Building Envelope Consultants, Ltd.
Architects • Engineers • Roof Consultants

Detroit, MI
Chicago, IL
Denver, CO
Tiburon, CA
St. Louis, MO
Indianapolis, IN
Kansas City, MO
Minneapolis, MN
HQ: Waukesha, WI

Addendum #4

Project: IN130-Inlow Hall-Replace Roof Phase 2-20240666
Project Number: 20240666
Date: February 12, 2026

Notice to all Plan Holders/Bidders:
The following modifications, additions, deletions, clarifications and/or information are now part of the Contract Documents and shall be fully binding. This addendum must be acknowledged as part of the Bid Form.

Item #1 (construction time frame and preferred times of operation):
Project start date: May 11, 2026; substantial completion: August 7, 2026. Preferred times for ballast removal are the following:

- Monday through Thursday, approximately 5 AM to 4 PM
- Fridays 5 AM until the evening

Noise restrictions:

- There may be noise restrictions the week of June 8th
- Final exams are June 24th through 26th; noisy work activities will not be allowed.
- During the summer session exams, July 8th through the 13th, noisy work activities will not be allowed.

See the attached revised bid form.

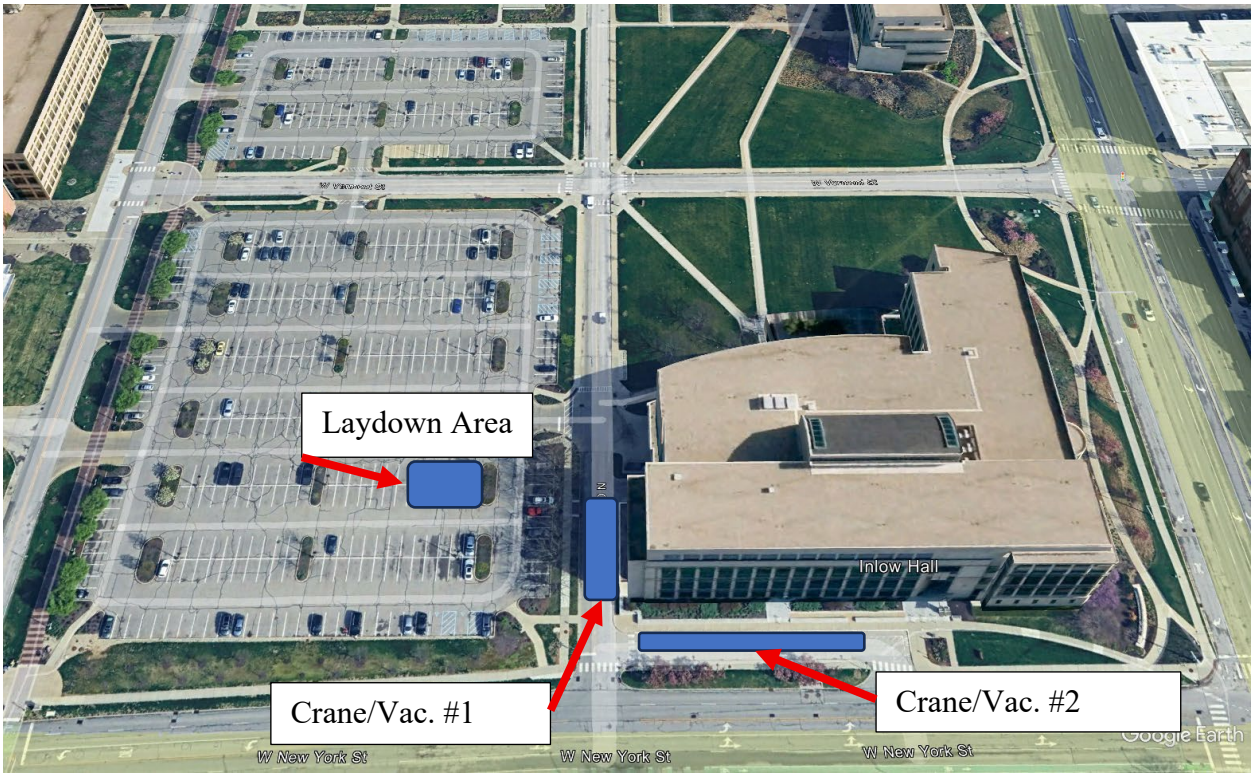
Item #2 (material laydown area):
See the attached aerial overview for the designated area for material storage, dumpster and fence.

Item #3 (crane and vacuum truck location):
See the attached aerial overview for the crane and vacuum location. California street to be closed for the construction project. Inlow Hall parking garage entrance and loading dock will remain open.

The fire lane south of the building may be used for crane/vacuum access. The south lane must remain open at all times. This area is for temporary access only (not long-term), and vehicles must be removed by the end of the workday or on short notice.

Item #4 (insulation attachment):
Insulation attachment has been revised. See the attached plan pages A1.3A and A1.3B and specification section 072224.

End of Addendum No. 4



Laydown Area:
See the shaded area above; 12 parking stalls are designated for material storage, etc.

Crane/Vac. Area #1:
See location above. The shaded area on California Street is the designated crane/vacuum truck location. The shaded area on California Street will be closed during construction. Access to the loading dock and Inlow Hall Parking garage entrance will remain in operation during the construction project.

Crane/Vac. Area #2:
See location above. The fire lane south of the building may be used for crane/vacuum access. The south lane must remain open at all times. This area is for temporary access only (not long-term), and vehicles must be removed by the end of the workday or on short notice.

BID FORM

for

IN130-Inlow Hall-Replace Roof Phase 2
Indiana University Indianapolis
Indianapolis, Indiana
IU 20240666

TO: The Trustees of Indiana University
Bloomington, Indiana

****Submit bid online via www.iuplanroom.com****

FROM:

Bidder's Name _____

Address _____

City, State, Zip Code _____

Phone Number _____ FAX Number _____

CONTACTS:

Bid / Contract Information: Name: _____

Phone: _____ E-mail: _____

Proposed Project Manager: Name: _____

Phone: _____ E-mail: _____

Indicate if your firm is a certified minority-, women-, or veteran-owned business ___Yes ___ No
If "Yes", please attach a copy of certification

FOR: **Unified Bid** to include General, Mechanical, and Electrical Construction Work

Bidders:

LUMP SUM BASE BID

The undersigned Bidder, with a complete understanding of existing conditions at the Project Site and a complete understanding of the Bidding Documents, including any Addenda acknowledged hereinafter, for Inlow Hall-Roof Replacement on the Indiana University Indianapolis campus, as prepared by Building Envelope Consultants, Ltd., hereby proposes to complete the project, in full and complete accordance with the requirements of the Bidding documents, for the LUMP SUM BASE BID PRICE of:

_____ Dollars $_____
(written amount) (numerals)

MAJOR SUBCONTRACTORS

Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner and the Owner's Representative must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner and the Owner's Representative.

If requested, the supplemental Subcontractors and Products List will be submitted by email to the Owner, bidtab@iu.edu, and Building Envelope Consultants Ltd. info@building-envelope.net within 48 hours of the bid opening. The understanding of the Owner and the design team is that these same Major Subcontractors will be the same subcontractors listed below.

The Contractor proposes to utilize the following primary subcontractors for the work indicated.

List one major subcontractor per trade. Any deviation could result in the Owner removing the bid from consideration.

Indicate which are certified by the State of Indiana as an MBE, WBE, or VBE company by circling the M/W/VBE after the name.

Roofing: _____ M/W/VBE

Sealant: _____ M/W/VBE

Ballast Removal: _____ M/W/VBE

Sheet Metal: _____ M/W/VBE

Fall Protection Anchors/Guard Rails: _____ M/W/VBE

ALTERNATE PROPOSALS

1. Alternate proposals are requested under Alternates of the Bidding Documents. (See Specification Index)
2. The alternate proposal shall indicate the amount to be added to or deducted from the Lump Sum Base Bid if the alternate proposal is accepted by the Owner.
3. The alternate proposal shall include all costs necessary for the complete installation of the materials or items indicated for the alternate proposal, including materials, labor, equipment, operations, administration, overhead, profit, and taxes (as applicable).
4. The alternate proposal shall also include all costs for changes in the work (including work of other Separate Contracts) that will be made necessary by acceptance of the alternate proposal.
5. The Bidder shall submit prices for all the alternates listed below in the manner indicated. Cross out (Add) or (Deduct) as applicable. If there is no change in price to the Lump Sum Base Bid, write in "No Change".

Alternate No. 1: ALL ROOF AREAS: 60-MIL EPDM MEMBRANE WITH A 25-YEAR "TOTAL SYSTEM WARRANTY".

(Add) (Deduct) _____ Dollars $_____
(written amount) (numerals)

Alternate No. 2: INSTALL CUSTOM SKYLIGHT GUARDS/COVERS IN ROOF AREA E.

(Add) (Deduct) _____ Dollars $_____
(written amount) (numerals)

UNIT PRICES

1. The following Unit Prices shall include all costs necessary for the complete installation of the materials or items indicated, including materials, labor, equipment, operations, administration, overhead, profit and taxes (if applicable).
2. These Unit Prices shall be used to determine the costs for changes in the work during the construction period, when agreed upon by the Owner.
3. These Unit Prices are submitted as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.
4. The Bidder shall submit one Unit Price for each of the following items, plus any other Unit Prices requested in the Bidding Documents, in the manner indicated.

SCHEDULE OF UNIT PRICES:

A. Section 024104 – Roof Removal and Substrate Preparation for Re-Roof

Unit Price No. 1: Roof drain assembly replacement:

Add/Deduct:_____dollars (each).

Unit Price No. 2: Roof drain assembly replacement (work performed on the weekends):

Add/Deduct:_____dollars (each).

Unit Price No. 3: Roof drain clamping ring replacement:

Add/Deduct:_____dollars (each).

Unit Price No. 4: Retrofit roof drain insert installation:

Add/Deduct:_____dollars (each).

Unit Price No. 5: Clear/clean the drain of debris:

Add/Deduct:_____dollars (each).

B. Roof Removal and Disposal of Non-Friable ACM (per owner rep.'s report)

Unit Price No. 6: Removal and Disposal of Non-Friable of Asbestos (Membrane):

Add/Deduct:_____dollars (per square foot).

Unit Price No. 7: Removal and Disposal of Non-Friable of Asbestos (Flashing):

Add/Deduct:_____dollars (per lineal foot).

Unit Price No. 8: Removal and Disposal of Non-Friable of Asbestos (Sealant):

Add/Deduct:_____dollars (per lineal foot).

C. Section 030150 – Concrete Roof Deck Repair

Unit Price No. 9: Repair at Opening Caused by Obsolete Roof Penetration Removal:

Add/Deduct:_____dollars (per square foot).

Unit Price No. 10: Localized Concrete Deck Repair:

Add/Deduct:_____dollars (per square foot).

Unit Price No. 11: Localized Pre-Cast Concrete Deck Joint Repair**:**

Add/Deduct:_____dollars (per lineal foot).

D. Section 053123 – Steel Roof Deck Repair/Replacement

Unit Price No. 12: Refastening of loose steel deck, at the rate indicated in Section 053123:

Add/Deduct:_____dollars (per square foot).

Unit Price No. 13: Steel deck brushing and priming:

Add/Deduct:_____dollars (per square foot).

Unit Price No. 14: Steel deck repair 12 inches x 12 inches or less:

Add/Deduct:_____dollars (per square foot).

Unit Price No. 15: Steel deck replacement:

Add/Deduct:_____dollars (per square foot).

E. Section 061053 – Rough Carpentry for Roof Replacement

Unit Price No. 16: Removal and replacement of existing wood nailers and blocking, where existing are deteriorated, and/or at locations not indicated within the project drawings:

2" x 6" Add/Deduct:_____dollars (per lineal foot).

2" x 8" Add/Deduct:_____dollars (per lineal foot).

2" x 10" Add/Deduct:_____dollars (per lineal foot).

2" x 12" Add/Deduct:_____dollars (per lineal foot).

Unit Price No. 17: Removal and replacement of plywood, where existing is deteriorated, and/or at locations not indicated within the project drawings:

3/4" Add/Deduct:_____dollars (per square foot).

F. Section 072224 – Roof Insulation and Re-cover Board

Unit Price No. 18: Provide a cost per square foot to adjust the amount of replacement insulation required at the facility indicated in Paragraph 1.1.A of Section 072224, as dictated by the Owner's representative:

Area A Add/Deduct:_____dollars (per square foot).

Area B Add/Deduct:_____dollars (per square foot).

Area C Add/Deduct:_____dollars (per square foot).

Area D Add/Deduct:_____dollars (per square foot).

Area E Add/Deduct:_____dollars (per square foot).

Area F Add/Deduct:_____dollars (per square foot).

Area G Add/Deduct:_____dollars (per square foot).

Area H Add/Deduct:_____dollars (per square foot).

Area J Add/Deduct:_____dollars (per square foot).

G. Section 110100 – Single Point Fall Protection

Unit Price No. 19: Supply and install Roof Anchor:
Add/Deduct:_____dollars (per unit).

Unit Price No. 20: Install Roof Anchors over the weekend:
Add/Deduct:_____dollars (per unit).

TAX EXEMPTIONS

The undersigned Bidder has informed himself and all his prospective sub-contractors and suppliers of the tax exempt status of the Owner, as set forth in the General Conditions, and therefore, has not included these taxes in his Lump Sum Base Bid price.

SUBSTITUTIONS

The undersigned Bidder has based his bid upon the materials, products, articles, equipment, brands, manufacturers and processes described in the Bidding Documents or upon approved equivalents. Proof of equivalency of substitutions is the responsibility of the Bidder, but the Architect/Engineer shall be the sole judge of equivalency. Proposed equivalent substitutions shall be equal in all respects to the requirements of the Bidding Documents, including but not limited to the design, quality, physical size, performance characteristics, strength, previous history of use, and to the method of installation, attachment, or connection to related or adjoining work. Determination of equivalency of proposed substitutions shall be by the Architect/Engineer, before the bid opening date, as described in paragraph entitled "Substitutions" in the Instructions to Bidders.

COMPLETION DATE

The Undersigned Bidder agrees to coordinate and expedite his work and shall take into consideration any lead time and schedule parameters with all contractors, and that this Work will be completed no later than August 7, 2026.

ASSIGNMENT OF COORDINATION

The undersigned Bidder agrees to the assignment of Mechanical and Electrical work to the successful General Contractor for the responsibility of complete coordination of the work as stated in the Instructions to Bidders.

PERFORMANCE AND PAYMENT BOND

The undersigned Bidder agrees, if awarded the Contract, to deliver to the Owner a satisfactory Performance Bond, in the full amount (100%) of the total Contract price, not later than the date of execution of the contract. The cost of the Bond shall be included in the Lump Sum Base Bid contained in this Proposal.

SUPPLEMENTAL AND REQUIRED DOCUMENTS

Bid Security; State Form 96 (Revised 2013); Written Drug Testing Program, which must be in full compliance with IC 4-13-18; a completed Minority, Women's and Veteran's Business Enterprise Participation Plan; Contractor Asbestos Certification; Asbestos Protocol for Contractors.

ADDENDA

The following Addenda have been received by the undersigned Bidder; and all costs resulting from these Addenda have been included in the preparation of this Bid Form:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

SIGNATURES

1. **When a Bidder is an Individual**:

_____ _____

Witness Bidder

Date: _____ Address: _____

_____

2. **When a Bidder is a Partnership**: _____

Name of Partnership

Date: _____ Address: _____

_____

_____ _____

Partner Partner

3. When Bidder is a Corporation: _____

Name of Corporation

Date: _____ Address: _____

_____

By: _____

President

Attest: _____

Secretary

CORPORATE SEAL

END

****Submit bid online via www.iuplanroom.com****

WOOD NAILER INFORMATION AND ATTACHMENT:

1.) NAILERS: PRESSURE TREATED SOUTHERN PINE #2 OR BETTER

2.) NAILER ATTACHMENT TO OTHER NAILERS:
2x4 AND 2x6 NAILERS: (1) ROW OF #14x3" STAINLESS STEEL SCREWS SPACED 12" O.C.
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF #14x3" STAINLESS STEEL SCREWS SPACED 12" O.C. OFFSET ROWS 6".
(ALL CASES PENETRATE WOOD SUBSTRATE 1-1/2")

3.) NAILER ATTACHMENT TO STEEL DECK:
2x4 AND 2x6 NAILERS: (1) ROW OF #14x3" STAINLESS STEEL SCREWS SPACED 6" O.C.
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF #14x3" STAINLESS STEEL SCREWS SPACED 8" O.C. OFFSET ROWS 4".
CONTRACTOR TO VERIFY THE EXISTING STEEL DECK THICKNESS IS GREATER THAN OR EQUAL TO 22 GAUGE. CONTACT, BEC FOR ALTERNATE ATTACHMENT TO THE STEEL DECK IF DECK THICKNESS LESS THAN 22 GUAGE. FASTENER LENGTH ADEQUATE TO PENETRATE SUBSTRATE A MINIMUM OF 3/4". VERIFY ITEMS BELOW DECK AS NOT TO CAUSE DAMAGE.

4.) NAILER ATTACHMENT TO CONCRETE FILLED CMU:
2x4 AND 2x6 NAILERS: (1) ROW OF 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1-3/4" SPACED 16" O.C.. PROVIDE MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4".
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1-3/4" SPACED 16" O.C.. OFFSET ROWS 8". PROVIDE MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4"
FASTENERS LENGTH AS REQUIRED TO SECURE THE NAILER AND MEET THE REQUIRED MINIMUM EMBEDMENT.

5.) PLYWOOD ATTACHMENT TO CONCRETE FILLED CMU OR CONCRETE PARAPET WALLS:
3/4" PLYWOOD: (1) 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1" SPACED 12" O.C. EACH WAY.
FASTENERS LENGTH AS REQUIRED TO SECURE PLYWOOD AND MEET THE REQUIRED MINIMUM EMBEDMENT.

WIND DESIGN DATA:

SITE/BUILDING INFORMATION (BASED ON IBC 2018 AND ASCE 7-16):

OCCUPANCY GROUP - MAIN BUILDING:	E (EDUCATION)
RISK CATEGORY:	III
GRADE LEVEL ABOVE SEA LEVEL:	710 FT (C_e=1.0 CONSERVATIVE)
EXPOSURE CATEGORY:	B
ULTIMATE WIND SPEED:	113 MPH
WIND SPEED (NOMINAL):	87.5 MPH
ENCLOSURE CLASSIFICATION:	ENCLOSED
MEAN ROOF HEIGHT, PARAPET HT. AND a:	VARIES PER ROOF AREA SEE ROOF AREA TABLES

NOTES:
STATED PRESSURES ARE BASED ON THE FOLLOWING:
1.) DESIGN UPLIFT-RESISTANCE CAPACITY = ASD METHOD WIND LOAD X S.F.
2.) ASD = ALLOWABLE STRESS DESIGN
3.) S.F. = SAFETY FACTOR OF 2.0

ROOF DESIGN UPLIFT PRESSURES: ROOF AREAS A, B, F, G, H AND J ⚠

DESIGN UPLIFT PRESSURES (PSF):

ZONE 1	ZONE 2	ZONE 3
55	75	100

NOTES:
- MEAN ROOF HEIGHT = 60 FT
- 0.6h = 36 FT
- 0.2h = 12 FT

ZONE KEY:
- ZONE 1 (FIELD) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2 (PERIMETER) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3 (CORNER) - SEE CHART SPECIFIC TO ROOF AREA

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA C

DESIGN UPLIFT PRESSURES (PSF):

ALL ZONES
160

NOTES:
- MEAN ROOF HEIGHT = 65 FT
- a = 8 FT
- 2a = 16 FT

ZONE KEY:
- ALL ZONES - SEE CHART SPECIFIC TO ROOF AREA

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA D

DESIGN UPLIFT PRESSURES (PSF):

ZONE 1	ZONE 2	ZONE 3	OVERHANG
50	75	105	160

NOTES:
- MEAN ROOF HEIGHT = 65 FT
- a = 8 FT
- 2a = 16 FT

ZONE KEY:
- ZONE 1 (FIELD) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2 (PERIMETER) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3 (CORNER) - SEE CHART SPECIFIC TO ROOF AREA
- OVERHANG - SEE CHART SPECIFIC TO ROOF AREA

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA E

DESIGN UPLIFT PRESSURES (PSF):

ZONES 1, 2e	ZONES 2n, 2r, 3e	ZONE 3r
90	130	155

NOTES:
- MEAN ROOF HEIGHT = 86 FT
- a = 4 FT ROUND - USE a = 4 FT

ZONE KEY:
- ZONE 1 AND 2e - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2n, 2r AND 3e - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3r - SEE CHART SPECIFIC TO ROOF AREA

3 ZONES W/ WIND PRESSURES
SCALE: NONE

ABOVE DECK COMPONENT ATTACHMENT: AREAS A, B AND J ⚠⚠

ATTACHMENT FOR CONCRETE DECKS	FIELD OF ROOF	PERIMETERS	CORNERS
COVER BOARD	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).
INSULATION	LOOSE-LAID	LOOSE-LAID	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: OVERHANGS AREA C

ATTACHMENT FOR CONCRETE DECKS	OVERHANG
COVER BOARD	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).
INSULATION	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: AREA E

ATTACHMENT FOR STEEL DECKS	ZONES 1 AND 2e	ZONES 2r, 2n AND 3e	ZONE 3r
COVER BOARD	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).

ABOVE DECK COMPONENT ATTACHMENT: AREAS D, F AND H ⚠

ATTACHMENT FOR STEEL DECKS	FIELD OF ROOF	PERIMETERS	CORNERS AND OVERHANGS IN ROOF AREA D
COVER BOARD	MECH. ATTACH WITH 12 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 2.67 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).
TOP INSULATION LAYER	LOOSE-LAID	LOOSE-LAID	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: AREAS G

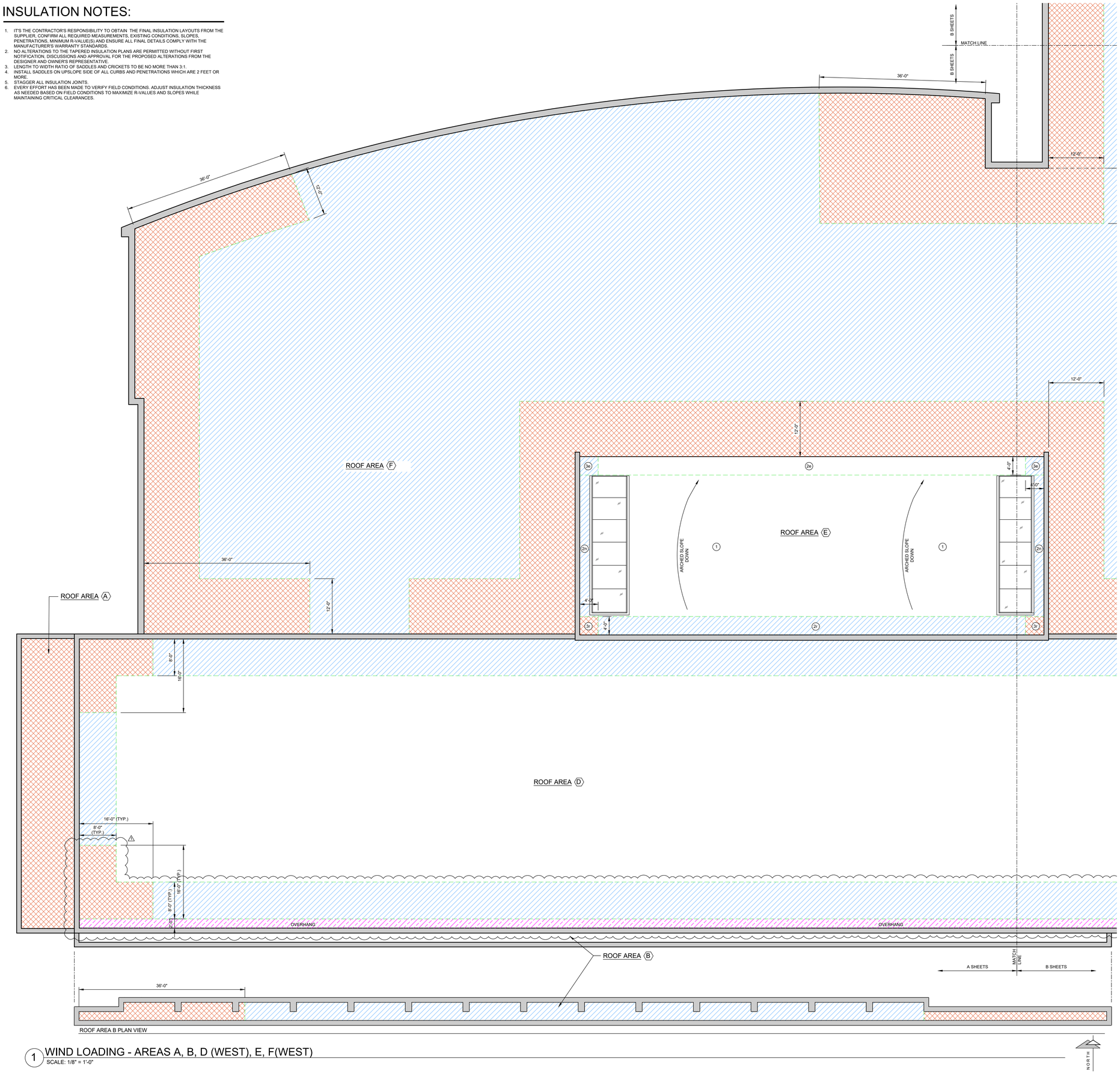
ATTACHMENT FOR STEEL DECKS	FIELD OF ROOF	PERIMETERS	CORNERS
COVER BOARD	MECH. ATTACH WITH 12 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 2.67 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).

NOTES:
1.) IF ANY PORTION OF THE BOARD LIES IN PERIMETER OR CORNER ZONE, ENHANCE THE FASTENING OF THE ENTIRE BOARD
2.) VERIFY WITH THE MANUFACTURER ALL ATTACHMENT REQUIREMENTS INCLUDING BUT NOT ARE LIMITED TO FASTENER TYPE, DIAMETER, LENGTH, MATERIALS, SPACINGS, ENGAGEMENT AND EMBEDMENT.

2 ABOVE DECK ATTACHMENTS
SCALE: NONE

INSULATION NOTES:

1. IT'S THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE FINAL INSULATION LAYOUTS FROM THE SUPPLIER, CONFIRM ALL REQUIRED MEASUREMENTS, EXISTING CONDITIONS, SLOPES, PENETRATIONS, MINIMUM R-VALUE(S) AND ENSURE ALL FINAL DETAILS COMPLY WITH THE MANUFACTURER'S WARRANTY STANDARDS.
2. NO ALTERATIONS TO THE TAPERED INSULATION PLANS ARE PERMITTED WITHOUT FIRST NOTIFICATION, DISCUSSIONS AND APPROVAL FOR THE PROPOSED ALTERATIONS FROM THE DESIGNER AND OWNER'S REPRESENTATIVE.
3. LENGTH TO WIDTH RATIO OF SADDLES AND CRICKETS TO BE NO MORE THAN 3:1.
4. INSTALL SADDLES ON UPSLOPE SIDE OF ALL CURBS AND PENETRATIONS WHICH ARE 2 FEET OR MORE.
5. STAGGER ALL INSULATION JOINTS.
6. EVERY EFFORT HAS BEEN MADE TO VERIFY FIELD CONDITIONS. ADJUST INSULATION THICKNESS AS NEEDED BASED ON FIELD CONDITIONS TO MAXIMIZE R-VALUES AND SLOPES WHILE MAINTAINING CRITICAL CLEARANCES.



ROOF AREA B PLAN VIEW

1 WIND LOADING - AREAS A, B, D (WEST), E, F(WEST)
SCALE: 1/8" = 1'-0"

NORTH

Indianapolis Office:
8888 Keystone Crossing
Suite 1300
Indianapolis, IN 46240
Phone: 463-230-8116

Detroit, MI
Chicago, IL
Kansas City, MO
Tiburon, CA
St. Louis, MO
Indianapolis, IN
Kansas City, MO
Minneapolis, MN
HQ: Waukesha, WI

Building Envelope Consultants, Ltd.
Design • Inspect • TEST

DATE:	NOTES:
8/28/2025	75% CD REVIEW SET
11/20/2025	95% CD REVIEW SET
1/9/2026	BID SET
1/23/2026	ADDENDUM #2 ⚠
2/11/2026	ADDENDUM #4 ⚠

PROJECT NO.: N/A
INITIALS: JS/TL

IN130 INLOW HALL-REPLACE ROOF PHASE 2 (20240666)
INDIANA UNIVERSITY - INDIANAPOLIS
530 W. NEW YORK STREET
INDIANAPOLIS, IN 46202

SHEET TITLE:
WIND LOADING INFORMATION - AREAS A, B, D (WEST), E, F(WEST)

SHEET NUMBER:
A1.3A

WIND DESIGN DATA:

SITE/BUILDING INFORMATION (BASED ON IBC 2018 AND ASCE 7-16):

OCCUPANCY GROUP - MAIN BUILDING:	E (EDUCATION)
RISK CATEGORY:	III
GRADE LEVEL ABOVE SEA LEVEL:	710 FT (C_e=1.0 CONSERVATIVE)
EXPOSURE CATEGORY:	B
ULTIMATE WIND SPEED:	113 MPH
WIND SPEED (NOMINAL):	87.5 MPH
ENCLOSURE CLASSIFICATION:	ENCLOSED
MEAN ROOF HEIGHT, PARAPET HT. AND a:	VARIES PER ROOF AREA SEE ROOF AREA TABLES

NOTES:
STATED PRESSURES ARE BASED ON THE FOLLOWING:
1.) DESIGN UPLIFT-RESISTANCE CAPACITY = ASD METHOD WIND LOAD X S.F.
2.) ASD = ALLOWABLE STRESS DESIGN
3.) S.F. = SAFETY FACTOR OF 2.0

ROOF DESIGN UPLIFT PRESSURES: ROOF AREAS A, B, F, G, H AND J

DESIGN UPLIFT PRESSURES (PSF):

ZONE 1	ZONE 2	ZONE 3
55	75	100

ZONE KEY:

- ZONE 1 (FIELD) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2 (PERIMETER) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3 (CORNER) - SEE CHART SPECIFIC TO ROOF AREA

NOTES:
- MEAN ROOF HEIGHT = 60 FT
- 0.6h = 36 FT
- 0.2h = 12 FT

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA C

DESIGN UPLIFT PRESSURES (PSF):

ALL ZONES
160

ZONE KEY:

- ALL ZONES - SEE CHART SPECIFIC TO ROOF AREA

NOTES:
- MEAN ROOF HEIGHT = 65 FT
- a = 8 FT
- 2a = 16 FT

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA D

DESIGN UPLIFT PRESSURES (PSF):

ZONE 1	ZONE 2	ZONE 3	OVERHANG
50	75	105	160

ZONE KEY:

- ZONE 1 (FIELD) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2 (PERIMETER) - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3 (CORNER) - SEE CHART SPECIFIC TO ROOF AREA
- OVERHANG - SEE CHART SPECIFIC TO ROOF AREA

NOTES:
- MEAN ROOF HEIGHT = 65 FT
- a = 8 FT
- 2a = 16 FT

ROOF DESIGN UPLIFT PRESSURES: ROOF AREA E

DESIGN UPLIFT PRESSURES (PSF):

ZONES 1, 2e	ZONES 2n, 2r, 3e	ZONE 3r
90	130	155

ZONE KEY:

- ZONE 1 AND 2e - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 2n, 2r AND 3e - SEE CHART SPECIFIC TO ROOF AREA
- ZONE 3r - SEE CHART SPECIFIC TO ROOF AREA

NOTES:
- MEAN ROOF HEIGHT = 86 FT
- a = 4 FT ROUND - USE a = 4 FT

5 ZONES W/ WIND PRESSURES
SCALE: NONE

ABOVE DECK COMPONENT ATTACHMENT: AREAS A, B AND J

ATTACHMENT FOR CONCRETE DECKS	FIELD OF ROOF	PERIMETERS	CORNERS
COVER BOARD	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).
INSULATION	LOOSE-LAID	LOOSE-LAID	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: OVERHANGS AREA C

ATTACHMENT FOR CONCRETE DECKS	OVERHANG
COVER BOARD	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).
INSULATION	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: AREA E

ATTACHMENT FOR STEEL DECKS	ZONES 1 AND 2e	ZONES 2r, 2n AND 3e	ZONE 3r
COVER BOARD	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).

ABOVE DECK COMPONENT ATTACHMENT: AREAS D, F AND H

ATTACHMENT FOR STEEL DECKS	FIELD OF ROOF	PERIMETERS	CORNERS AND OVERHANGS IN ROOF AREA D
COVER BOARD	MECH. ATTACH WITH 12 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 2.67 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).
TOP INSULATION LAYER	LOOSE-LAID	LOOSE-LAID	LOOSE-LAID

ABOVE DECK COMPONENT ATTACHMENT: AREAS G

ATTACHMENT FOR STEEL DECKS	FIELD OF ROOF	PERIMETERS	CORNERS
COVER BOARD	MECH. ATTACH WITH 12 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 2.67 SF).	MECH. ATTACH WITH 24 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.33 SF).	MECH. ATTACH WITH 32 FASTENERS PER 4' X 8' BOARD (ONE FASTENER PER 1.00 SF).

NOTES:
1.) IF ANY PORTION OF THE BOARD LIES IN PERIMETER OR CORNER ZONE, ENHANCE THE FASTENING OF THE ENTIRE BOARD
2.) VERIFY WITH THE MANUFACTURER ALL ATTACHMENT REQUIREMENTS INCLUDING BUT NOT ARE LIMITED TO FASTENER TYPE, DIAMETER, LENGTH, MATERIALS, SPACINGS, ENGAGEMENT AND EMBEDMENT.

4 ABOVE DECK ATTACHMENTS
SCALE: NONE

WOOD NAILER INFORMATION AND ATTACHMENT:

1.) NAILERS: PRESSURE TREATED SOUTHERN PINE #2 OR BETTER

2.) NAILER ATTACHMENT TO OTHER NAILERS:
2x4 AND 2x6 NAILERS: (1) ROW OF #14x3" STAINLESS STEEL SCREWS SPACED 12" O.C.
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF #14x3" STAINLESS STEEL SCREWS SPACED 12" O.C. OFFSET ROWS 6".
(ALL CASES PENETRATE WOOD SUBSTRATE 1-1/2")

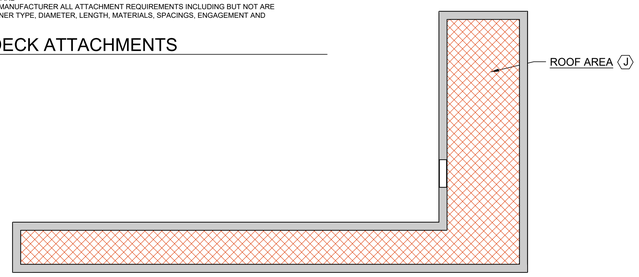
3.) NAILER ATTACHMENT TO STEEL DECK:
2x4 AND 2x6 NAILERS: (1) ROW OF #14x3" STAINLESS STEEL SCREWS SPACED 6" O.C.
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF #14x3" STAINLESS STEEL SCREWS SPACED 8" O.C. OFFSET ROWS 4".
CONTRACTOR TO VERIFY THE EXISTING STEEL DECK THICKNESS IS GREATER THAN OR EQUAL TO 22 GAUGE. CONTACT, BEC FOR ALTERNATE ATTACHMENT TO THE STEEL DECK IF DECK THICKNESS LESS THAN 22 GUAGE. FASTENER LENGTH ADEQUATE TO PENETRATE SUBSTRATE A MINIMUM OF 3/4". VERIFY ITEMS BELOW DECK AS NOT TO CAUSE DAMAGE.

4.) NAILER ATTACHMENT TO CONCRETE FILLED CMU:
2x4 AND 2x6 NAILERS: (1) ROW OF 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1-3/4" SPACED 16" O.C., PROVIDE MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4"
2x8 THROUGH 2x12 NAILERS: (2) ROWS OF 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1-3/4" SPACED 16" O.C., OFFSET ROWS 8", PROVIDE MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4"
FASTENERS LENGTH AS REQUIRED TO SECURE THE NAILER AND MEET THE REQUIRED MINIMUM EMBEDMENT.

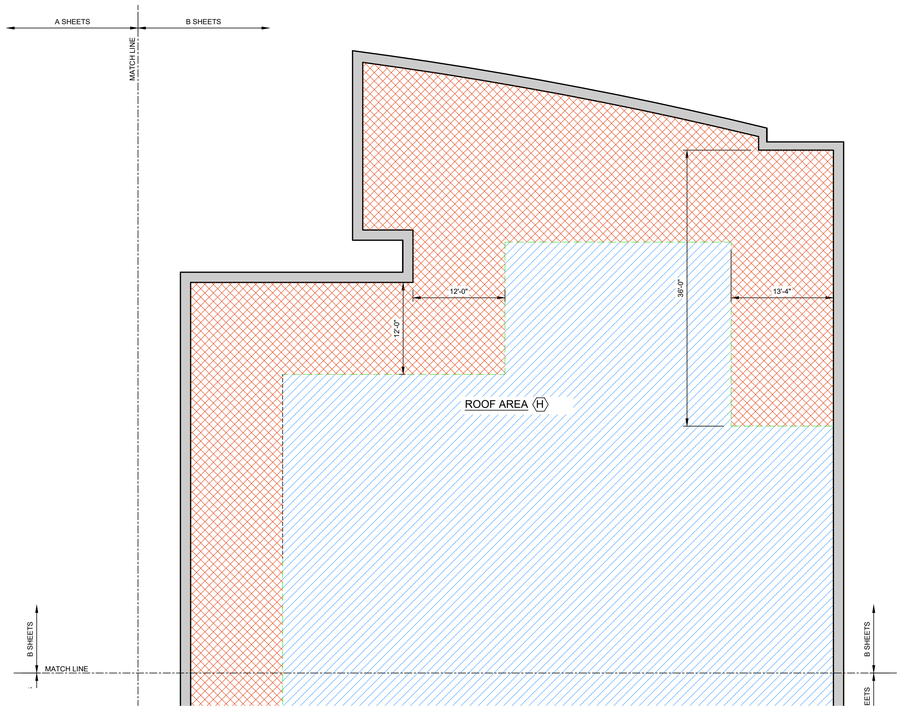
5.) PLYWOOD ATTACHMENT TO CONCRETE FILLED CMU OR CONCRETE PARAPET WALLS:
3/4" PLYWOOD: (1) 3/16"Ø TAPCONS WITH A MINIMUM EMBEDMENT OF 1" SPACED 12" O.C. EACH WAY.
FASTENERS LENGTH AS REQUIRED TO SECURE PLYWOOD AND MEET THE REQUIRED MINIMUM EMBEDMENT.

INSULATION NOTES:

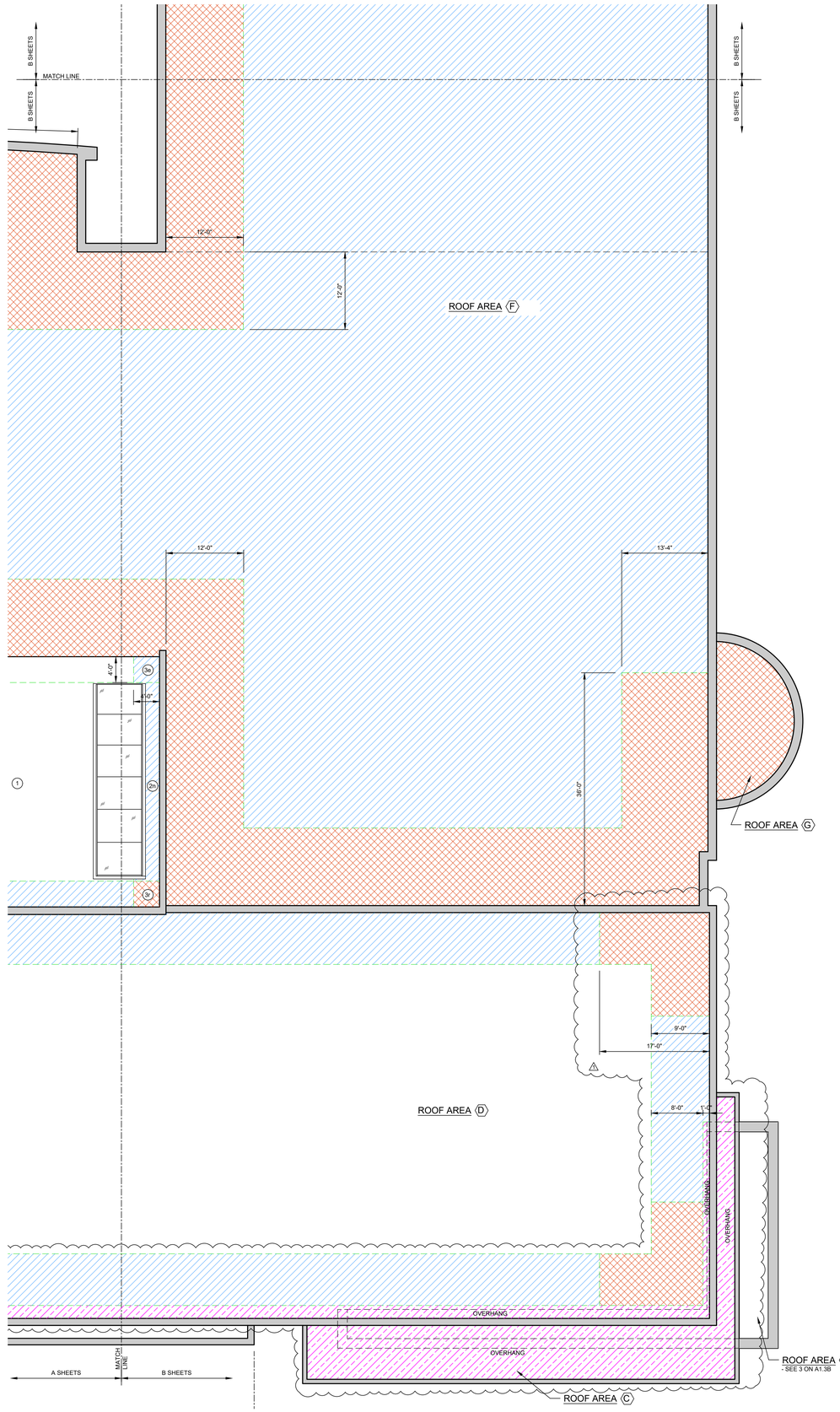
1. IT'S THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE FINAL INSULATION LAYOUTS FROM THE SUPPLIER, CONFIRM ALL REQUIRED MEASUREMENTS, EXISTING CONDITIONS, SLOPES, PENETRATIONS, MINIMUM R-VALUE(S) AND ENSURE ALL FINAL DETAILS COMPLY WITH THE MANUFACTURER'S WARRANTY STANDARDS.
2. NO ALTERATIONS TO THE TAPERED INSULATION PLANS ARE PERMITTED WITHOUT FIRST NOTIFICATION, DISCUSSIONS AND APPROVAL FOR THE PROPOSED ALTERATIONS FROM THE DESIGNER AND OWNER'S REPRESENTATIVE.
3. LENGTH TO WIDTH RATIO OF SADDLES AND CRICKETS TO BE NO MORE THAN 3:1.
4. INSTALL SADDLES ON UPSLOPE SIDE OF ALL CURBS AND PENETRATIONS WHICH ARE 2 FEET OR MORE.
5. STAGGER ALL INSULATION JOINTS.
6. EVERY EFFORT HAS BEEN MADE TO VERIFY FIELD CONDITIONS. ADJUST INSULATION THICKNESS AS NEEDED BASED ON FIELD CONDITIONS TO MAXIMIZE R-VALUES AND SLOPES WHILE MAINTAINING CRITICAL CLEARANCES.



3 WIND LOADING - AREA J
SCALE: 1/8" = 1'-0"



2 WIND LOADING - AREA H
SCALE: 1/8" = 1'-0"



1 WIND LOADING - AREAS C, D (EAST), F (EAST), G, J
SCALE: 1/8" = 1'-0"

Indianapolis Office:
8888 Keystone Crossing
Suite 1300
Indianapolis, IN 46240
Phone: 463-230-8116

Detroit, MI
Chicago, IL
Kansas City, MO
Tiburon, CA
St. Louis, MO
Indianapolis, IN
Kansas City, MO
Minneapolis, MN
HQ: Waukesha, WI

Building Envelope Consultants, Ltd.
Design • Inspect • TEST

DATE:	NOTES:
8/28/2025	75% CD REVIEW SET
11/20/2025	95% CD REVIEW SET
1/9/2026	BID SET
1/23/2026	ADDENDUM #2 ⚠2
2/11/2026	ADDENDUM #4 ⚠4

PROJECT NO.: N/A
INITIALS: JS/TL

IN130 INLOW HALL-REPLACE ROOF PHASE 2 (20240666)

INDIANA UNIVERSITY - INDIANAPOLIS
530 W. NEW YORK STREET
INDIANAPOLIS, IN 46202

SHEET TITLE:
WIND LOADING INFORMATION - AREAS C, D (EAST), F (EAST), G, H, J

SHEET NUMBER:
A1.3B

SECTION 07 22 24

ROOF INSULATION AND RE-COVER BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Installation of replacement roof insulation at areas determined to contain wet/damaged existing roof insulation, additional overlying insulation, and re-cover board over existing roof systems.

B. **NOTE:** The scope of replacement insulation to be included in the base bid. No moisture testing was performed. Assume area of wet/damaged insulation is 10% of the roof area. Final contract costs to be adjusted based on actual field conditions, approvals and unit costs indicated on the bid form.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024104 – Selective Roof Removal and Preparation for Re-cover

D. Section 030150 – Concrete Roof Deck Repair

E. Section 053123 – Steel Roof Deck Repair and Replacement

F. Section 072215 - Underlayment for Roof Replacement

G. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.3 REFERENCES

A. Reference standards of the following sources are applicable to products and procedures specified in Part 2 - Products and Part 3 – Execution of this Section:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
      b. ASTM C1177 - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
      c. ASTM C1278 - Standard Specification for Fiber-Reinforced Gypsum Panel

1.4 SUBMITTALS

A. Prior to the start of work, submit the following to the Owner for approval:
   1. Product submittals required within Section 013300.

B. Refer to Section 013300 for procedural requirements related to the submittal process.

1.5 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive a manufacturer's warranty. Company shall have a minimum of 10 years documented experience certified by roofing system manufacturer.

B. Single Source Responsibility: Roofing system materials and components shall be supplied and warranted by roofing system manufacturer for specified roofing system and shall be in compliance with specified regulatory requirements.

C. Examine the technical specifications and drawings. Verify all dimensions, detail conditions, roof plan notes and existing site conditions that may affect the work. Verification of existing dimensions and site conditions is the responsibility of the Contractor. No additional compensation will be considered for failure to verify existing dimensions, detail conditions, roof plan note callouts, and existing site conditions.

D. Upon examination, if conflicts between the technical specifications and drawings, and those of federal, state or local regulatory agencies, the product manufacturer, industry roofing standards, or Owner-mandated requirements are discovered, notify the Owner immediately for resolution.

E. During work, if conditions are discovered which do not allow for continuation of the work per the technical specifications and drawings, notify the Owner immediately for resolution.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 016000 for transport, handling, storage and product requirements.

B. Deliver materials in manufacturer's original containers, dry, undamaged, seals and labels intact.

C. Store materials in weather weather-protected environment, clear of ground and moisture. Cover insulation, roofing materials, and other moisture-sensitive products with a canvas tarp. Protect foam insulation from direct sunlight exposure.

D. Protect adjacent materials and surfaces against damage from roofing work. Do not store materials on previously completed roofing.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not perform work during inclement weather. Refer to product manufacturer for outdoor temperature requirements for installation of materials. Do not install materials at times when the outdoor temperature does not fall within the minimum/maximum temperature requirements of the manufacturer.

B. Cold weather precautions:
1. Store products that may be negatively affected by exposure to cold weather, such as primers, adhesives, sealants and cements, in a heated location. Refer to the roofing manufacturer and NRCA requirements and recommendations for additional cold weather application recommendations and restrictions.

C. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 – PRODUCTS

2.1 REPLACEMENT AND OVERLYING ROOF INSULATION

A. Polyisocyanurate roof insulation; ASTM C1289, Type II, Class 1, Grade 2 (20 psi); Density (2 pounds per cubic foot), HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing membrane manufacturer.
   1. Thickness:
      a. For replacement insulation: To match existing roof system thickness with a maximum insulation board thickness of 2 inches.
      b. For overlying roof insulation: One layer of 2-inch thick insulation.
   2. Long Term Thermal Resistance (LTTR) Value: 5.6 minimum per inch.
   3. Board Size: 4-feet by 8-feet.

2.2 ROOF RE-COVER BOARD

A. Type: High-Density (HD) polyisocyanurate; ASTM C1289, Type II; minimum 109 psi compressive strength.

B. Thickness: 1/2-inch.

C. Board Size: 4-feet by 4-feet, unless otherwise recommended by the roofing membrane or cover board manufacturer.

2.3 CRICKET AND SADDLE INSULATION

A. Tapered polyisocyanurate roof insulation as necessary to achieve slopes and dimensions indicated in Article 3.3 and on the drawings, and as necessary to allow for proper drainage to existing drainage accessories; ASTM C1289, Type II, Class 1; Minimum 20 psi, Density (2 pounds per cubic foot); HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing manufacturer.

2.4 INSULATION FASTENERS AND PLATES

A. For mechanical attachment of polyisocyanurate insulation and/or recover board (where specified): Fluorocarbon coated or galvanized self-drilling screw and plate system; product type acceptable to the roofing manufacturer. Fastener length as necessary to penetrate through cover board/insulation layer(s), and underlying existing roof system or replacement insulation. At steel deck areas, fasteners shall be of sufficient length to penetrate through the top steel deck flute a minimum of 3/4-inch, but no greater than 1-inch.
   1. Minimum insulation plate diameter: 3-inches.
   2. Minimum fastener size: No. 14.

2.5 ADHESIVE

A. Where specified, for adhering cover board, and bottom, intermediate, and top layer(s) of insulation, tapered insulation systems, and tapered insulation used in saddle and cricket construction where indicated in PART 3 of this Section: Two-component, low-rise, low VOCs, polyurethane foam adhesive; product acceptable to the roofing manufacturer and is capable of meeting the specified wind uplift requirements.

PART 3 - EXECUTION

3.1 GENERAL

A. Ensure that the substrate has been prepared as necessary, and is ready and acceptable to receive replacement insulation, overlying insulation, and re-cover board. Refer to Section 024104 for material removals and general work and substrate preparation requirements.

3.2 INSULATION AND RECOVER BOARD INSTALLATION

A. Closely butt the insulation boards and re-cover boards.

B. Stagger board joints by the maximum dimensions possible.

C. Neatly cut insulation and re-cover boards to fit around all penetrations through the roof deck. At locations where less than a full-sized sheet of insulation or recover board is required, use the largest size practical to fill in the area. Do not install numerous small sections of cover board or insulation at these locations.

D. Fill gaps between boards, and between boards and walls, curbs, blocking, and equipment with additional insulation material.

E. Protect all insulation and re-cover board from weather and standing water at all times. Do not install more insulation and recover board than can be completely covered with the roofing membrane on the same day.

F. Install temporary water cut-offs at the edges of insulation at the end of each workday.

G. Prior to installing the insulation, inspect the underside of the roof deck to determine if objects, such as sprinklers, lights, conduits, fans, or gas lines are attached to the deck. Exercise caution to ensure that insulation fasteners do not penetrate these objects.

H. Mechanical attachment of replacement and overlying polyisocyanurate insulation:
   1. Mechanical attachment: Fasteners shall penetrate into the deck, penetrating a minimum of 3/4-inch and a maximum of 1-inch into the top flute of the existing steel deck. Do not penetrate the bottom flute of the steel deck, or use fasteners that have the potential to extend beyond the bottom flute of the steel deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements.
   2. Fastening rates: Fasten insulation as necessary to hold in place until installation of overlying recover board is completed.

I. Mechanical attachment of re-cover board (Areas A, B, C and J):
   1. Mechanical attachment: Fasteners shall embed into the concrete deck a minimum of 1-inch. Refer to the roofing manufacturer for information and instructions related to installation fastening pattern requirements.
   2. Fastening rates:
      a. Field of roof: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4’ X 8’ insulation board or 32 square feet (One fastener per 1.33 square feet).
      b. At perimeters: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4’ X 8’ insulation board or 32 square feet (One fastener per 1.33 square feet).

c. At corners: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet).

d. Roof Area C overhang only: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.00 square feet).

J. Mechanical attachment of re-cover board (Area E):

1. Mechanical attachment: Fasteners shall penetrate into the deck, penetrating a minimum of 3/4-inch and a maximum of 1-inch into the top flute of the existing steel deck. Do not penetrate the bottom flute of the steel deck, or use fasteners that have the potential to extend beyond the bottom flute of the steel deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements.
2. Fastening rates:
   a. Field of roof: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet).
   b. At perimeters: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet).
   c. At corners: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.00 square feet).

K. Mechanical attachment of re-cover board (Areas D, F and H):

1. Mechanical attachment: Fasteners shall penetrate into the deck, penetrating a minimum of 3/4-inch and a maximum of 1-inch into the top flute of the existing steel deck. Do not penetrate the bottom flute of the steel deck, or use fasteners that have the potential to extend beyond the bottom flute of the steel deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements.
2. Fastening rates:
   a. Field of roof: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 12 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 2.67 square feet).
   b. At perimeters: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet).
   c. At corners and overhangs in roof area D: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.00 square feet).

L. Mechanical attachment of re-cover board (Area G):

1. Mechanical attachment: Fasteners shall penetrate into the deck, penetrating a minimum of 3/4-inch and a maximum of 1-inch into the top flute of the existing steel deck. Do not penetrate the bottom flute of the steel deck, or use fasteners that have the potential to extend beyond the bottom flute of the steel deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements.
2. Fastening rates:
   a. Field of roof: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 12 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 2.67 square feet).
   b. At perimeters: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet).
   c. At corners: Mechanically-fasten through re-cover board, underlying insulation layer(s) and underlying existing roof system to remain in place, and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.00 square feet).

3.2 INSULATION SADDLE AND CRICKET INSTALLATION

A. Where indicated on the Project Drawings, install insulation saddles and crickets to provide positive drainage to drainage accessories. Unless otherwise indicated on the Project Drawings, the width and finished slope of saddles shall be:
   1. If the finished roof slope of the project roof area is 1/8-inch per foot, the finished slope of saddles shall be 1/4-inch per foot, and the length-to-width ratio of saddles shall be 2:1.
   2. If the finished roof slope of the project roof area is 1/4-inch per foot, the finished slope of saddles shall be 1/2-inch per foot, and the length-to-width ratio of saddles shall be 3:1.
   3. If the finished roof slope of the project roof area is 1/2-inch per foot, the finished slope of saddles shall be 1-inch per foot, and the length-to-width ratio of saddles shall be 4:1.

B. Adjust saddle and cricket dimensions, if necessary, to accommodate actual field conditions. Prior to saddle/cricket modifications, notify the Owner of proposed modifications for approval.

C. Adhere saddles and crickets using the specified adhesive.

D. Provide insulation crickets behind all roof curbs greater than 24-inches in width.

END OF SECTION