.00.
- .3 Comprehensive Automobile Liability Insurance covering any auto used in connection with the Work, with the following minimum limits:
  - a. Bodily injury (including death) and property damage with a combined single limit of \$5,000,000.00.



"Each of the foregoing minimum limits will be reduced to \$1,000,000.00 where contract sum initially is less than \$500,000.00. The Contractor shall maintain the foregoing coverage for not less than one (1) year after the Date of Substantial Completion. The foregoing policy limits may be provided in conjunction with an umbrella policy." The following shall be listed as additional insured:

- .1 The Owner, its employees and staff.
- .2 The Architect, its employees, its consultants and their employees.

"The Contractors Commercial Liability insurance shall be written on an occurrence basis."

- 11.1.3 (Add the following to the end of this subparagraph) "Within two (2) business days of a request from the Owner or the Architect, the Contractor will provide the

Owner with true copies of any insurance policies under which the coverages required herein are provided. Certificates of Insurance shall be submitted on the latest edition of AIA Form G705 or Accord form as acceptable to the Architect."

- 11.1.5 (Add) Contractor's commercial general liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

- .1 Premises-Operations 9including X-C/U as applicable).
- .2 Independent Contractors' Protective.
- .3 Products and Completed Operations.
- .4 Personal Injury Liability, coverages A, B, and C, with Fellow Employee Exclusion deleted.
- .5 Contractual - including specified provision for Contractor's obligations under Paragraph 3.18.
- .6 Owned, non-owned and hired motor vehicles.
- .7 Broad Form Property Damage including Completed Operations.
- .8 Stopgap liability for \$100,000.00 limit.

- 11.1.6 (Add) "The Contractor shall require all Subcontractors to provide Workers' Compensation. Comprehensive General Liability, and Automobile Liability Insurance with the same minimum limits specified herein."+-

### 11.3 PROPERTY INSURANCE

- 11.3.1 (Delete the phrase "without optional deductibles" at the end of the first sentence in this subparagraph. Add the following at the end of this subparagraph): "The amount of any self insurance or deductible will not exceed \$1,000.00 without the written approval of the Contractor."

#### 11.3.1.1 (Add sub-subparagraph)

- ".1 The property insurance purchased by the Owner shall be in the form as indicated and provide such coverage as selected by the Owner. The Owner will make the policy available for inspection and copying by the Contractor. This insurance is not intended and will not cover machinery, tools, and equipment which will not be a permanent part of the project. The Contractor shall bear the entire risk of loss with respect to such machinery, tools, and equipment.

11.3.1.3 (Add) "The Contractor shall be responsible for any minimum deductible or self insurance up to \$1,000.00 per claim. Above such limit, the Owner shall be responsible.

#### 11.3.1.4 Delete

- 11.3.6 (Delete first sentence and replace with the following) "The Owner shall maintain copies of the insurance it is required to purchase and maintain hereunder at its offices and shall permit the Architect or the Contractor to inspect the policies during normal business hours and upon reasonable advance written notice..."
- 11.3.9 (After "reach" in third sentence delete the remainder of this sentence and replace with the following) "...or if the Parties are unable to reach agreement, by litigation in the Common Pleas Court."
- 11.3.10 Delete the last sentence.

## ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

### 12.2 CORRECTION OF WORK

- 12.2.1 (Replace this Subparagraph with the following) "Within 48 hours after written notices from the Architect, or the Owner (except such period shall be 7 days when notice is given after final payment) that the work does not conform to the Contract Documents, or immediately upon oral notice, if the nonconformance constitutes a threat to the safety of persons or property, the Contractor, without waiting for the resolution of disputes that may exist i) shall commence to correct such nonconformance, ii) shall thereafter use its best efforts to where an extension of time is granted in writing by the Owner, shall complete necessary corrections so that the nonconformance is eliminated to the satisfaction of the Architect, and the Owner within 7 days of such notice. The Contractor shall bear all costs of correcting the nonconformance, including additional testing and inspections and additional service fees of the Architect. The notice provided for in this Subparagraph 12.2.1 may be given at any time. It is the intent that the obligations under this Subparagraph 12.2.1 shall continue to apply after final completion and final payment."
- 12.2.6 (Add) "If the Contractor fails to correct nonconforming Work as provided in Subparagraph 12.2, the Owner may correct it in accordance with Paragraph 2.4. If the Subcontractor does not proceed with correction of such nonconforming Work as provided in Subparagraph 12.2.1, the Owner may remove it and store the salvageable materials or equipment at the Contractor's expense." ...

### 12.3 ACCEPTANCE OF NONCONFORMING WORK

- 12.3 (Add the following sentence to the end of this subparagraph) "...The acceptance of nonconforming Work by the Owner shall be by written Change Order, signed by the Owner's authorized representative. No person has authority to accept nonconforming work except pursuant to such written Change Order."

## ARTICLE 13: MISCELLANEOUS PROVISIONS

### 13.5 TESTS AND INSPECTIONS

- 13.5.1.1 (Add) "Refer to Specification Section 01 45 00 - Quality Control and Testing Laboratory Services for additional provisions on this subject."
- 13.5.4 (Delete this Subparagraph in its entirety and replace with the following) "Certificates of inspection, testing, or approval, as required by Paragraphs 13.5.1 or 13.5.2, shall be secured by the Contractor using an independent agency, subject to the approval of the Architect, and Owner. The independent agency shall complete field work, testing, and prepare the test reports, logs, and certificates promptly; and deliver the required number of copies directly to the Architect."

### 13.6 INTEREST

Delete this Paragraph in its entirety. References to Paragraph 13.6 elsewhere in the Contract Documents shall also be deleted.

**ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT**

**14.1 TERMINATION BY THE CONTRACTOR**

**14.1 (Delete Subparagraphs 14.1.1., 14.1.2, and 14.1.3 and replace the following)**

**14.1.1 "Events of Default; each of the following constitutes an event of default of the Contractor:**

- .1 The failure of the Contractor to perform its obligation under the Contract Documents or under the Contract Documents pertaining to other agreement which the Contractor may have with the Owner and to proceed to commence to correct such failure within 48 hours after written notice thereof from the Owner, or the Architect or such lesser time as is provided in the Contract Documents, or ii) thereafter to use its best efforts to correct such failure to the satisfaction of the Owner, or, iii) except where an extension of time is granted in writing by the Owner, to correct such failure within 30 days after written notice thereof.
- .2 The failure of the Contractor to pay its obligations as they become due, or the insolvency of the Contractor."

**14.1.2 "Owner's Remedies; upon the occurrences of an event of default the Owner will have the following remedies, which will be cumulative:**

- .1 To order the Contractor to stop the Work or part of it, in which case the Contractor will do so immediately;
- .2 To perform through others all or part of the Work remaining to be done and to deduct the cost thereof from the unpaid of the Contract Price;
- .3 To terminate this Agreement and take possession, for the purpose of completing the Work or part of it, materials, equipment, scaffolds, tools, appliances, and other items belonging to or possessed by the Contractor, of which the Contractor hereby transfers and assigns to the Owner for such purpose, and to employ a person or persons to complete the Work, including the Contractor's employees, and the Contractor will not be entitled to receive further payment until the Work is completed;
- .4 Other remedies which the Owner may have at law or in equity or otherwise under the Contract Documents."

**14.1.3 "Payments Due Contractor: If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation of the Architect's additional services and costs, expenses, or damages incurred by the Owner as a result of the event of default, including attorney's fees and the administrative expense of the Owner's staff, such excess will be paid by the Contractor. If such costs exceed the unpaid balance, the Contractor will pay the difference to the Owner. The amounts to be paid by the Owner or the Contractor will be certified by the Architect, and such certification will be final determination of the amount owed, except for sums coming due thereafter. The obligations under this Subparagraph will survive the termination of this Agreement."**

**14.2 TERMINATION BY THE OWNER FOR CAUSE**

**14.2.1 (Replace with the following) "The Contract may be terminated by the Owner in whole or in part without cause and for its convenience on three (3) days written**

notice to the Contractor. In the event of such termination for convenience, the Contractor shall be compensated for that portion of the contract sum earned to the date of termination, but Owner shall not be liable for any additional or other consequential damages. Such entitlement of Contractor shall constitute Contractor's sole and exclusive remedy and recover, and in no event shall the Contractor be entitled to recover anticipated profits and overhead on unperformed Work by reason of such termination for convenience."

- 14.2.5 (Add) "Owner shall have the right to terminate the Contract at any time upon three (3) days' written notice to contractor in the event Owner is unable to obtain or maintain financing for the portion of the Work as yet un-financed or uncompleted. Owner shall be obligated to pay Contractor that portion of the Contract Sum earned to the date of termination, but Owner shall not be liable for any additional or other consequential damages."
- 14.2.6 (Add) "The occurrence of any labor dispute, work stoppage, strike (including sympathetic strike), slow down, picketing, or any other activity directly or indirectly attributable to Contractor's employees, either caused by them or resulting from their employment on the Project which interrupts, interferes with or delays the Work of Contractor or other separate contractors shall constitute a breach of Contract. In such event, the Owner shall have the right, in addition to any other rights and remedies provided by this Contract or the Contract Documents, or by law, following two (2) days' written notice to the Contractor, to terminate this Contract or any part thereof for all or any portion of the Work, and for purpose of completing the Work, to enter upon the premises and take possession in the same manner, to the same extent, and upon the same terms and conditions as set forth in Subparagraph 14.2.3."
- 14.2.7 (Add) "If termination of the Contract is effectuated by Owner for cause resulting from Contractor's failing to substantially perform in accordance with the terms of the Contract, and it is subsequently found or determined in legal proceedings that the Contractor was not in substantial breach of the Contract by failure to perform in accordance with its terms, or that such failure was caused through fault of the Owner, then such termination shall be deemed to be a termination for convenience pursuant to Subparagraph 14.2.1, and the Contractor's remedy and recovery as against the Owner shall, in such case, be limited to the payments provided by such Subparagraph 14.2.1."
- 14.2.8 (Add) "With fixed and agreed liquidated damages provided in the Contract, if the Owner terminates for cause the Contractor's right to proceed, the resulting damage to the Owner will consist of such liquidated damages until such reasonable time as may be required for final completion of the Work, together with any increased cost and expenses, including attorneys' fees, occasioned or incurred by Owner in completing the Work."

## ARTICLE 15: CLAIMS AND DISPUTES

- 15.1.1 (Add to the end of Subparagraph 15.1.1) "...The Contractor shall not knowingly (as "knowingly" is defined in the Federal False Claims Act, 31 USC Section 3729 et seq.) present or cause to be presented a false or fraudulent Claim. As a condition precedent to making a Claim, the claim shall be accompanied by an affidavit sworn to before a notary public or other person authorized to administer oaths in the State of **Indiana** and executed by an authorized representative of the Contractor, which states that:

The Claim which is submitted herewith complies with Subparagraph 15.1.1 of the Supplementary General Conditions, which provides that the Contractor shall not knowingly present or cause to be a false or fraudulent Claim."

## 15.3 MEDIATION



Delete this Paragraph in its entirety. This Paragraph does not apply to this Project.  
References to Paragraph 4.5 and mediation elsewhere in the Contract Documents shall also be deleted and are not applicable for this Project.

15.4      **ARBITRATION**

Delete this Paragraph in its entirety. This Paragraph does not apply to this Project.  
References to Paragraph 4.6 and arbitration elsewhere in the Contract Documents shall also be deleted and are not applicable for this Project.

**ARTICLE 16: (Add the following) EQUAL OPPORTUNITY**

16.1      **POLICIES OF EMPLOYMENT**

16.1.1    The Contractor shall not discriminate against employee or applicant for employment because of race, religion, color, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices forth the policies of non-discrimination.

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

**END OF SECTION**

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**SECTION 05 50 00 - METAL FABRICATIONS**

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following metal fabrications:

1. Rough hardware
- ~~2. Loose bearing and leveling plates~~
2. Miscellaneous framing and supports for the following:
  - a. Applications where framing and supports are not specified in other Sections.
- ~~3. Metal embed in CMU walls~~

PART 2 - PRODUCTS

2.1 FERROUS METALS

- A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- B. Welding Rods and Bare Electrodes: Select according to AWS specifications for the metal alloy to be welded.
- ~~C. Galvanized sheet metal shall be commercial quality with 0.20 percent copper, ASTM A525; G90 hot dip galvanized, mill phosphatized where indicated for painting; 24-gauge thickness except as otherwise indicated.~~

2.2 FABRICATION

- A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
- C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
1. Temperature Change (Range): 100 deg F (55.5 deg C).
- D. Shear and punch metals cleanly and accurately. Remove burrs.

- E. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- F. Remove sharp or rough areas on exposed traffic surfaces.
- G. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.
- ~~H. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.~~
- H. Provide for anchorage of type indicated, coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- I. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for re-assembly and coordinated installation.
- ~~J. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.~~
- ~~K. Fabricate joints that will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.~~

## 2.3 MISCELLANEOUS METAL FABRICATIONS

### A. Rough Hardware

- 1. Furnish bent, or otherwise custom-fabricated, bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Division 6 Sections.
- 2. Fabricate items to sizes, shapes, and dimensions required. Furnish malleable-iron washers for heads and nuts that bear on wood structural connections and furnish steel washers elsewhere.

### B. Miscellaneous Framing and Supports

- 1. Provide steel framing and supports for applications indicated that are not a part of structural steel framework as required to complete the Work.
- 2. Fabricate units to sizes, shapes, and profiles indicated and required to receive other adjacent construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.
  - a. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.



- b. Except as otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide by 1/4 inch thick by 8 inches long.

3. Galvanize miscellaneous framing and supports in the following locations:

- a. Exterior locations.

**PART 3 - EXECUTION**

**3.1 INSPECTION**

- A. Installer must examine the areas and conditions under which miscellaneous and ornamental items are to be installed. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

**3.2 PREPARATION**

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installing anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.
- B. Set sleeves in concrete with tops flush with finish surface elevations. Protect sleeves from water and concrete entry.

**3.3 INSTALLATION**

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.
- E. Field Welding: Comply with the following requirements:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.
- G. Provide all items and accessories as required for a complete and total installation in every respect.
- H. Install all items in strict accordance with the manufacturers installation instructions.

3.4 ADJUSTING AND CLEANING

~~A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.~~

~~1. Apply by brush or spray to provide a 2.0-mil (0.05-mm) minimum dry film thickness.~~

- A. For galvanized surfaces, clean welds, bolted connections, and abraded areas, and apply galvanizing repair paint to comply with ASTM A 780.

END OF SECTION ~~END OF SECTION~~ **05 50 00**

**SECTION 06 10 00 - ROUGH CARPENTRY**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS:**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.
- B. Related work specified elsewhere:
  - 1. Section 07 62 00 "FLASHING AND SHEET METAL."
  - 2. Section 07 51 16.30 "MODIFIED & KEE HYBRID ROOFING."
  - 3. Section 01 11 00 "SUMMARY OF WORK"

**1.2 SUMMARY:**

- A. This portion of the specification sets forth the general requirements, including the quality and type of materials required for the installation of all pressure treated lumber used for wood curbs, nailing strips, miscellaneous blocking material, unexposed fillers, fascia, edging strips, etc

**1.3 STORAGE:**

- A. All material specified herein shall be stored (after delivery to the site) so that it will be fully protected from damage and weather and shall be piled to prevent warpage. All lumber shall be fully protected to maintain the original required moisture content as specified in item titled "Moisture Content".

**1.4 OTHER REQUIREMENTS:**

- A. Dimensions indicated on the drawings are nominal dimensions (except where details show actual sizes) and shall be subject to the standard reductions required for surfacing or tolerances permitted by the grading rules. Unless otherwise indicated on drawings, all material shall be S4S (surfaced four sides).

**1.5 PROTECTION:**

- A. All finished work shall be adequately protected against damage from any source.

**1.6 COORDINATION:**

- A. Carpenters shall coordinate their work with that of the other trades so that progress continues without interruption.

## PART 2 - PRODUCTS

### 2.1 WOOD - FRAMING AND CURBS:

#### A. GRADING RULES, GRADES, AND SPECIES

1. Lumber: Southern Pine, yellow pine, Douglas fir, spruce, ponderosa pine, larch or Hemlock and shall meet the following minimum grade requirement of construction standard ( 75% #1 and 25% #2); free from warping and visible decay. Lumber shall be graded according to the standard grading rules of the Southern Pine Inspection Bureau, the West Coast Lumber Inspection Bureau, or the Western Wood Products Association.

#### B. MOISTURE CONTENT

1. All lumber shall be air-dried or kiln-dried before treatment, so that the moisture content is not more than 19%. After treatment, it shall be kiln-dried at temperatures not exceeding 160 degrees F. (71 degrees C) so that the moisture content is not more than 19% at time of shipment

#### C. DECAY-RESISTANT TREATMENT:

1. Lumber in contact with roofing or acting as fascias, and all other exterior lumber, shall be pressure-treated with a waterborne preservative in accordance with AWPAs Specification P5. Creosote and oil-borne preservatives are not acceptable.
2. Treating processes, material conditions, plant equipment, and other pertinent requirements shall conform to AWPAs Specifications C1 and C2 for specific kind of lumber and type of preservative to be used. Retention shall be as required for intended use.
3. All treated lumber shall bear the mark of a code recognized third party agency such as the AWPAs.

#### D. PLYWOOD:

1. Grade: CDX or Cyme exterior Grade.
2. Description: 5/8" thick.

#### E. WOOD COMPONENT INTUMESCENT PRIMER (required on torch applied projects).

1. Wood Component Intumescent Primer: Intumescent primer shall be applied to all wood components within perimeter conditions, flashing and penetrations, such as wood nailers, blocking sheathing, etc.
  - a. Before and during primer application, the substrates' surfaces shall be dry, clean and free from loose debris, dust, dirt, grease, oil, and all prior coating materials, such as paint, stains and sealers. The substrate shall not have, nor have been exposed to, treatments, chemicals, coatings, etc. prior to the application of the primer
  - b. Prior to application of primer, moisture content of the substrate must be verified to less than 16%
  - c. Apply intumescent at a rate of 1/2 gallon per 100 square feet (200 square feet per gallon)
  - d. Allow primer to cure prior to application of the base sheet and/or flashing plies.
2. Performance Requirements:
  - a. Dry Time: 60-90 minutes
  - b. Density at 77 degrees F: 11 lbs/gal
  - c. Non-Volatile by Volume: 62%



d. VOC (EPA Method 24): 18 g/L

F. FIRE-RETARDANT TREATMENT BY PRESSURE PROCESS

1. Where fire-retardant-treated wood is indicated, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWPAC C20 and C27, respectively, for treatment type indicated; identify "fire-retardant-treated wood" with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection, Inc. or other testing and inspecting agency acceptable to authorities having jurisdiction.

a. Current Evaluation/Research Reports: Provide fire-retardant-treated wood for which a current model code evaluation/research report exists that is acceptable to authorities having jurisdiction and that evidences compliance of fire-retardant-treated wood for application indicated.

2. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

3. Products: Subject to compliance with requirements, provide one of the following:

a. Exterior Type Fire-Retardant-Treated Wood:

1) "Exterior Fire-X," Hoover Treated Wood Products, Inc., Thompson, GA

2.2 MECHANICAL FASTENERS:

A. WOOD TO STEEL DECK: Note: A layer of water/ice shield should be installed between pressure treated lumber and steel decking.

1. Acceptable Manufacturers:

- a. Stainless Roofgrip screw; plastic disc - Buildex Div. of ITW, Itasca, IL.
- b. Stainless Dekfast screw: plastic disc - Construction Fasteners, Inc., Wyomissing, PA.
- c. Fabco Fastening Systems, West Newton, PA: Stainless Insul-Fixx screw with Fabco coating; plastic plate, Stainless Plate-Fixx screw; plastic disc.
- d. Stainless Kwik-Deck screw; plastic disc - Atlas Bolt & Screw Div., Trans Union Fastener Corp., Ashland, OH.
- e. Olympic #12-11 Stainless Steel Deck Screw or #14-10 Heavy Duty All Purpose Screw (stainless); three inch diameter plastic - Olympic Manufacturing Group, Inc., Agawam, MA.
- f. Glasfast Stainless (plastic disc) - Owens-Corning Fiberglas Corp., Toledo, OH.
- g. Perma Fastener -stainless; plastic plate - International Permalite, Inc., Oak Brook, IL.

2. Screw Length: Sufficient to engage steel deck 1/2 inch.

B. WOOD TO WOOD:

1. Type: Stainless Steel, annular ring nail. Length: Sufficient to penetrate underlay blocking 1-1/4 inches.

2. Acceptable Manufacturers:

- a. Hillwood Manufacturing Co., Cleveland, OH.
- b. Independent Nail, Inc., Bridgewater, MA.
- c. W.H. Maze Co., Peru, IL.
- d. National Nail Corp., Grand Rapids, MI.

C. WOOD TO MASONRY:

1. Acceptable Manufacturers:

- a. Tapcon 1/4" diameter, Phillips pan head anchor - Buildex Div. of ITW, Itasca, IL.
- b. Confas - Construction Fasteners, Inc., Wyomissing, PA.
- c. Con-fixx - Fabco Fastening Systems, West Newton, PA.
- d. #14-10 Heavy Duty all Purpose Screw - Olympic Manufacturing Group, Inc., Agawam, MA.
- e. Tru-Fast fastener (stainless steel) - The Tru-Fast Corp., Bryan, OH.

2. Length: Sufficient to provide 1-1/2 inch embedment.

D. WOOD TO HOLLOW MASONRY:

1. Acceptable Manufacturers:

- a. Sleeve Anchor by Hilti Fastening Systems, Tulsa, OK.
- b. Rawly Hollow Masonry Anchor by the Rawlplug Co., Inc., New Rochelle, NY.

2. Length: As recommended by manufacturer

PART 3 - EXECUTION

3.1 CARPENTRY:

- A. At roof edge to receive metal fascia, around all roof top penetration perimeters, and under any flashing component that is to have a roof flange mechanically fastened to roofing substrate; Mechanically attach wood blocking. Blocking thickness: Equal to common 2x4", 2x6".
- B. Fasteners shall be installed in two rows staggered. Spacing in any one row shall not exceed 18 inches. Within eight feet of outside corners, spacing shall not exceed twelve inches in any one row.
- C. Where required, offset blocking layers twelve inches, weave corners.
- D. When preservative treated wood is cut, the cut end shall be treated in accordance with AWPA Specification M4.
- E. Lumber shall be accurately cut to the work requirements and shall be well fastened.
- F. Bolted fastenings shall have washers of adequate size under both heads and nuts. Nails shall be of correct size and quantity for proper fastening. Oversized nails that will result in splitting shall not be used. All fasteners shall be stainless steel.

END OF SECTION

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SECTION 07 54 16.30-HYBRID KEE MEMBRANE ROOFING SYSTEM

**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. This Section includes the following:
1. Work includes all labor, materials, equipment and services necessary for installation of adhered Hybrid KEE/SBS modified bituminous membrane roofing system.
- B. Related Sections include the following:
1. Section 06 10 10 "Rough Carpentry
  2. Section 07 62 00 "Sheet Metal Flashing and Trim".

**1.3 REFERENCES**

- A. American Society of Civil Engineers (ASCE):
1. ASCE 7-05, Minimum Design Loads for Buildings and Other Structures.
- B. American Society for Testing and Materials (ASTM):
1. ASTM D41 Standard Specification for Asphalt Primer Used in Roofing, Damp Proofing and Waterproofing.
  2. ASTM D312 Standard Specification for Asphalt Used in Roofing.
  3. ASTM D451 Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
  4. ASTM D1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
  5. ASTM D1227 Standard Specification for Emulsified Asphalt used as a Protective Coating for Roofing.
  6. ASTM D1863 Standard Specification for Mineral Aggregate used as a Protective Coating for Roofing.
  7. ASTM D2178 Standard Specification for Asphalt Glass Felt used as a Protective Coating for Roofing.
  8. ASTM D 2523/D 2523M-13 (2009) Standard Specification for Testing Load-Strain Properties of Roofing Membranes.
  9. ASTM D2822 Standard Specification for Asphalt Roofing Cement.
  10. ASTM D2824 Standard Specification for Aluminum-pigmented Asphalt Roof Coating.
  11. ASTM D4601 Standard Specification for Asphalt Coated Glass Fiber Base Sheet used in Roofing.
  12. ASTM D5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
  13. ASTM D6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials using a combination of Polyester and Glass Fiber Reinforcements.



14. ASTM D6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials using Glass Fiber Reinforcements.
  15. ASTM E108 Standard Test Methods for Fire Test of Roof Coverings.
- C. Factory Mutual Research (FM):
1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
1. Roofing and Waterproofing Manual.
- E. Underwriters Laboratories, Inc. (UL):
1. Fire Hazard Classifications.
- F. Warnock Hersey (WH):
1. Fire Hazard Classifications.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting: Conduct at Project Site.
1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  2. Review methods and procedures related to roofing installation, including set up and mobilization areas for stored material and work area.
  3. Review safety procedures and site-specific requirements relating to the work and areas to be accessed.
  4. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  5. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  6. Review structural loading limitations of roof deck during and after roofing.
  7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
  8. Review governing regulations and requirements for insurance and certificates if applicable.
  9. Review temporary protection requirements for roofing system during and after installation.
  10. Review roof observation and repair procedures after roofing installation.
  11. Review notification procedures for weather or non-working days.

#### 1.5 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state, and local codes.
- B. Design Requirements:
1. Uniform Wind Uplift Load Capacity: See attached wind uplift pressure calculations
    - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
      - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.

- 2) Roof Area Design Uplift Pressure:
  - 3) Importance Category: See supplemental Wind Uplift Pressure Calculation Report for site specific pressures and associated securement and edge metal requirements.
- C. Energy Star: Roof System shall comply with the initial and aged reflectivity required by the U.S. Federal Government's Energy Star program.
- D. LEED: Roof system shall meet the reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- E. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.
- F. Roof system shall have been tested in compliance with the following codes and test requirements:
1. Cool Roof Rating Council:
    - a. CRRC Directory CRRC
  2. ASTM D 2523/D 2523M-13 (2009) Standard Specification for Testing Load-Strain Properties of Roofing Membranes.
- G. Energy Performance: Provide roofing system with initial solar reflectance not less than 0.87, initial emissivity not less than 0.88 and initial Solar Reflectance Index (SRI) of 110 when tested according to CRRC-1.
- H. The Dupont™ Elvaloy® HP Ketone Ethylene Ester (KEE) modified surface membrane shall:
1. Meet or exceed the requirements of ASTM D 6754, the Standard specification for Dupont™ Elvaloy® Ketone Ethylene Ester (KEE) sheet roofing.
  2. Utilize Dupont™ Elvaloy® HP modifier.
  3. Consist of a phthalate-free formulation.
- I. FM Approval Listing: Provide membrane roofing, base flashing, and component materials that comply with the requirements in FM Approvals 4450 and FM Approvals 4470 as part of a membrane roofing system and listed in FM RoofNav for Class 1 or noncombustible construction. Identify materials with FM Approvals markings.
1. Fire/Windstorm Classification: As required by wind uplift pressure calculations.
  2. Hail Resistance Rating: SH.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with not less than 15 years documented experience and have ISO 9001 certification.
- B. Installer Qualifications: Company specializing in modified bituminous roofing and KEE Hybrid systems installation with not less than 5 years of experience. The installing contractor must have written authorization by roofing system manufacturer, be in good standings with roofing system manufacturer, and meet qualifications to install manufacturer's roofing materials prior to placement of bid and/or the installation of such system.
- C. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress. Supervisor/Foremen must be fluent in the English language and maintain proper supervision of workmen.

- D. Maintain a copy of the Contract Documents in the possession of the Supervisor/Foreman and on the roof at all times.
- E. Source Limitations: Obtain all components of roof system, including, but not limited to base sheets, membranes, interply adhesives and edge metals from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer.
  - 1. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
  - 2. Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.
- F. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.
- G. Engage the Manufacturer's Field Representative to conduct required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections.
- H. Manufacturer shall provide the project Owner with a written statement that they will provide site inspections three days per week that confirms that the project is being constructed as specified, by an experienced, full time employee of the company.

#### 1.7 SUBMITTALS

- A. Submit under provisions of Section 01300
- B. Comply with pertinent provisions of Division 01 Section "Submittal Procedures, unless otherwise indicated."
- C. Contractor shall submit shop drawings for ordering, manufacturing, and final inspection of the Roofing System. Drawings shall include roof outline, roof dimensions, roof penetrations, insulation type and thickness, piece layout, parapet size and location, and other information which may affect the suitability and installation of the Roofing System on the respective project
- ~~C.D.~~ Roof System Data: The submitted roof system shall meet or exceed the minimum load-strain performance criteria and minimum number of roof membrane plies specified within the specification. Testing shall be conducted by an ISO 17025 accredited independent third-party laboratory in accordance with ASTM D 2523/D 2523M-13 (2009) methodology. All testing results shall be submitted on laboratory letterhead.
- ~~D.E.~~ Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- ~~E.F.~~ Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class [A] for external fire and meets local or nationally recognized building codes.
- ~~F.G.~~ Manufacturer's Certificate: Certify that the roof system furnished is approved or accepted by Factory Mutual Approval Standard 4470.
- ~~G.H.~~ Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- ~~H.I.~~ Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.

- I-J. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
- J-K. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before work begins.
- K-L. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- L-M. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
  2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
  3. Product reflectivity and emissivity criteria to qualify for one point under the LEED category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- M-N. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio-based materials.
- N-O. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches square, representing actual product, color, and patterns.
- O-P. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.

## 1.8 CLOSEOUT SUBMITTALS

- A. General: Comply with Requirements of Division 01 Section Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Roofing Maintenance Instructions: Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.

## 1.9 DELIVERY, STORAGE AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

#### 1.10 WARRANTY

- A. Upon completion of installation, and acceptance by the Owner and Architect, the Manufacturer will supply to the Owner an "NDL" warranty, without monetary limitations in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Forty (30) years from date of Substantial Completion.
- B. Installer's Warranty: Provide roofing installers warranty, to the membrane manufacturer, in which the roofing installer will, at his own expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
  - 1. Warranty Period: Five (5) years from date of Manufacturer Approved Sign-off of Completion.
- C. The Roof System Manufacturer shall provide annual inspection of the roof for the duration of the warranty at no fee to the Owner.

#### 1.11 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the roof system manufacturer shall be assigned to the project to conduct field observations during the installation phase.
- B. Regularly scheduled onsite observations shall be required by the manufacturer's field representative a minimum of two (2) to three (3) days per 5 working days during the roofing installation period; exceptions being made for inclement weather, holidays, vacations, etc.
- C. Observation reports shall include the following:
  - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to the architect and owner within 48 hours of the site visit.
  - 2. This report shall include documentation of any issues/question and resolution.
  - 3. This report shall include record of directives given to the roofing contractor.
  - 4. Digital photographic documentation of the roofing progress; including documentation of specific issues and areas of concern.
  - 5. Each report shall contain project name, architect's project number, and date/time/duration of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:
  - 1. Attend the roofing trade start-up meeting.
  - 2. Inspect and approve the roof substrate/deck prior to the start of roofing work.
- E. All observation reports shall be kept current and shall be delivered electronically to the architect and contractor within Seven (7) calendar days after the observation. Progress payments for roofing work may be withheld if observation report submissions are not current.
- F. After completion of all roofing work, and prior to acceptance of the roofing installation, the manufacturer's representative shall conduct an observation to document all roofing work to be corrected as a condition of acceptance.

1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
  2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the roof alone shall not be acceptable.
- G. Any failure by the Architect, the Owner's Representative, the Project Manager, or the roofing manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Roofing Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details.

#### 1.12 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials subject to water or solar damage in quantities greater than can be weatherproofed during same day.
- D. Phased Construction will not be accepted without written approval by the manufacturer.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. The Garland Company, Inc.
1. 3800 East 91<sup>st</sup> Street, Cleveland, OH, 44105
  2. Manufacturer's Representative:
    - a. Austin Papenbrock; apapenbrock@garlandind.com; (260) 409-7200

#### 2.2 2-PLY KEE THERMOPLASTIC HYBRID ROOF SYSTEM

- A. Roof Membrane System Load-Strain Physical Properties: The submitted roof system shall meet or exceed the minimum load-strain performance criteria and minimum number of roof membrane plies specified. Testing shall be conducted by an ISO 17025 accredited independent third-party laboratory in accordance with ASTM D 2523 methodology. All testing results shall be submitted on laboratory letterhead.
- B. KEE-STONE Green-Lock Plus System:
- C. System Physical Properties:
1. Tensile Strength, ASTM D 2523



- a. 20.0 in/min. @ 73.4 +/- 3.6° MD 452.1 lbf/in. / XMD 468.2 lbf/in.
  2. Tensile Strength, ASTM D 2523
    - a. 20.0 in/min. @ 0°F MD 876.9 lbf/in. / XMD 755.5 lbf/in.
  3. Elongation at Failure, ASTM D 2523
    - a. 20.0 in/min. @ 73.4 +/- 3.6° MD 26.6% / XMD 18.0%
  4. Elongation at Failure, ASTM D 2523
    - a. 20.0 in/min. @ 0°F MD 7.8% / XMD 5.9%
  5. Tear Strength, ASTM D 4073 @ 77°F
    - a. 20.0 in/min. @ 73.4 +/- 3.6° / MD 778.8 lbf. / XMD 675.4 lbf
- D. Roofing sheet materials shall include but not be limited to:
1. Base Ply Sheet Modified Membrane: Type III membrane complying with ASTM 6163, Grade S. Physical requirements below.
  2. Cap Ply Sheet Ketone Ethylene Elvaloy: Fleece-backed membrane complying with ASTM D 6754. Physical requirements below.
  3. Stripping Ply Sheet Modified Membrane: Type III membrane complying with ASTM 6163, Grade S. Physical requirements below.
  4. Base Flashing Assembly: Two ply hybrid modified, modified bitumen base ply with the finished thermoplastic ply complying with ASTM D 6754 and base ply meeting Type III membrane complying with ASTM 6163, Grade S minimum.
- E. Basis of Design Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

## 2.3 ROOFING SHEET MATERIALS

- A. Base Ply Sheet Modified Membrane: ASTM D 6163, Grade S, Type III, 80 mil SBS-modified asphalt sheet; suitable for application method specified, and as follows: FLEXBASE 80
- B. Roofing Cap Sheet: ASTM D 6754, 60 mil fleece backed KEE sheet with polyester composite scrim; suitable for application method specified, and as follows: KEE STONE FB 60.

## 2.4 BASE FLASHING SHEET MATERIALS

- A. Base Ply Sheet Modified Membrane: ASTM D 6163, Grade S, Type III, 80 mil SBS-modified asphalt sheet; suitable for application method specified, and as follows: FLEXBASE 80
- B. Roofing Cap Sheet: ASTM D 6754, 60 mil non-fleece back KEE sheet with polyester composite scrim; suitable for application method specified, and as follows: KEE STONE NF 60 Flashing.

## 2.5 BITUMINOUS ROOFING MATERIALS

- A. General: Auxiliary materials provided or recommended by roofing system manufacturer for intended use and compatible with roofing.
- B. Thermoplastic Adhesive: Dual-component urethane foam adhesive. KEE-LOCK FOAM.
- C. Base Ply Asphalt Primer: ASTM D 41/D 41M. GARLA-PRIME.
- D. Base Ply Membrane Adhesive: ASTM D 4586, asbestos free, Solvent-Free, Zero V.O.C. Of consistency required by roofing system manufacturer for application. GREEN-LOCK PLUS MEMBRANE ADHESIVE
- E. Base Flashing Ply Membrane Adhesive: ASTM D 4586, asbestos free, Solvent-Free, Zero V.O.C. Of consistency required by roofing system manufacturer for application. GREEN-LOCK PLUS FLASHING ADHESIVE
- F. Miscellaneous Materials: Provide those recommended by roofing system manufacturer.

## 2.6 ROOF BOARD INSULATION MATERIALS

- A. Base Layer Insulation: Rigid, closed cell polyisocyanurate rigid board insulation utilizing non-chlorine/non-ozone depleting blowing agent, bonded to non-asphaltic fiberglass facers, ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), 2"-inch total thickness; maximum board size 48" x 96" for steel fastener with plate attachment and 48" x 48" maximum board size for high-rise foam adhered attachment applications: "" by The Garland Company
- B. Second Layer Insulation: Rigid, closed cell polyisocyanurate rigid board insulation utilizing non-chlorine/non-ozone depleting blowing agent, bonded to non-asphaltic fiberglass facers, ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), 1.5"-inch total thickness; maximum board size 48" x 96" for steel fastener with plate attachment and 48" x 48" maximum board size for high-rise foam adhered attachment applications: "" by The Garland Company.
- C. Taper Layer Insulation: Rigid, closed cell polyisocyanurate rigid board insulation utilizing non-chlorine/non-ozone depleting blowing agent, bonded to non-asphaltic fiberglass facers, ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), 1/8":12" minimum taperer for field, 1/2":12" sumps and saddles. Total thickness varies by design layout; maximum board size 48" x 48" for Steel fastener with plates and high-rise foam adhered attachment applications: By The Garland Company
- D. Secondary Insulation Layer/Cover Board: Moisture resistant, 1/2-inch-thick gypsum roof board, ASTM C 1278; provide 48" by 48" nominal size: "DENSDECK PRIME" by Georgia Pacific.
- E. Low-Rise Foam Insulation Adhesive: Dual-component, VOC compliant, two-part reaction-cure urethane foam adhesive. "INSUL-LOCK HR" by The Garland Co., Inc.

## 2.7 RELATED MATERIALS

- A. Plumbing stacks should be 4lb sheet lead formed and rolled.
- B. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel. Fasteners shall be self-clinching type of penetrating type as recommended by the manufacturer of the deck material. Nails and fasteners shall be flush-driven through flat metal discs of not less than one (1) inch diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than one (1) inch diameter are used.

- C. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer.

## 2.8 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed 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. Roofing and base flashings shall remain watertight.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Solar Reflectance Index: Reflectance when calculated according to ASTM E 1980, based on testing identical products by a qualified testing of 0.87 / Emittance of 0.88 / SRI of 110 agency.
- D. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

## PART 3 - EXECUTION

### 3.1 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the modified bituminous roofing system.
- D. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
  - 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
  - 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
  - 3. Remove and discard temporary seals before beginning work on adjoining roofing.
- E. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- F. Apply roofing materials as specified by manufacturer's instructions:
  - 1. Keep roofing materials dry before and during application.
  - 2. Do not permit phased construction.
  - 3. Complete application of roofing plies, modified sheet and flashing in a continuous operation.
  - 4. Begin and apply only as much roofing in one day as can be completed that same day.

- G. Cut-Offs (Waterstops): At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation.

### 3.2 EXAMINATION

- A. Verify that deck surfaces and project conditions are ready to receive work of this Section.
- B. Verify that deck is supported and secured to structural members.
- C. Verify that deck is clean and smooth, free of depressions, projections or ripples, and is properly sloped.
- D. Verify that adjacent roof substrate components do not vary more than [1/4] inch in height.
- E. Verify that deck surfaces are dry.
- F. Verify that openings, curbs, pipes, conduit, sleeves, ducts, and other items which penetrate the roof are set solidly, and that cant strips, wood nailing strips, and reglets are set in place.

### 3.3 ROOF BOARD INSULATION INSTALLATION

#### A. General:

1. Cut out insulation in and around existing drain sumps to allow for tapered drain sump installation. New drain sumps are to be a minimum of 8' x 8' or 12' x 12' in size. Varies by location.
2. Install and adhere flat, tapered board insulation and cover board across the existing substrate in general accordance with manufacturer's guidelines.
3. Stagger end joints of insulation boards 1/2 of overall length of board.
4. Butt joints tightly allowing no more than 1/4-inch wide gaps between units. Fill joints between adjacent boards with like insulation or foam adhesive.
5. Do not use warped, bent or otherwise damaged insulation boards.
6. Field cut and fit insulation at penetrations, curbs, and walls.
7. Stagger all joints (side and end) between layers of insulation.
8. Insulation layout is to provide a minimum 1/8":12" slope to drain perimeter.
9. Field cut tapered insulation boards to create crickets at upslope sides of curbs, along walls, between drains and in low corners, and in drain sumps to achieve a minimum resulting roof slope of 1/4" per foot.
10. Install tapered edge strips at changes in elevations, edge of crickets and other locations to create a monolithic and uniform substrate for installation of roofing membrane.

#### B. Ribbon Application (Urethane Foam Insulation Adhesive):

1. Dispense 1/2-inch wide continuous ribbons of adhesive on substrate to adhere insulation board.
2. Place the initial ribbon of adhesive 3-inches inside each edge/side of the insulation board in a picture-frame fashion. Apply additional parallel ribbons of adhesive across the remainder of the board in a serpentine fashion and spaced according to roof membrane manufacturer's wind uplift calculations.
3. Firmly set insulation boards in the ribbons of foam adhesive following application of the adhesive when adhesive has risen to proper height and walk-in the insulation to spread the adhesive ribbons, ensuring maximum contact. Do not push or slide insulation into position. Set heavily weighted objects on ends, sides, and corners of boards until adhesive has set and insulation is firmly attached.
4. On additional insulation layers, dispense ribbons of adhesive in direction perpendicular to the direction of the beads that were dispensed on the underlying layer.

5. Fill voids or open joints in top layer of insulation with spray-foam adhesive to provide monolithic surface to receive new membrane.
6. Adhere partial boards and tapered edge strips with adhesive ribbon positioned in picture-frame fashion along perimeter of board and remaining adhesive ribbons spaced in accordance with location on roof (field, perimeter, corner).
7. At end of each work day, provide staggered ends of installed boards so that proper joint stagger can be achieved on following roof installation.

C. Mechanical Securement (Steel fastener and plate):

1. Secure polyiso insulation board with mechanical fasteners with insulation plates through all existing layers of recovery board and insulation and into metal deck. Fastener pattern is to meet or exceed Wind Uplift Pressure Calculation report fastener patterns per zone.
2. Fastener lengths should allow for 1" penetration into the top rib, but not allow for penetration into the lower rib. Use of excessively long fasteners is not acceptable and will require removal.
3. On interior areas of exposed decking, the fasteners are to match in color of that of the existing deck.

### 3.4 SBS MODIFIED BITUMINOUS BASE PLY MEMBRANE INSTALLATION

A. Install base ply according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:

1. Lay out the roll in the course to be followed and unroll 6 feet. Cut base ply sheets into 18' lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout and over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
2. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum
3. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
4. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
5. Install subsequent rolls of modified across the roof as above with a minimum of 4-inch side laps and 8-inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
6. Extend underlayment 2 inches beyond top edges of cants at wall and projection bases.
7. Install base flashing ply to all perimeter and projections details.
8. Allow the one ply of base sheet to cure at least 30 minutes before installing the membrane.

B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.

1. Repair voids in laps and lapped seams not completely sealed.

C. Install roofing sheets so side and end laps shed water.

### 3.5 KEE THERMOPLASTIC CAP SHEET MEMBRANE INSTALLATION

A. Install finish ply sheet according to roofing manufacturer's written instructions, starting at the low point of roofing system. Allow plies to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing:

1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
2. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
3. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.
4. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.
5. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
6. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
7. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width.

### 3.6 BASE FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions. Minimum base-flashing height of 8 inches is required. Install modified bituminous roofing sheet and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:
  1. Seal all curb, wall and parapet flashings with an application of flashing adhesive and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
  2. Prepare all walls, penetrations, expansion joints [and where shown on the drawings] to be flashed with asphalt primer at the rate of one hundred (100) square feet per gallon. Allow primer to dry tack free.
  3. Adhere to the underlying base flashing ply with specified flashing ply adhesive. Nail off at a minimum of 8 inches o.c.
  4. Adhere finished NF flashing membrane in KEE-Stone WB Flashing Adhesive. Install termination bar at top of assembly and seal with a three-course application of trowel-grade mastic and fiberglass mesh.
  5. Terminate all base flashings using extruded aluminum termination bar. Three-course all terminations with PVC Mesh and specified mastic.
- B. Install roofing cap-sheet stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.

### 3.7 ROOF DETAIL INSTALLATION

- A. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work (as specified in other Sections).
- B. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work (as specified in other Sections).
- C. Curb Detail:
  1. Minimum curb height is eight (8) inches. Prime vertically at a rate of one hundred (100) square feet per gallon and allow to dry.



2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
3. Install base flashing assembly.
4. Install pre-manufactured counter-flashing with fasteners and neoprene washers or per manufacturer's recommendations.

D. Flanged Penetration Detail:

1. Minimum stack height is twelve (12) inches.
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime both surfaces of flange of new sleeve. Install properly sized sleeves set in (¼) inch bed of roof cement.
4. Install stripping ply prior to cap sheet installation.

3.8 FIELD QUALITY CONTROL

- A. Perform manufacturer's field inspection and as required a minimum of Two (2) to Three (3) days per 5 day work week.
- B. Correct defects or irregularities discovered during field inspection.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system. A copy of the specification should also be on site at all times.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Remove bitumen adhesive drippings from all walls, windows, floors, ladders and finished surfaces.
- D. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this Section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.
- E. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.10 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during roofing procedures. Comply with requirements of authorities having jurisdiction.

3.11 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.

- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Roofing Contractor.
- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the Owner and Architect upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- H. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION

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**SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Provide all labor, equipment, and materials to fabricate and install the following.
  - 1. Edge strip and flashing
  - 2. Fascia, scuppers, and trim.
  - 3. Coping cap at parapets.
  - 4. Expansion joint and area divider covers.
  - 5. Fascia and edge metal.
  - 6. Drip Edge and Gutter w/ Downspout

**1.3 REFERENCES**

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (galvanized) or Zinc-Iron Alloy-Coated (galvannealed) by the Hot-Dip Process.
  - 2. ASTM A792 Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by Hot Dip Process.
  - 3. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
  - 4. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 5. ASTM D692 Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
- B. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI)
  - 1. ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal.
- C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
  - 1. 1993 Edition Architectural Sheet Metal Manual
- D. National Roofing Contractors Association (NRCA)
  - 1. Roofing and Waterproofing Manual
- E. American Society of Civil Engineers (ASCE)
  - 1. ASCE 7-05 Minimum Design Loads for Buildings and Other Structures.

#### 1.4 SUBMITTALS FOR REVIEW

- A. Product Data:
  - 1. Provide manufacturer's specification data sheets for each product.
  - 2. Metal material characteristics and installation recommendations.
  - 3. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.
- B. Samples: Submit two (2) samples, illustrating typical metal edge, coping, gutters, fascia extenders for material and finish.
- C. Shop Drawings
  - 1. Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations, and installation details.
  - 2. Indicate type, gauge and finish of metal.
- D. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.

#### 1.5 SUBMITTALS FOR INFORMATION

- A. Design Loads: Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the wind uplift and perimeter attachment requirements according to ASCE 7-05. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.
- B. Factory Mutual Research Corporation's (FMRC) wind uplift resistance classification: The roof perimeter flashing shall conform to the requirements as defined by the FMRC Loss Prevention Data Sheet 1-49.
- C. A letter from an officer of the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.
- D. Mill production reports certifying that the steel thickness are within allowable tolerances of the nominal or minimum thickness or gauge specified.
- E. Certification of work progress inspection. Refer to Quality Assurance Article below.
- F. Certifications:
  - 1. Submit roof manufacturer's certification that metal fasteners furnished are acceptable to roof manufacturer.
  - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

#### 1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.

- B. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.

#### 1.7 QUALITY ASSURANCE

- A. Engage an experienced roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years' experience.
- B. Maintain a full-time supervisor/foreman who is on the job-site at all times during installation. Foreman must have a minimum of five (5) years' experience with the installation of similar system to that specified.
- C. A full-time employee of the manufacturer must provide daily inspections reports directly to the owner that include pictures and descriptions of the day's work. The full-time employee must have a minimum of one (1) year of employment with said company.
- D. Source Limitation: Obtain components from a single manufacturer. Secondary products which cannot be supplied by the specified manufacturer shall be approved in writing by the primary manufacturer prior to bidding.
- E. Upon request fabricator/installer shall submit work experience and evidence of financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

#### 1.9 PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

#### 1.10 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:
  - 1. Completed metal edge flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess on structure, anchors or fasteners, or reducing performance ability.

#### 1.11 WARRANTIES

- A. Owner shall receive one (1) warranty from manufacturer of roofing materials covering all of the following criteria. Multiple warranties are not acceptable.



1. Pre-finished metal material shall require a written twenty (20)- year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D2244 or chalking excess of 8 unites per ASTM D659. If either occurs material shall be replaced per warranty, at no cost to the Owner.
2. Changes: Changes or alterations in the edge metal system without prior written consent from the manufacturer shall render the system unacceptable for a warranty.
3. Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.
4. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.
5. Installing roofing contractor shall be responsible for the installation of the edge metal system in general accordance with the membrane manufacturer's recommendations.
6. Installing contractor shall certify that the edge metal system has been installed per the manufacturer's printed details and specifications.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS, GENERAL

- A. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- B. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
  1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
  2. Include a list of three (3) projects of similar type and extent, located within a one-hundred-mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
  3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
  4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

### 2.2 ACCEPTABLE MANUFACTURERS

- A. The design is based upon roofing systems engineered and manufactured by:
  1. The Garland Company, 3800 East 91st Street, Cleveland, Ohio 44105, Telephone: (800) 762-8225, Website: [www.garlandco.com](http://www.garlandco.com)

## 2.3 MATERIALS

- A. General: Product designations for the materials used in this section shall be based on performance characteristics of the The Garland Company, Cleveland, OH, and shall form the basis of the contract documents.
- B. Materials:
1. Minimum gauge of steel to be specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations
  2. Metal material:
    - a. Unexposed base metal: Zinc-coated steel, ASTM A653, 22-gauge galvalume (Cleats)
    - b. Exposed metal: Zinc-coated steel, ASTM A653, 24 and 22 gauge (metal edge, counterflashing, etc.,)
  3. Unexposed base metal material: Continuous Cant
    - a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0299 nom./22 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
  4. Exposed base metal material: Fascia
    - a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 22 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
- C. Finishes:
1. Exposed surfaces for coated panels:
    - a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer.

Weathering finish as referred by National Coil Coaters Association (NCCA).

PROPERTY	TEST METHOD	FLUOROCARBON
Pencil Hardness	ASTM D3363 NCCA II-2	HB-H
Bend	ASTM D-4145 NCCA II-19	O-T
Cross-Hatch Adhesion	ASTM D3359	no loss of adhesion
Gloss (60° angle)	ASTM D523	25+/-5%
Reverse Impact	ASTM D2794	no cracking or loss of adhesion
Nominal Thickness	ASTM D1005	
Primer		0.2 mils

Topcoat \_\_\_\_\_ 0.8 mils

TOTAL \_\_\_\_\_ 1.0 mils

\*Subject to minimum quantity requirements

b. Color shall be black, as specified

2. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, shall be as shipped from the mill.
3. Exposed and unexposed surfaces for anodized aluminum flashing, fascia, and coping cap, shall be as shipped from mill.

## 2.4 RELATED MATERIALS AND ACCESSORIES

A. Metal Primer: Zinc chromate type.

B. Plastic Cement: ASTM D 4586

C. Sealant: Specified in Section 07900 or on drawings.

D. Underlayment: ASTM D2178, No15 asphalt saturated roofing felt.

E. Slip Sheet: Rosin sized building paper.

F. Fasteners:

1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
2. Fastening shall conform to Factory Mutual requirements or as stated on section details, whichever is more stringent.

G. Termination bars:

1. Shall be aluminum unless otherwise recommended by membrane manufacturers.
2. Material shall be .125" x 1" (minimum) aluminum conforming to ASTM B-221, mill finish. Bar shall have caulk cup as required.

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Isolate metal products from dissimilar metals, masonry or concrete with bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive reactions.

### 3.2 GENERAL

- A. Secure fascia to wood nailers at bottom edge with a continuous cleat.
- B. Fastening of metal to walls and wood blocking shall comply with building code standards.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.

- D. Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using fasteners as required by the system. Exposed face fastening will be rejected.

### 3.3 INSPECTION

- A. Verify that curbs are solidly set and nailing strips located.
- B. Perform field measurements prior to fabrication.
- C. Coordinate work with work of other trades.
- D. Verify that substrate is dry, clean and free of foreign matter.
- E. Commencement of installation shall be considered acceptance of existing conditions.

### 3.4 MANUFACTURED SHEET METAL SYSTEMS

- A. Furnish and install manufactured fascia and coping cap systems in strict accordance with manufacturer's printed instructions.
- B. Provide factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc. Refer to Source limitation provision in Part 1.

### 3.5 SHOP-FABRICATED SHEET METAL

- A. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- B. Hem exposed edges.
- C. Angle bottom edges of exposed vertical surfaces to form drip.
- D. Lap corners with adjoining pieces fastened and set in sealant.
- E. Form joints for gravel stop fascia system, coping cap with a 3/8" opening between sections. Back the opening with an internal drainage plate formed to the profile of fascia piece.
- F. Install sheet metal to comply with referenced ANSI/SPRI, SMACNA and NRCA standards.

### 3.6 FLASHING MEMBRANE INSTALLATION

- A. Drip Edge Detail
  - 1. Position base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
  - 2. Install continuous cleat on face of nailer and fasten six (6) inches on center.
  - 3. Install new Drip Edge hooked to continuous cleat. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.

4. Drip Edge flange with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.

**B. Gravel Stop Detail**

1. Position base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
2. Install continuous cleat on face of nailer and fasten six (6) inches on center.
3. Install new Gravel Stop hooked to continuous cleat. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.
4. Strip in Gravel Stop flange with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.

**C. Snap-On Coping Cap Detail**

1. Install Miters first.
2. Position base flashing of the Built-Up and/or Modified Roofing membrane over the wall edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
3. Install minimum sixteen (16) gauge, sixteen (16) inch long by specified width anchor chair at ~~[Contact Garland Representative]~~ feet on center.
4. Install six (6) inch wide splice plate by centering over sixteen (16) inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately two (2) inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

**3.7 CLEANING**

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods.

**3.8 CONSTRUCTION WASTE MANAGEMENT**

- A. Remove and properly dispose of waste products generated. Comply with requirements of authorities having jurisdiction.

**3.9 FINAL INSPECTION**

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Inspect work and flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish a copy of list to each party in attendance.

- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the owner representative upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- F. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.10 DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
  - 1. Troubleshooting procedures.
  - 2. Notification procedures for reporting leaks or other apparent roofing problems.
  - 3. Maintenance.
  - 4. The Owner's obligations for maintaining the warranty in effect and force.
  - 5. The Manufacturer's obligations for maintaining the warranty in effect and force.

END OF SECTION



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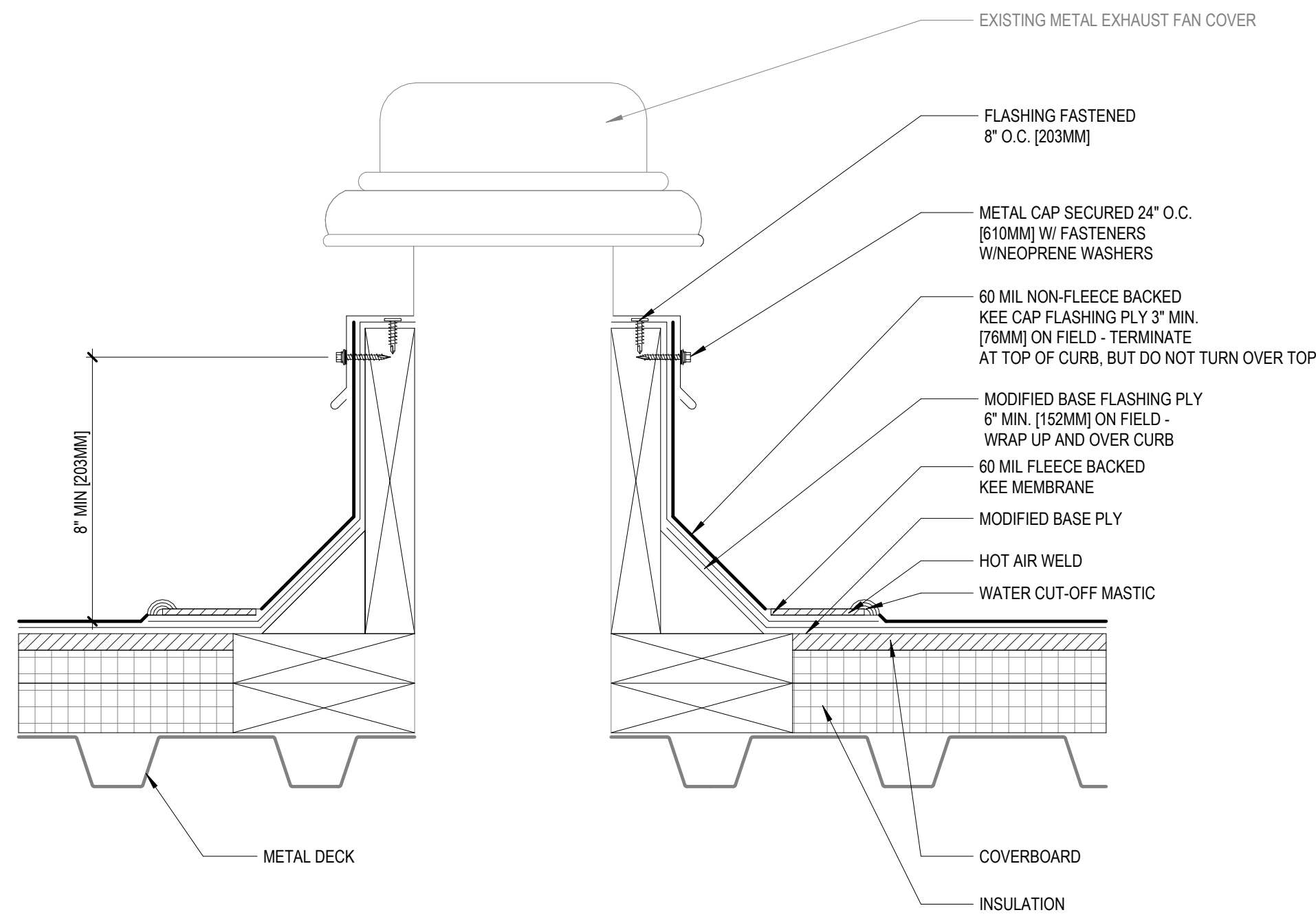
**Pioneer Regional SC - Gym Roof  
Renovation**  
417 S Chicago St  
Royal Center, IN 46978



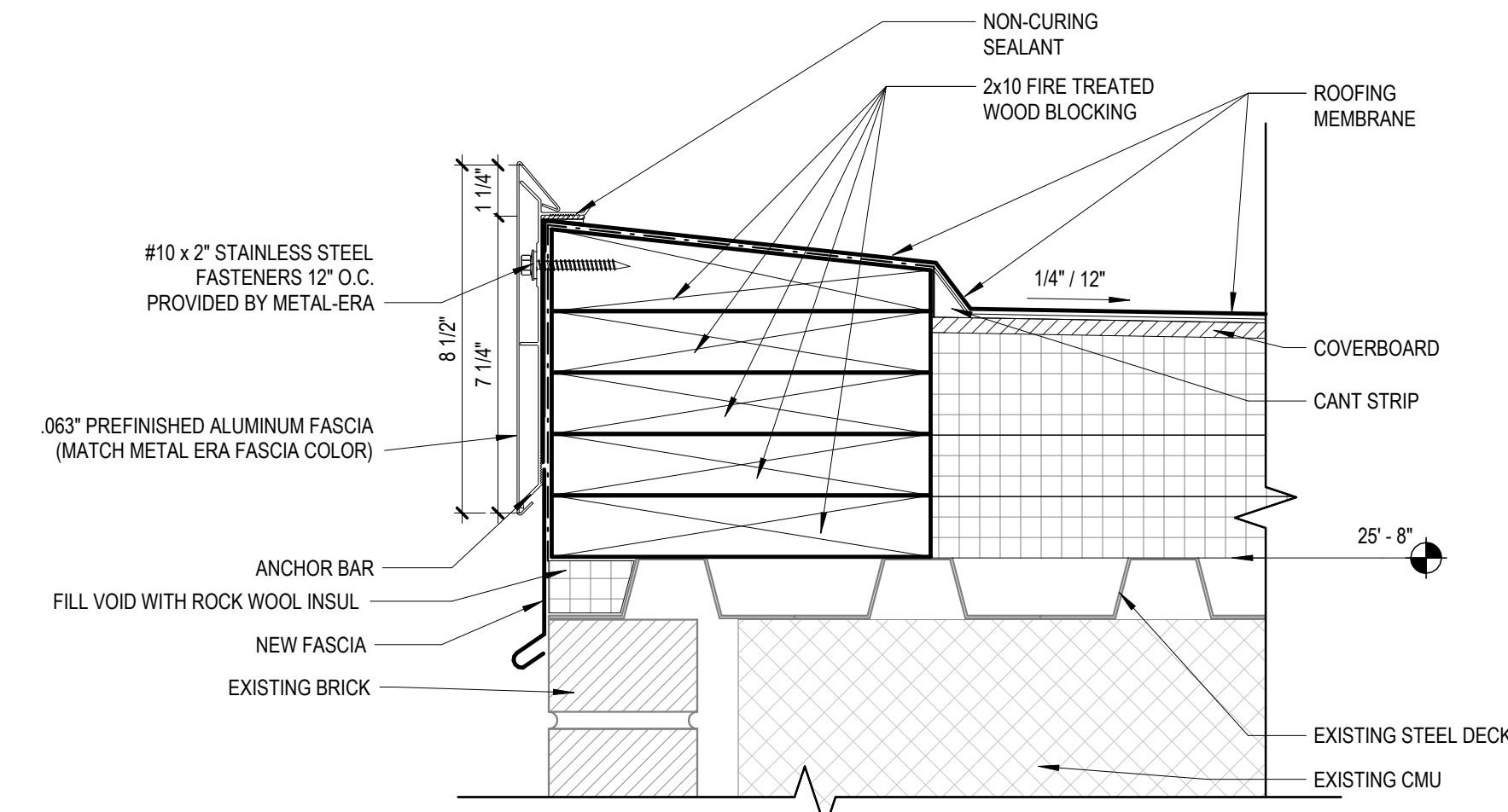
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SUBMITTAL	
BIDDING DOCUMENTS	

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Demolition Plan - N-2

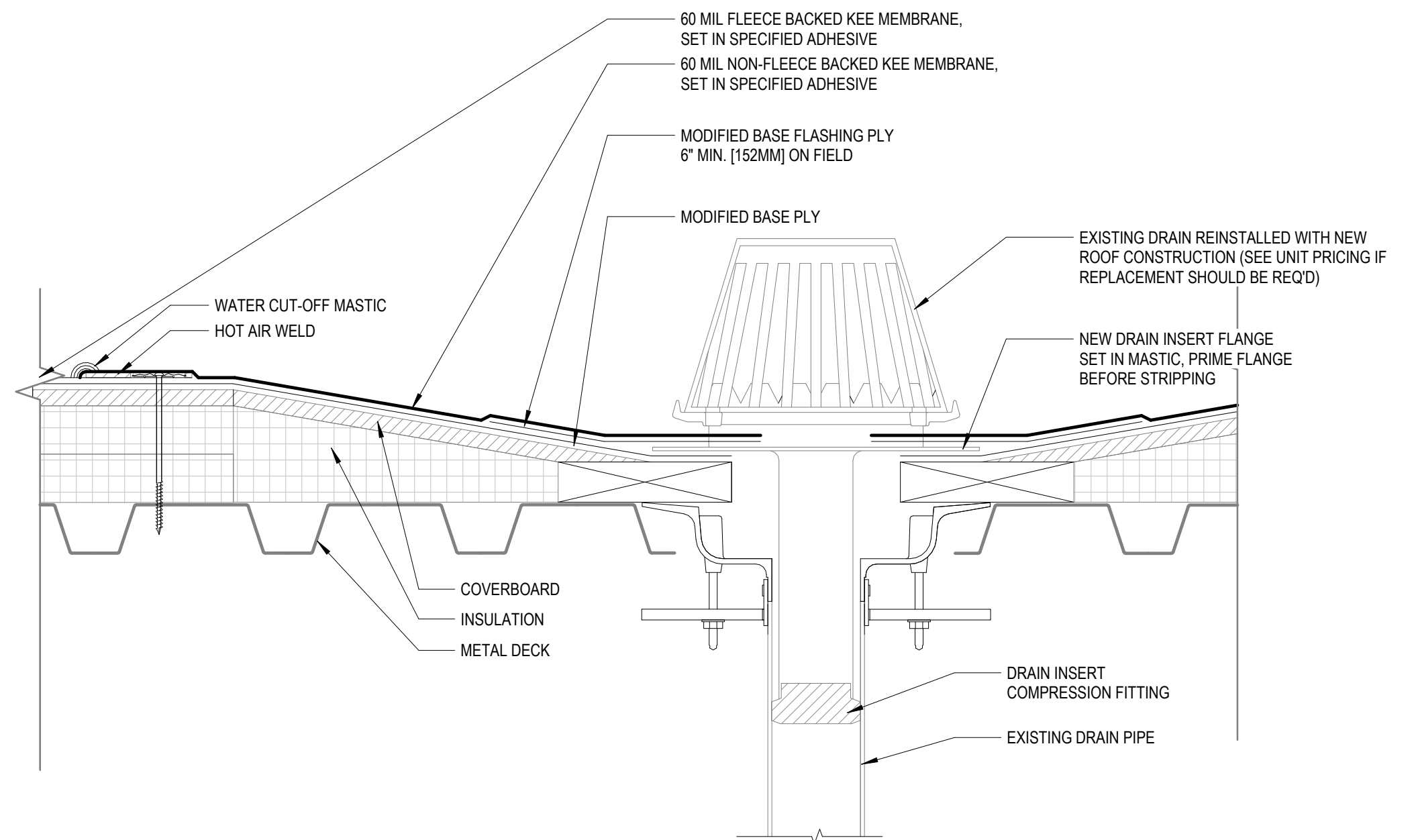
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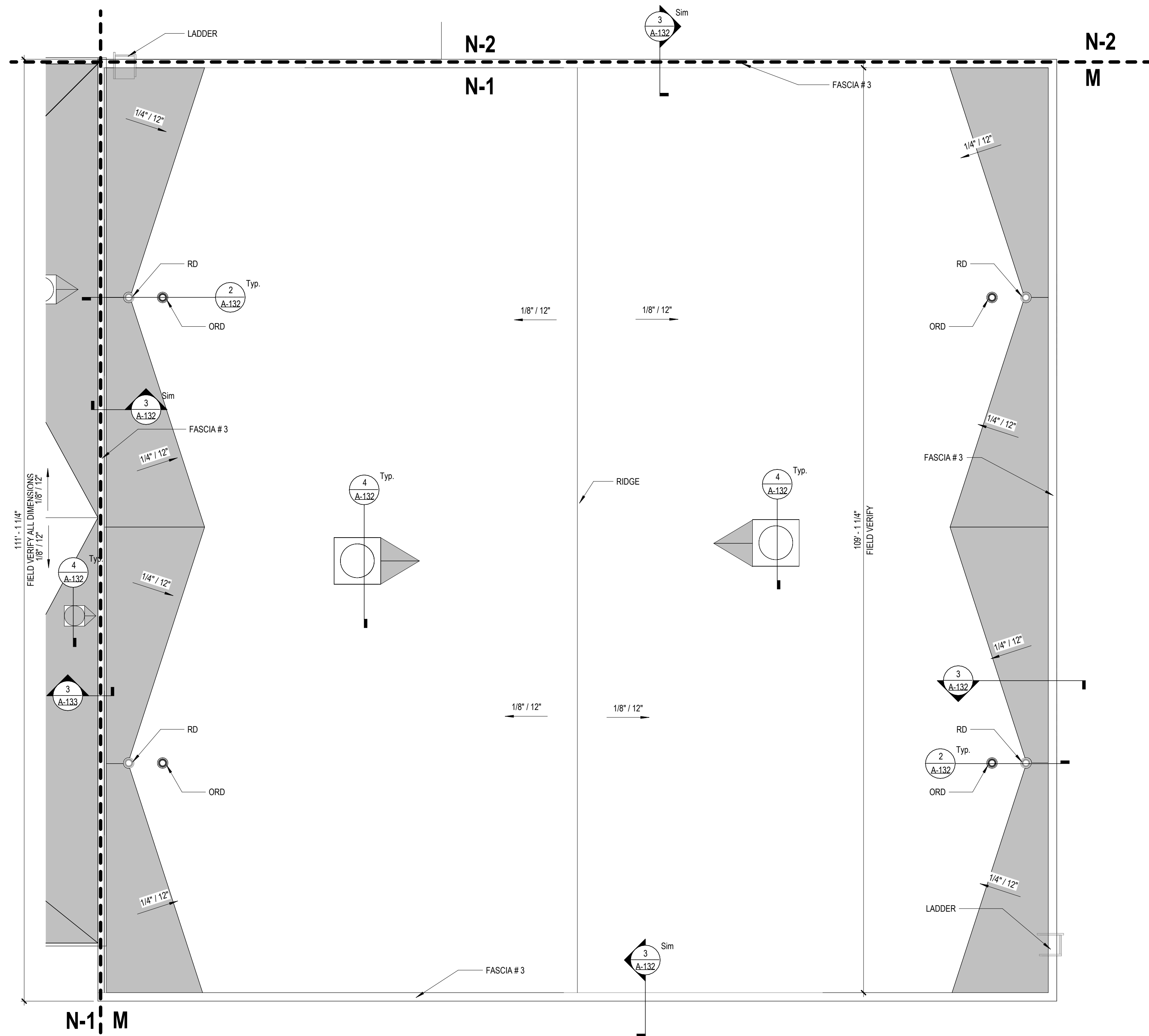
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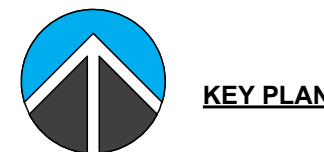
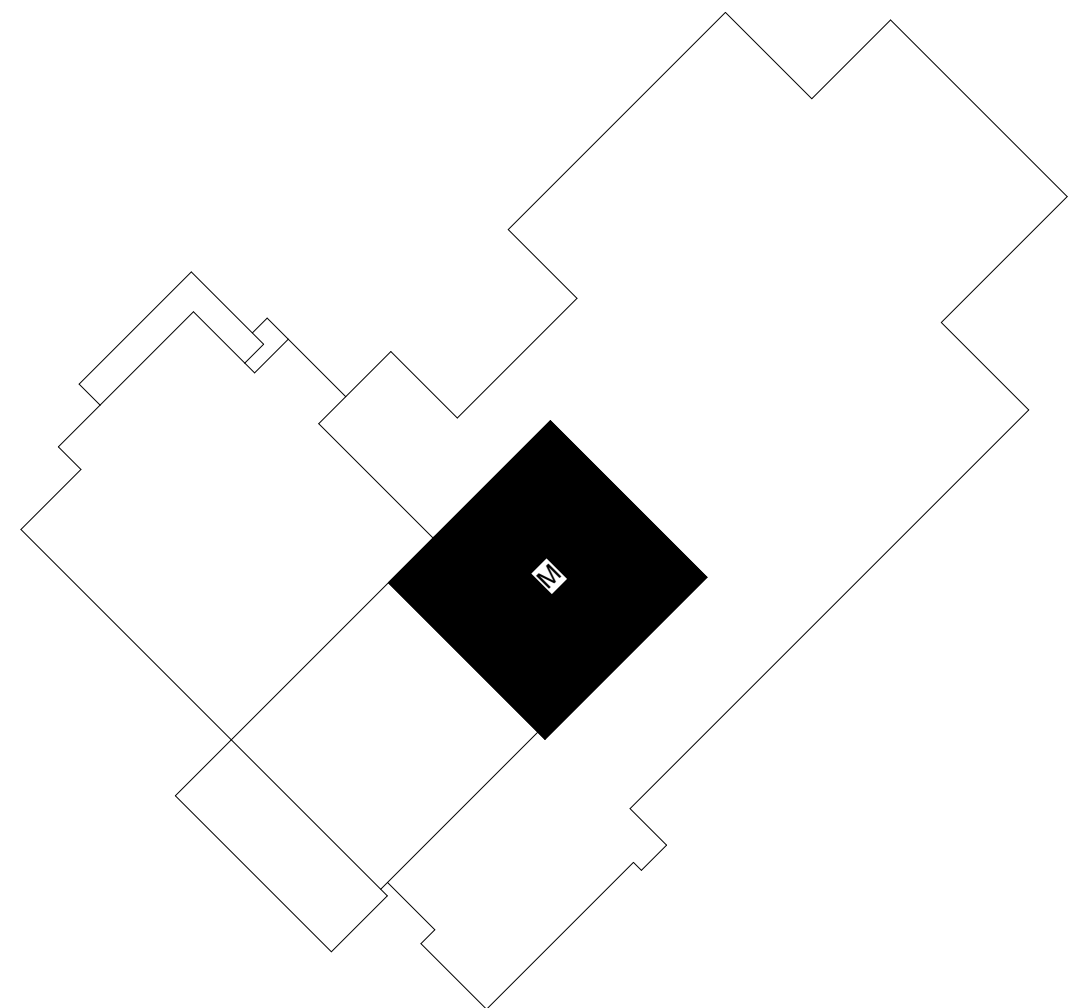


② Roof Drain Retrofit  
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① Architectural Roof Plan-New-M  
1/8\"/>

<u>ROOF PLAN LEGEND AND GENERAL NOTES</u>	
<u>ROOF MATERIAL LEGEND</u>	
<u>GRAPHIC</u>	<u>DESCRIPTION</u>
	2-PLY KEE ROOF SYSTEM (SLOPE PER NOTES)
	2-PLY KEE ROOF SYSTEM CRICKETS/SADDLE - SLOPED TO DRAIN (1/4" / FT)
 	RD (ROOF DRAIN) // ORD (OVERFLOW ROOF DRAIN)
(1) ROOF DRAIN TO BE REMOVED/REINSTALLED UNLESS DAMAGED AND IN NEED OF REPLACEMENT (SEE UNIT PRICING).	
(2) OVERFLOW ROOF DRAIN - Provide and install new cast iron overflow roof drain equal to 'Stout Chief 668-52ASC-W' with aluminum downspout gutter. Tie-in to nearest existing storm line (provide up to 10' new storm line in the pipe). Provide end ferrule clean out at end of new storm leader connection. All new storm piping shall be insulated with 1" flexible elastomeric insulation.	
	
<u>ROOF GENERAL NOTES</u>	
1.	ROOF SLOPES AND CRICKETS ARE SHOWN FOR DESIGN INTENT. FINAL LAYOUT AND SLOPED INSULATION DRAWINGS ARE TO BE PROVIDED PER SPECIFICATION 07 54 16.30.
	2. ROOF PENETRATION AND FLASHING DETAILS TO COMPLY WITH MFR'S RECOMMENDATIONS AND THE NRCA ROOFING MANUAL - LATEST EDITION.
	3. WHEN PERFORMING ROOF TIE-IN WORK, USE ONLY MATERIALS & METHODS APPROVED BY THE EXISTING ROOF SYSTEM MANUFACTURER.
	4. DRAWINGS ARE GENERAL FOR EXTENT OF ROOFTOP EQUIPMENT, CURBS, VENTS, PIPES, CONDUITS AND OTHER ITEMS PENETRATING THE ROOF. COORDINATE LOCATIONS FOR PROPER CLEARANCES PRIOR TO INSTALLATION.
	5. PROVIDE CRICKETS TO PROVIDED POSITIVE DRAINAGE AROUND ALL ROOF TOP EQUIPMENT AND HATCHES. CRICKETS MAY BE PLACED OVER TAPERED INSULATION FULLY ADHERED TO LIGHT WEIGHT CONCRETE OR SUBSTRATE.



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**REVISIONS**  
1. 04/01/2024  
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SEAL

**Pioneer Regional SC - Gym Roof Renovation**  
417 S Chicago St  
Royal Center, IN 46978



REVISIONS

NO. DESCRIPTION DATE

PROJECT NO. 2401101

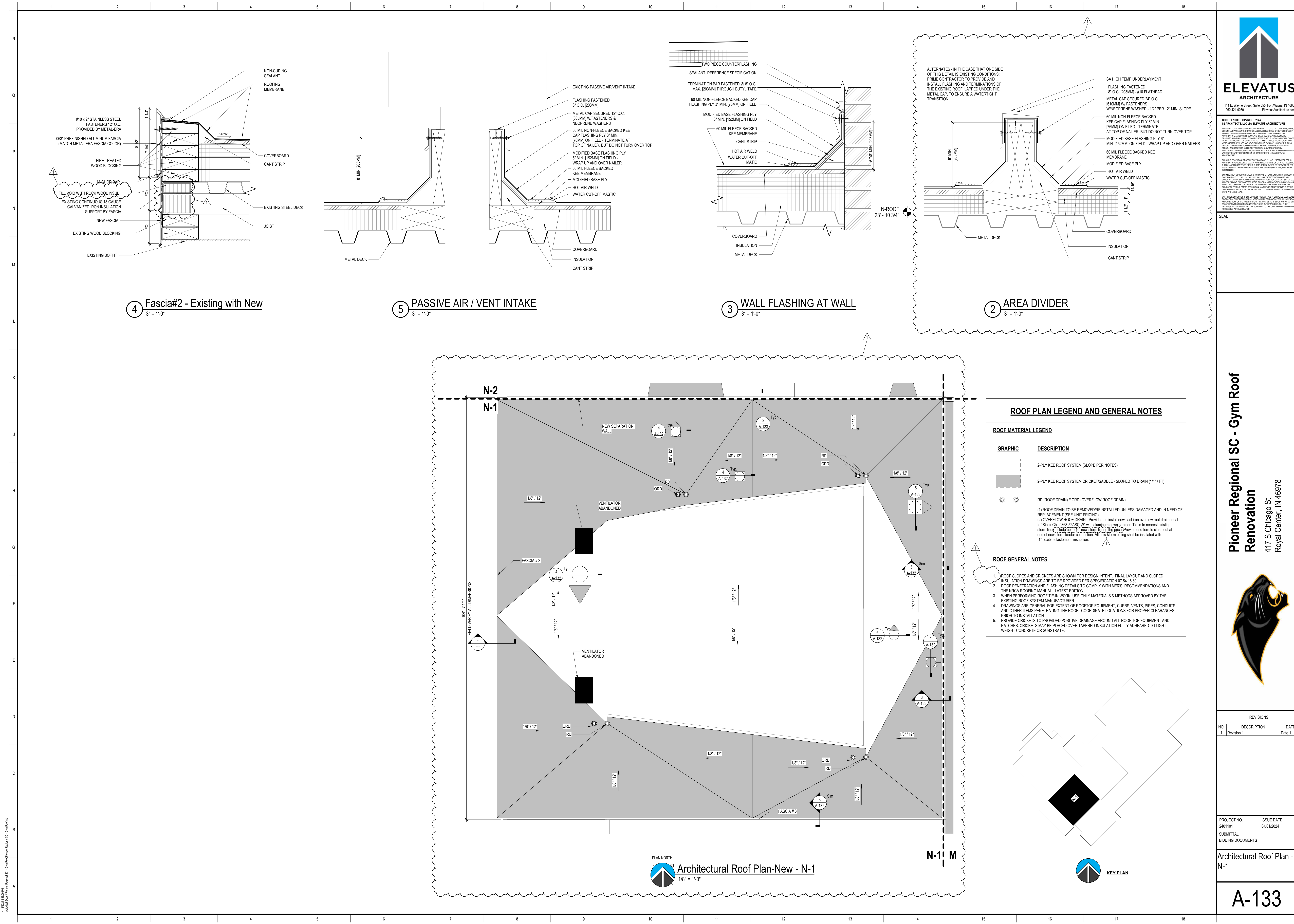
ISSUE DATE 04/01/2024

SUBMITTAL BIDDING DOCUMENTS

Architectural Roof Plan - M

A-132





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