





Project  
**2026 WATERFORD SCHOOL DISTRICT TRANSPORTATION BUILDING AND MASON MIDDLE SCHOOL ROOFING REPLACEMENT**

Project Location  
**4585 PONTIAC LAKE ROAD WATERFORD, MI 48328**

**3835 W WALTON BLVD WATERFORD, MI 48329**

Engineer's Seal

Date  
**12/12/2025**

SME Project No.  
**101547.00**

Project Manager:  
**K. DAMEROW**

Designer:  
**K. DAMEROW**

CADD:  
**J. NICHOLAS**

Checked By:  
**A. CASSIDY**

Reviewed By:  
**E. MURRELL**

Sheet Name:  
**ROOF WIND DESIGN LOADING / ZONE PLANS**

Sheet No.

**G1.1**

### LEGEND

- # ROOF AREA I.D.
- ZONE 1
- ZONE 2
- ZONE 3

### WIND DESIGN CRITERIA (MBC 2021)

BUILDING =	TRANSPORTATION	MASON
IMPORTANCE CATEGORY =	II	III
BASIC WIND SPEED (3 SECOND GUST, MPH) =	108	115
NOMINAL WIND SPEED (MPH) =	84	89
EXPOSURE CATEGORY =	B	B
INTERNAL PRESSURE COEFFICIENT =	+/- 0.18	+/- 0.18

NOTES:

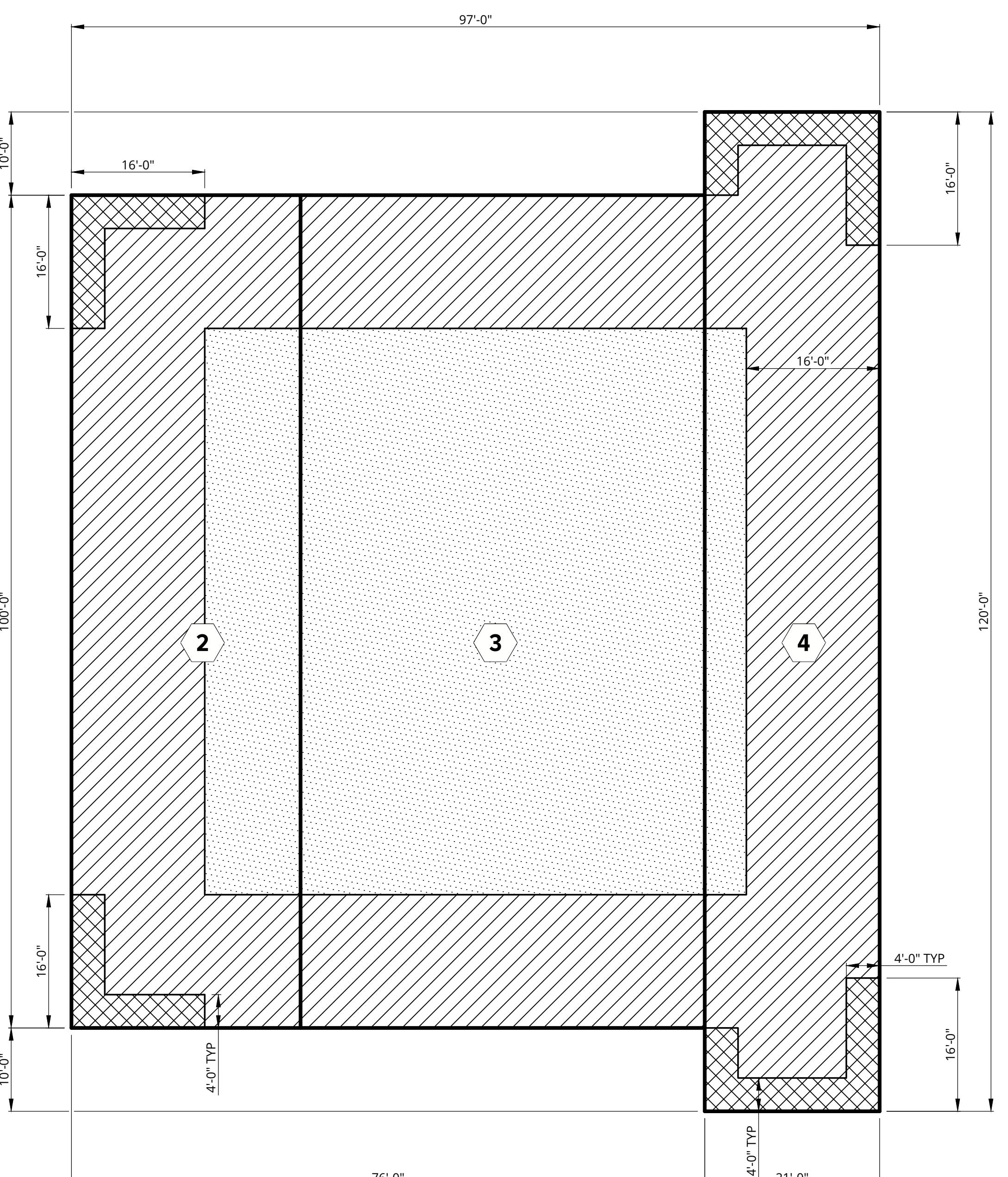
1. WORK WIND DESIGN LOADING ZONE PLAN WITH TABLE 1, THIS SHEET.
2. WIND UPLIFT PRESSURE GIVEN IN TABLE 1 TO BE USED FOR DESIGN OF ROOFING FASTENING SYSTEMS.
3. DESIGN PRESSURES BASED ON EFFECTIVE WIND AREA OF 10FT<sup>2</sup> OR LESS.

TABLE 1

COMPONENTS AND CLADDING	ROOF SURFACE VERTICAL PRESSURE (PSF)	
	BUILDING	
TRANSPORTATION	MASON	
ZONE 1	-29	-32
ZONE 2 AND TOP/SIDE OF PARAPET	-39	-43
ZONE 3 AND TOP/SIDE OF PARAPET	-53	-58

NOTE:

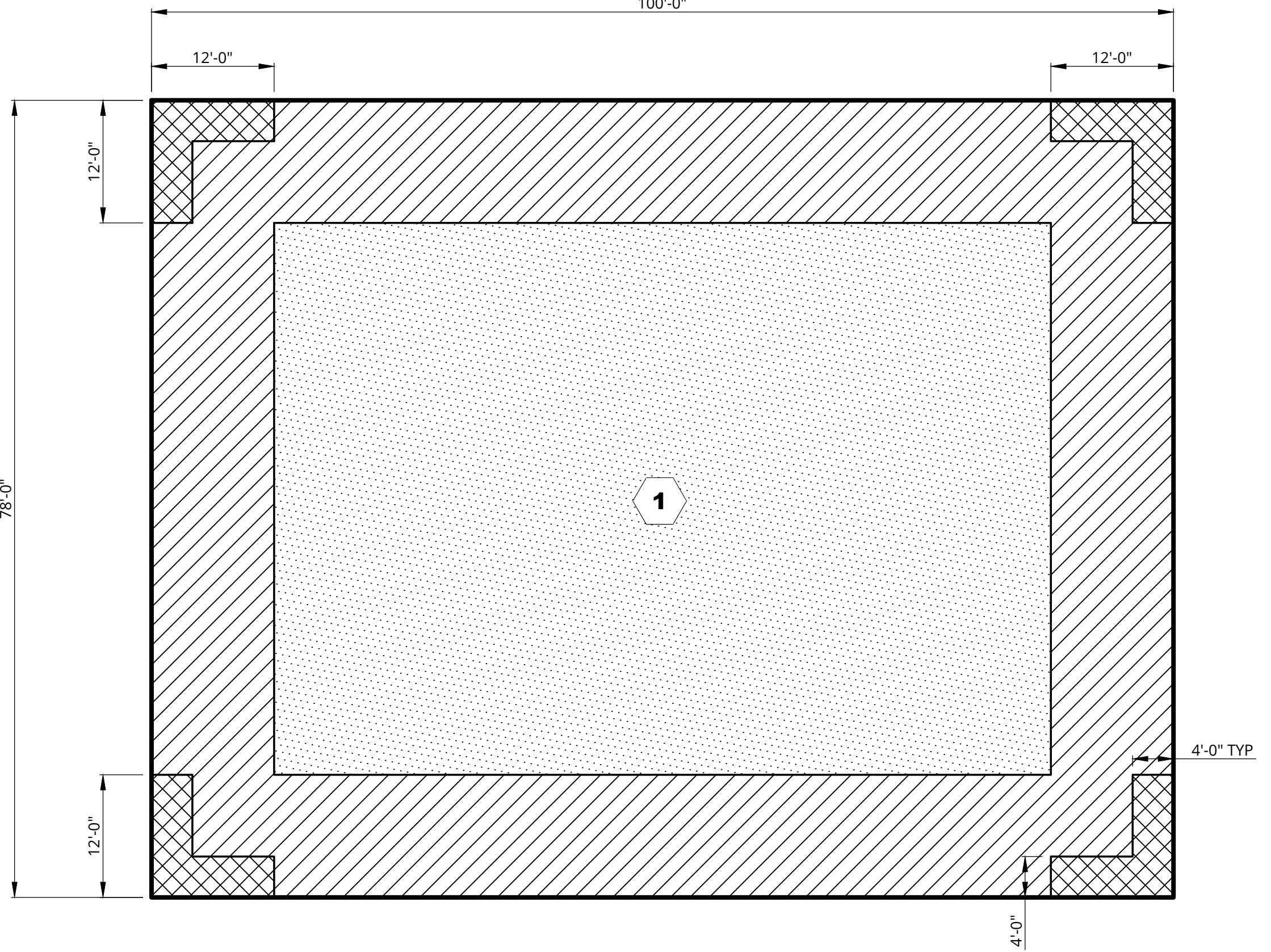
" - # " INDICATES PRESSURE ACTING AWAY FROM THE ROOF SURFACE, I.E. SUCTION



**ROOF WIND DESIGN LOADING / ZONE PLAN**  
- TRANSPORTATION BUILDING



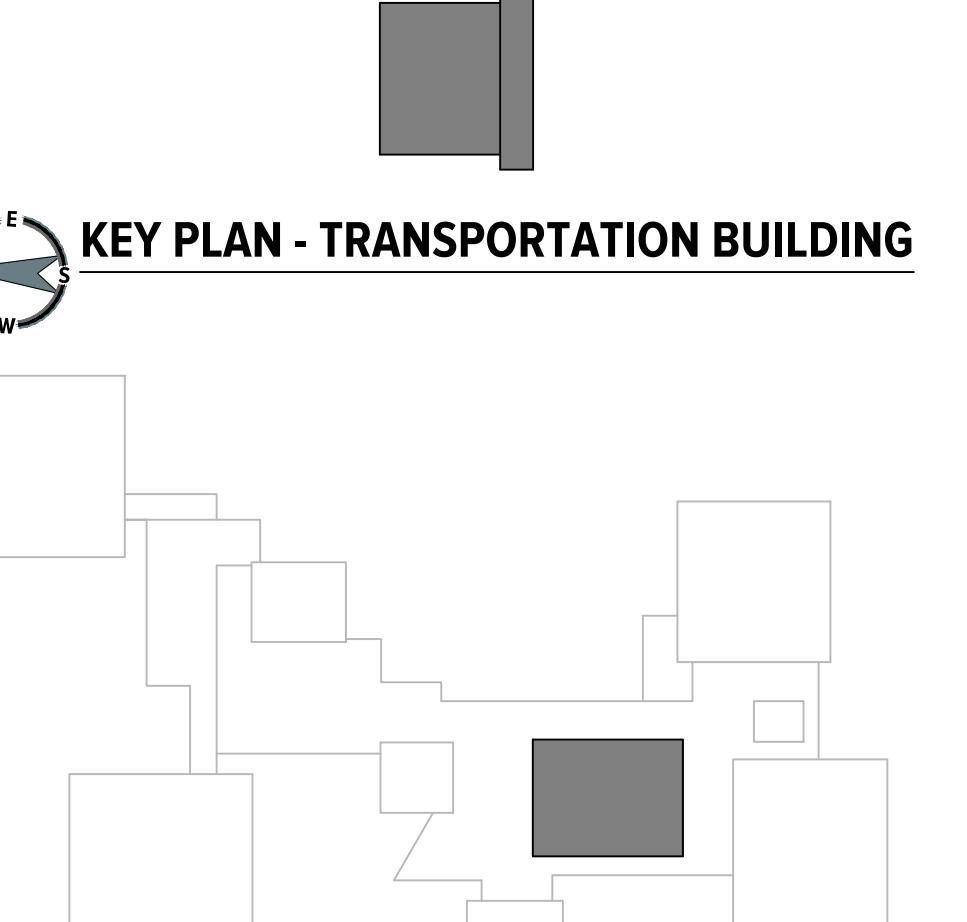
SCALE: 3/32" = 1'-0"



**ROOF WIND DESIGN LOADING / ZONE PLAN**  
- MASON MIDDLE SCHOOL



SCALE: 3/32" = 1'-0"



**KEY PLAN - MASON MIDDLE SCHOOL**





## OOFING LEGEND

EJ EJ EXPANSION JOINT

ROOF AREA I.D.

HVAC ROOF TOP UNIT ON CURB  
RE: 3/A5.1 OR 15/A5.2 IF BASE RAIL DOES NOT  
ALLOW FOR SLIP FLASHING AS DETAILED

AIR CONDITIONING UNIT ON SUPPORT CURBS  
RE: 3/A5.1

AIR CONDITIONING UNIT ON WALKWAY PADS  
RE: 8/A5.1

EXHAUSTS FAN ON CURB  
RE: 2/A5.1

PIPE PENETRATION  
RE: 4/A5.1

MECHANICAL EXHAUST VENT (HOT)  
RE: 5/A5.1

REPLACE MECHANICAL EXHAUST VENT (HOT)  
RE: 5A/A5.1

RD ROOF DRAIN  
RE: 1/A5.1

DS DOWNSPOUT, MATCH EXISTING LOCATIONS  
RE: 11/A5.2 (ROOF AREA 2 AND 3)  
RE: 12/A5.2 (ROOF AREA 4)

GUTTER EXPANSION JOINT, REFER TO  
MANUFACTURER'S INSTALLATION INSTRUCTIONS

MULTI PENETRATION  
RE: 7/A5.1

ANTENNA  
RE: 8A/A5.1

THROUGH WALL OVERFLOW SCUPPER  
RE: 14/A5.2

ROOF ACCESS HATCH  
RE: 6/A5.1  
RE: 6A/A5.1 (ROOF AREA 1)

WATER SHED DIRECTION

ABANDONMENT TO BE REMOVED,  
REVIEW WITH OWNER BEFORE REMOVING

1/4" PER FOOT TAPERED SADDLE

1/8" PER FOOT TAPERED SYSTEM

DETAIL CALLOUT  
RE: A5.1 FOR DETAIL 6A & 9

A5.2 FOR DETAILS 10-14, 16, & 17

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BUILDING AND MASON  
MIDDLE SCHOOL ROOFING  
REPLACEMENT**

**Project Location**

**4585 PONTIAC LAKE ROAD**

**WATERFORD MI 48328**

**3835 W WALTON BLVD  
WATERFORD, MI 48329**

## Engineer's Seal

## Revision

Date

**SME Project No.**

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## **Project Manager:**

**K. Damerow**

**K. DAMEROW**

**J. NICHOLAS**

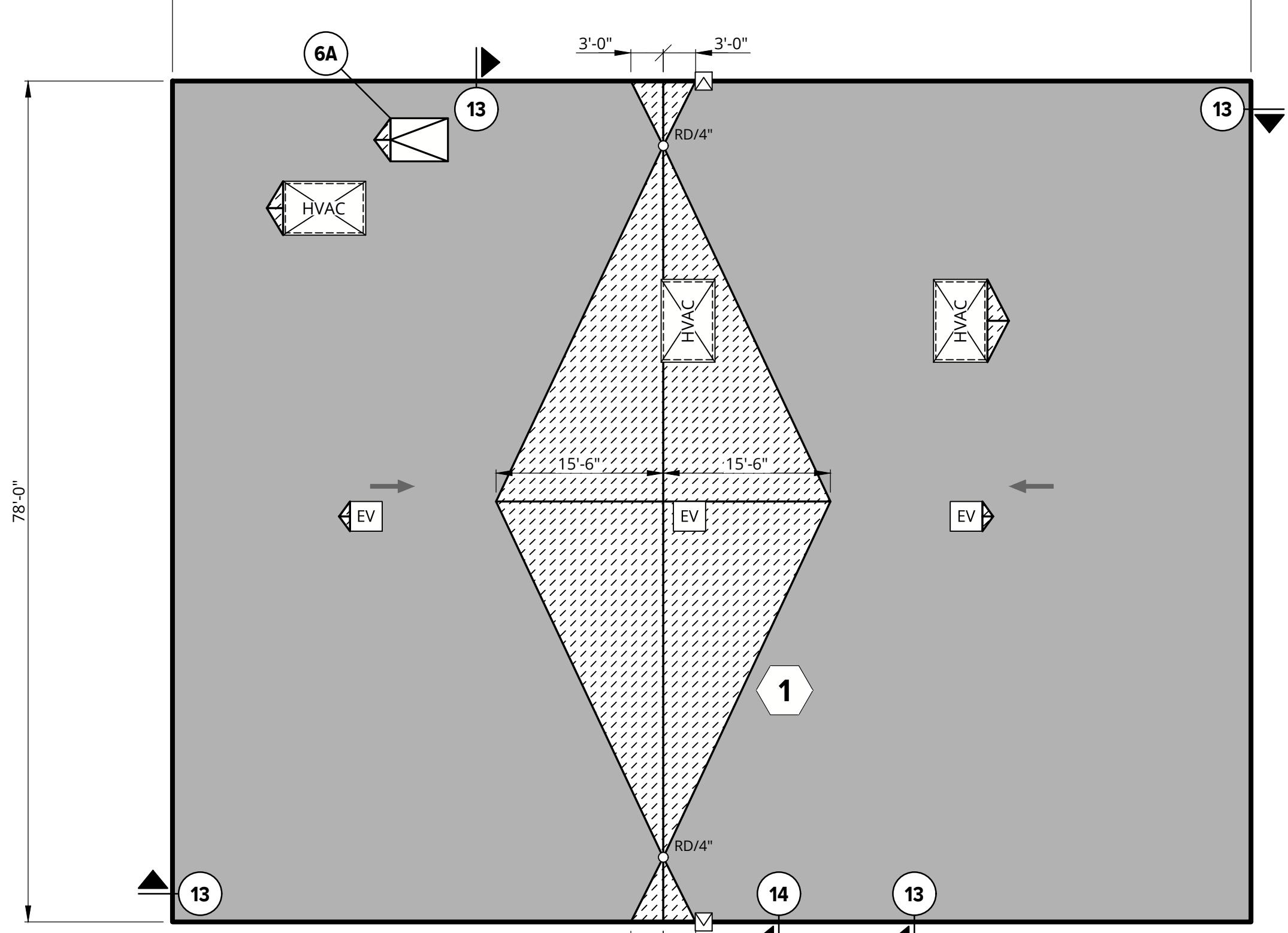
# A. CASSIDY

**E. MURRELL**

1

A1 1

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 24" X 36" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA  
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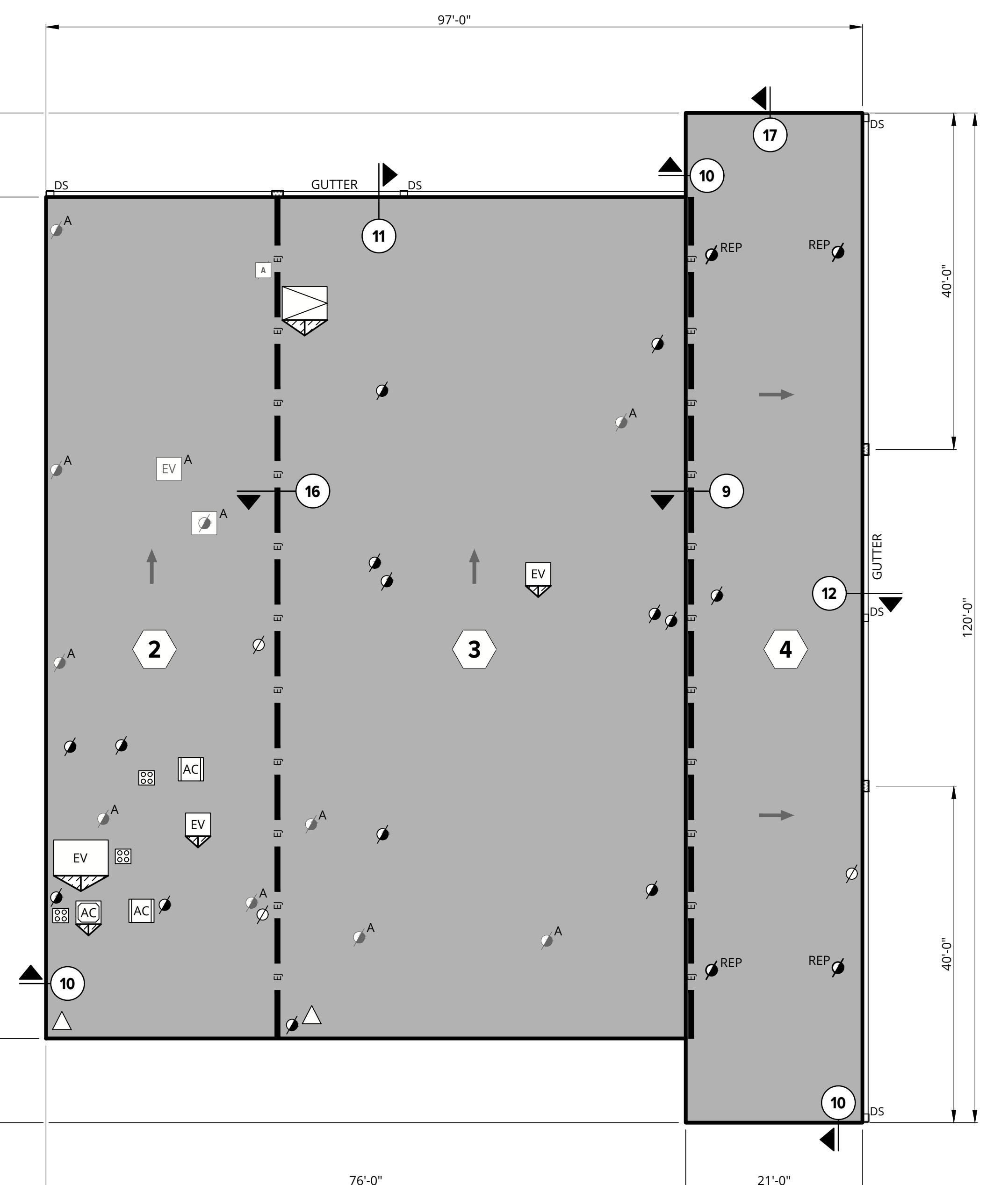




# ROOF PLAN - MASON MIDDLE SCHOOL

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SCALE: 3/32" = 1'-0"

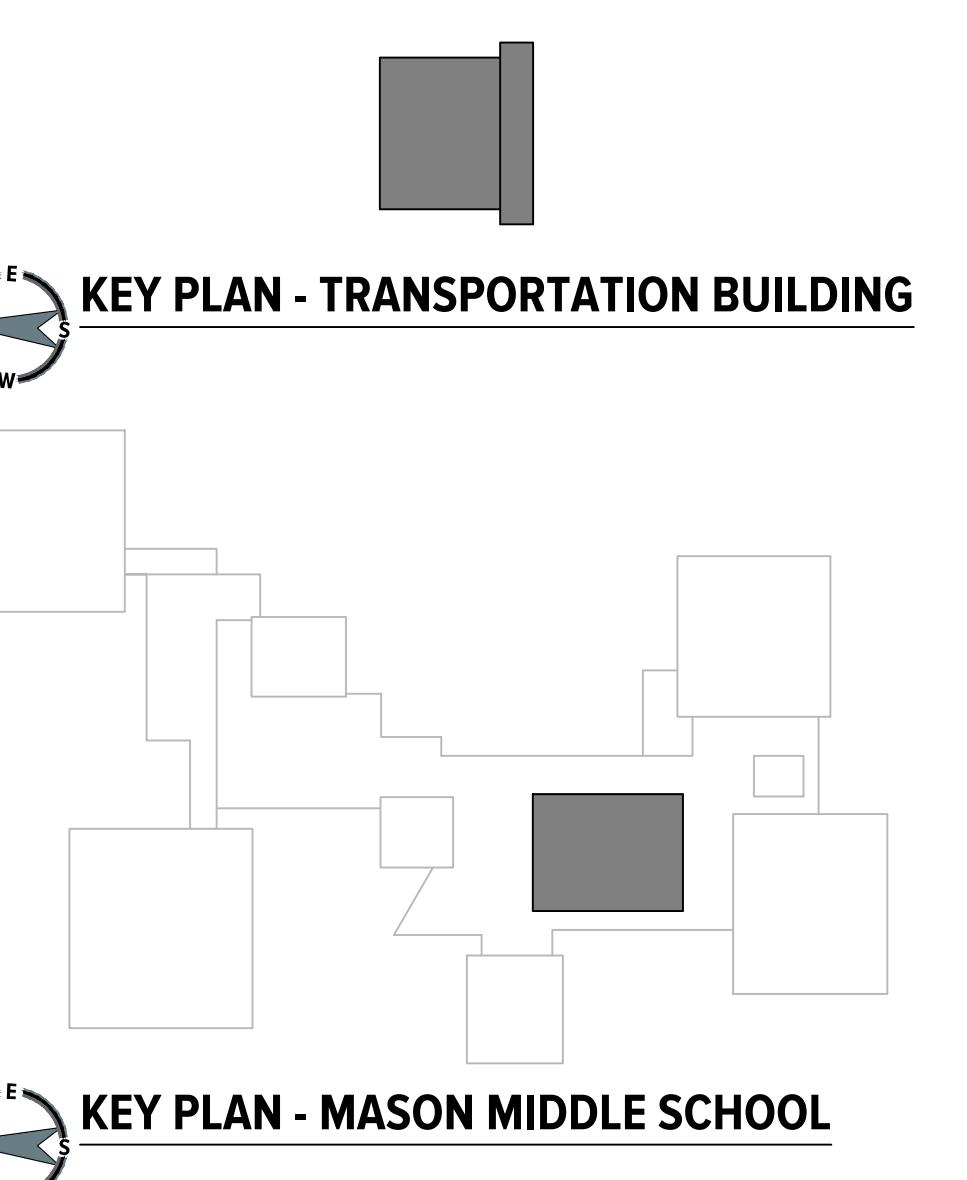




# ROOF PLAN - TRANSPORTATION BUILDING

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ROOF AREAS	ROOF ASSEMBLY (MEMBRANE TO DECK)
 <b>1</b>	<p>MEMBRANE: BLACK, 60-MIL, REINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE</p> <p>COVER BOARD: 1/2" HIGH DENSITY POLYISOCYANURATE (ISO), ADHERED IN LOW-RISE FOAM</p> <p>TAPERED INSULATION SYSTEM: 1/8"/FT TAPERED ISO INSULATION SYSTEM, ADHERED IN LOW RISE FOAM</p> <p>BASE INSULATION: 2 LAYERS OF 1.5" ISO INSULATION, ADHERED IN LOW-RISE FOAM</p> <p>VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER</p> <p>SUBSTRATE BOARD: 1/2" DENSDECK PRIME GYPSUM COVER BOARD MECHANICALLY ATTACHED TO STEEL DECK</p> <p>EXISTING DECK: STEEL</p>
  <b>2</b> <b>4</b>	<p>MEMBRANE: BLACK, 60-MIL, REINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE</p> <p>COVER BOARD: 1/2" HIGH DENSITY ISO, ADHERED IN LOW-RISE FOAM</p> <p>BASE INSULATION: 2 LAYERS OF 2.4" ISO INSULATION, ADHERED IN LOW-RISE FOAM</p> <p>VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER</p> <p>SUBSTRATE BOARD: 1/2" DENSDECK PRIME GYPSUM COVER BOARD MECHANICALLY ATTACHED TO STEEL DECK</p> <p>EXISTING DECK: STEEL</p>
 <b>3</b>	<p>MEMBRANE: BLACK, 60-MIL, REINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE</p> <p>COVER BOARD: 1/2" HIGH DENSITY ISO, ADHERED IN LOW-RISE FOAM</p> <p>BASE INSULATION: 2 LAYERS OF 2.4" ISO INSULATION, ADHERED IN LOW-RISE FOAM</p> <p>VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER, DOUBLE PRIME IF REQUIRED BY ROOFING MANUFACTURER</p> <p>BASE SHEET: SBS FIBERGLASS MAT MECHANICALLY ATTACHED TO GYPSUM DECK, SWEEP LOOSE PARTING AGENT BEFORE ADHERING VAPOR RETARDER</p> <p>EXISTING DECK: GYPSUM</p>





# KEY PLAN - MASON MIDDLE SCHOOL

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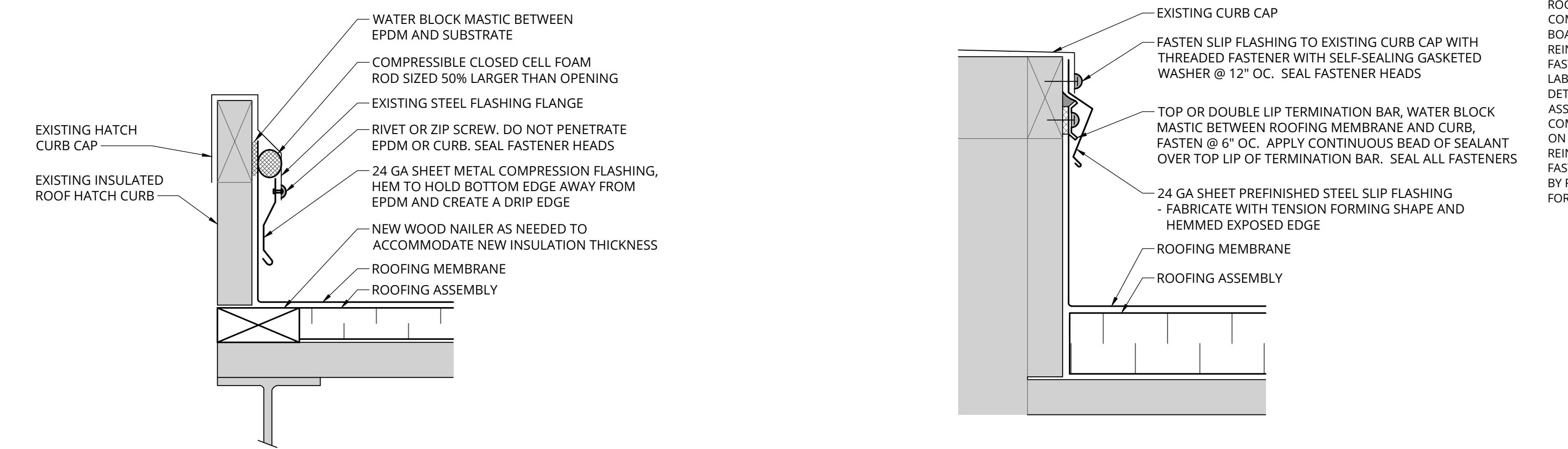
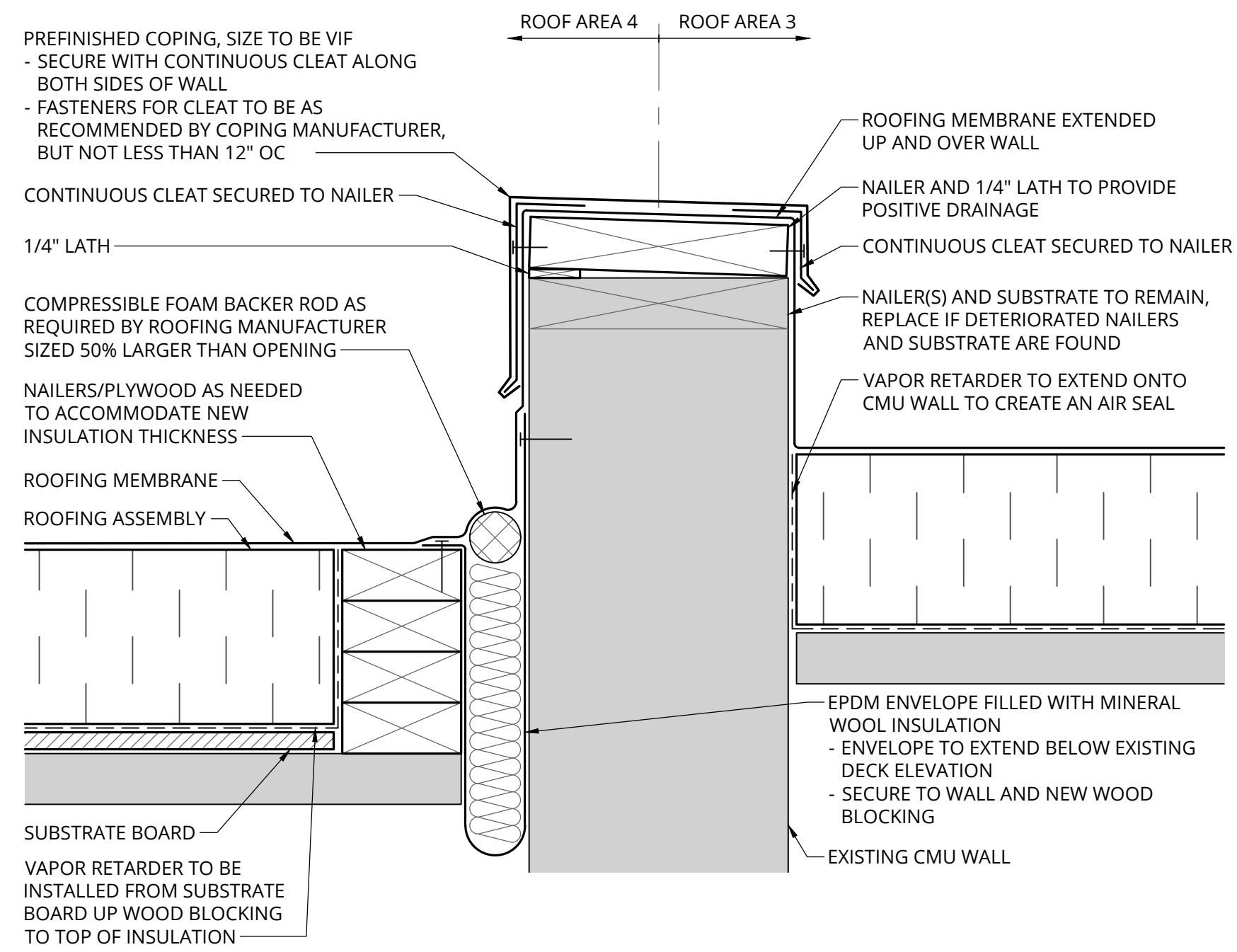
Revisions	REV	ISSUED FOR	DATE	BY
	BID		12/12/2025	KD

Date	12/12/2025
SME Project No.	101547.00
Project Manager:	K. Damerow
Designer:	K. Damerow
CADD:	J. Nicholes
Checked By:	A. Cassidy
Reviewed By:	E. Murrell

Sheet Name: **FLASHING DETAILS**

Sheet No.

**A5.1**

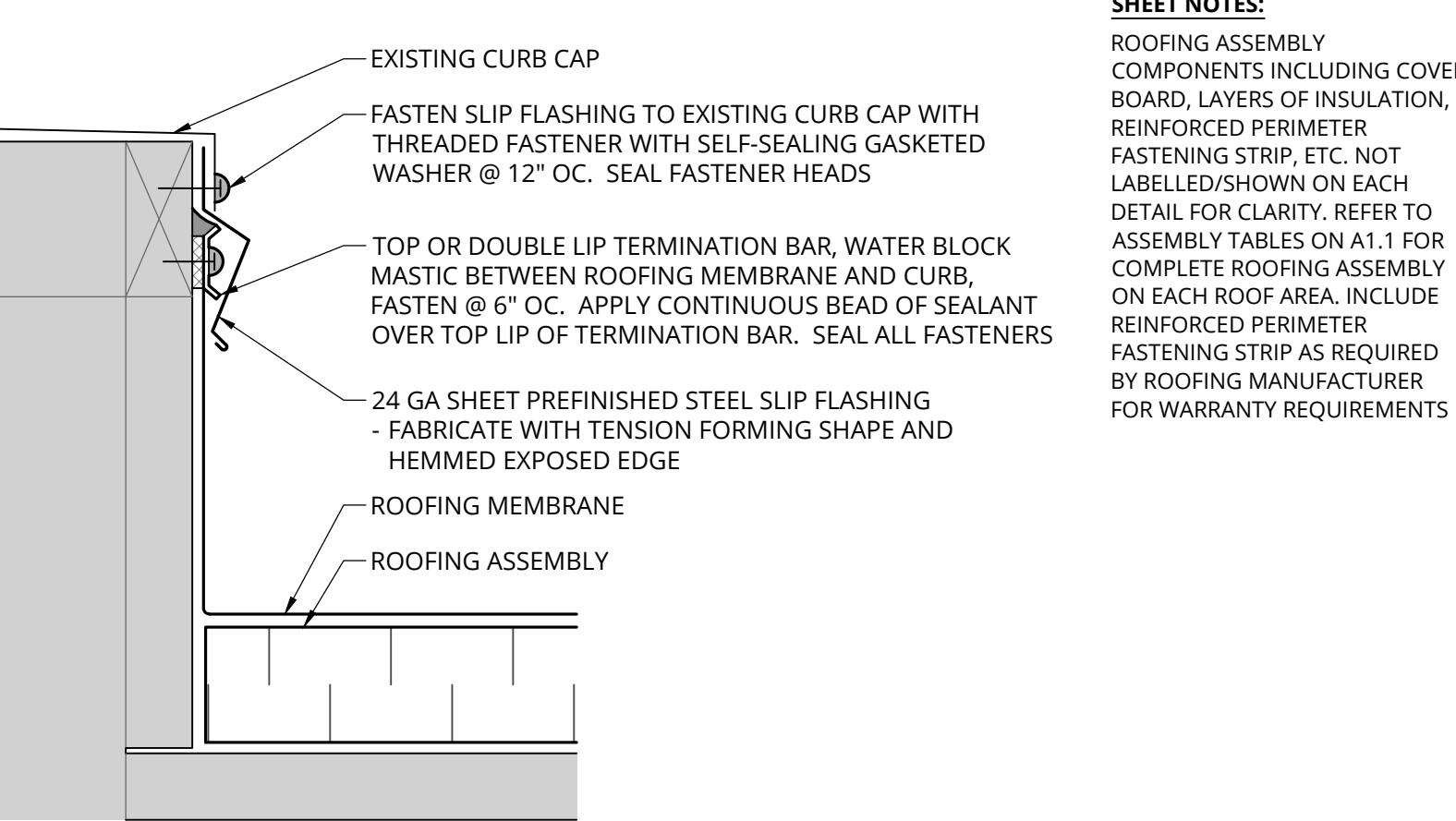


### FLASHING AT ROOF HATCH

6A 6 NOT TO SCALE

NOTE:

AT 6A, REPLACE ROOF HATCH AS SPECIFIED. REVIEW STEEL DECK TO VERIFY OPENING IS SUPPORTED BY EXISTING FRAMING. NOTIFY ENGINEER IF FRAMING IS NOT IN PLACE.

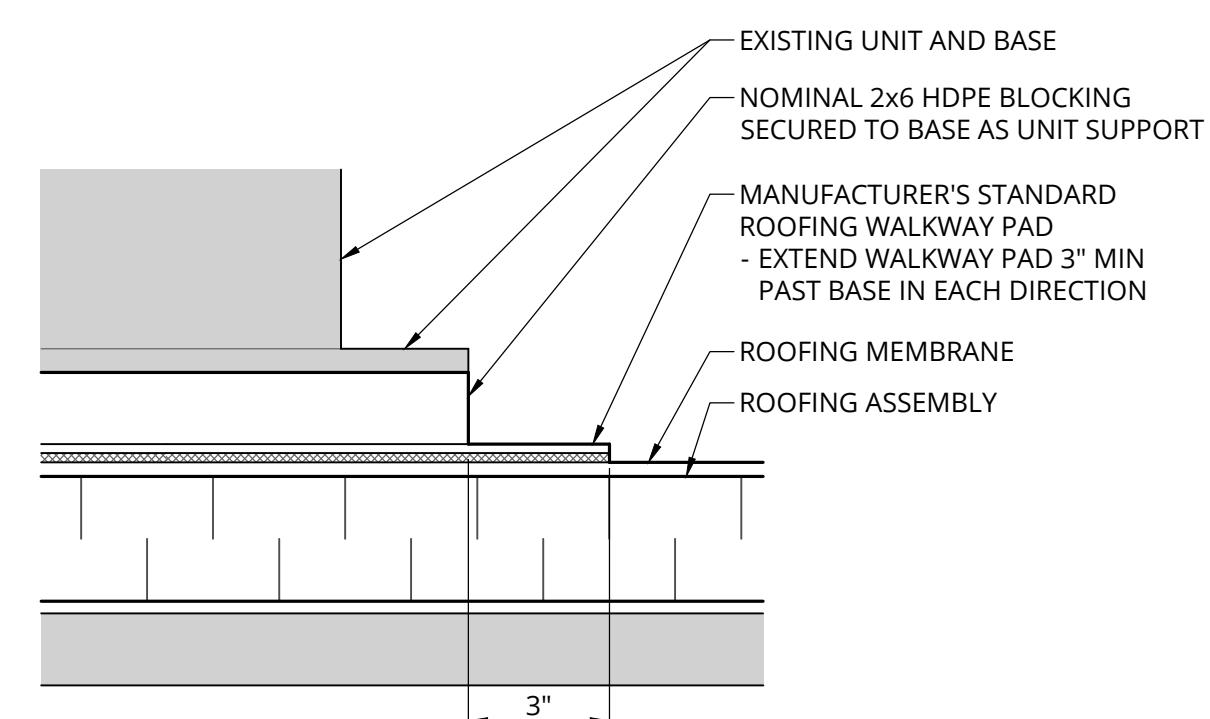


### TYPICAL CURB CAP WITH SLIP FLASHING

3 NOT TO SCALE

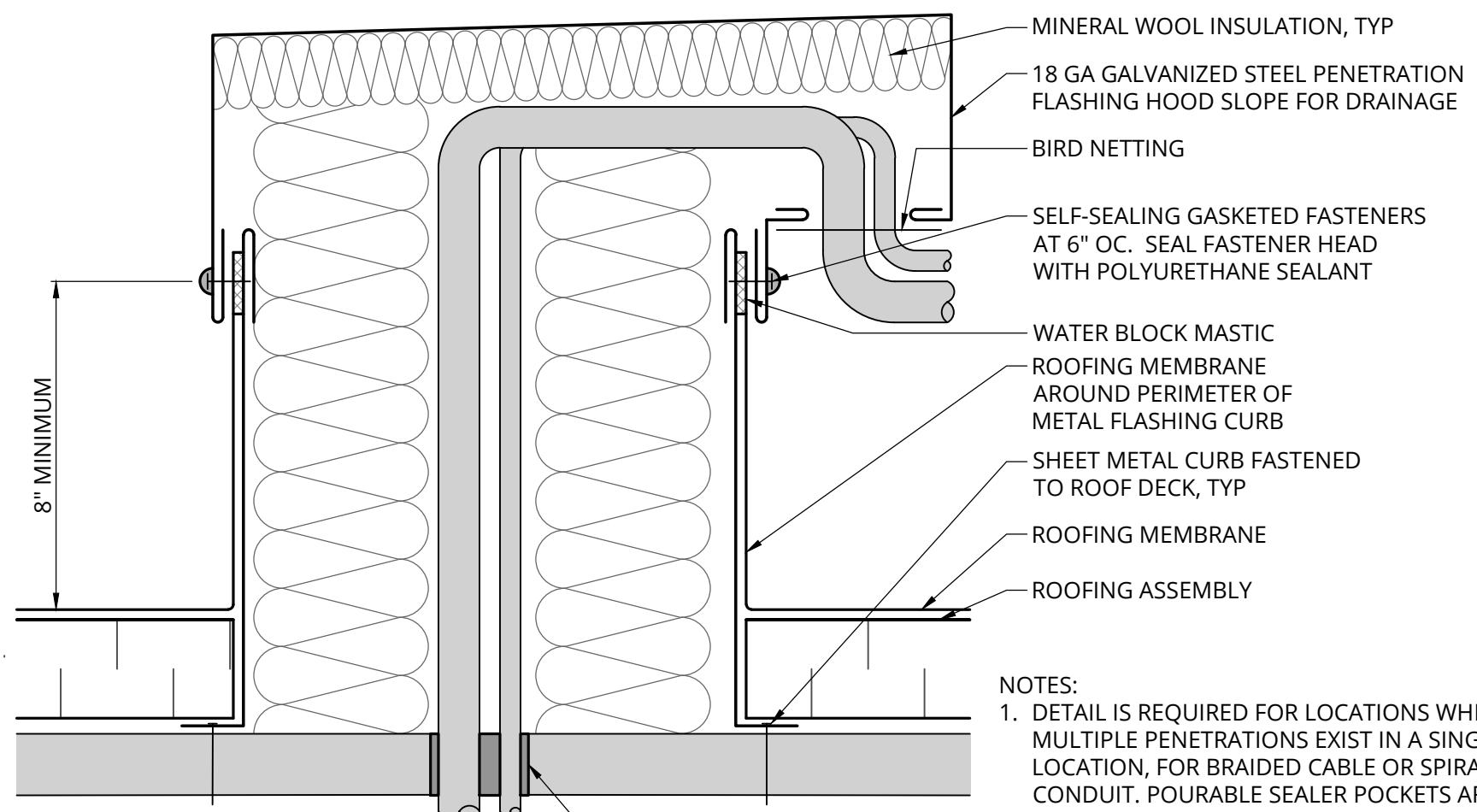
### ROOF AREA 3 TO ROOF AREA 4 TRANSITION

9 NOT TO SCALE



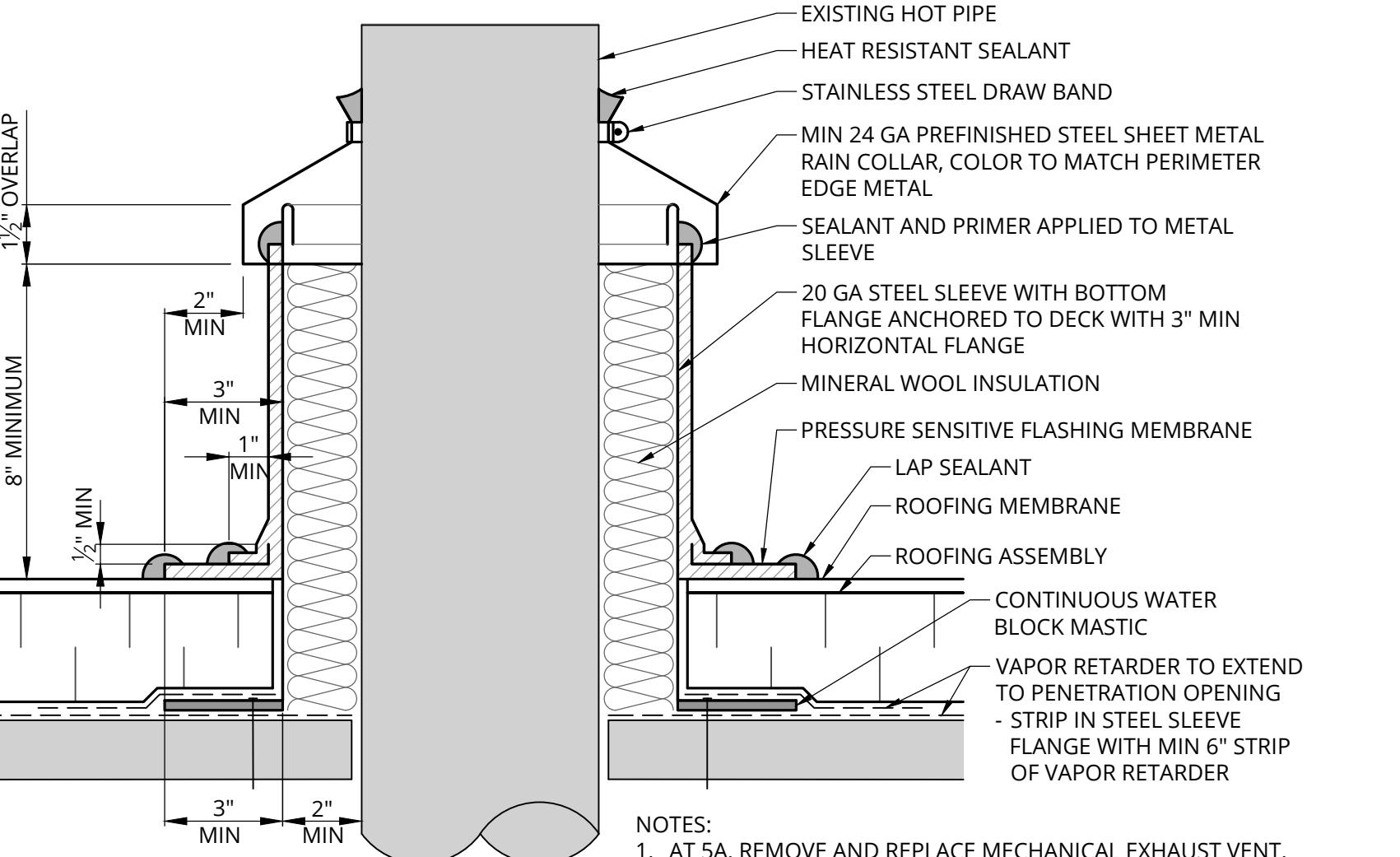
### EXISTING UNIT ON WALKWAY PADS

8A 8 NOT TO SCALE



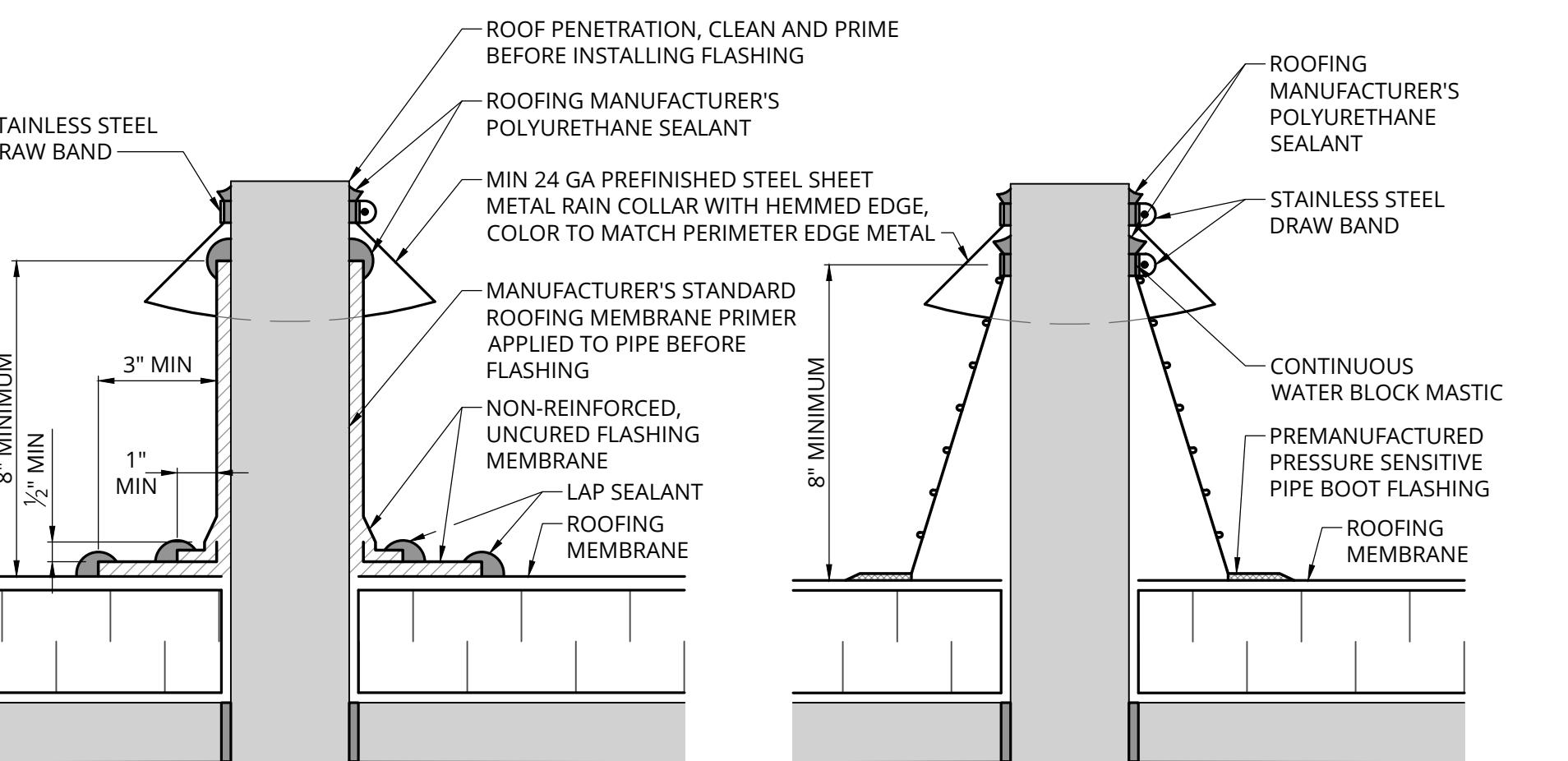
### MULTIPLE PENETRATION FLASHING BOX WITH HOOD

7 NOT TO SCALE



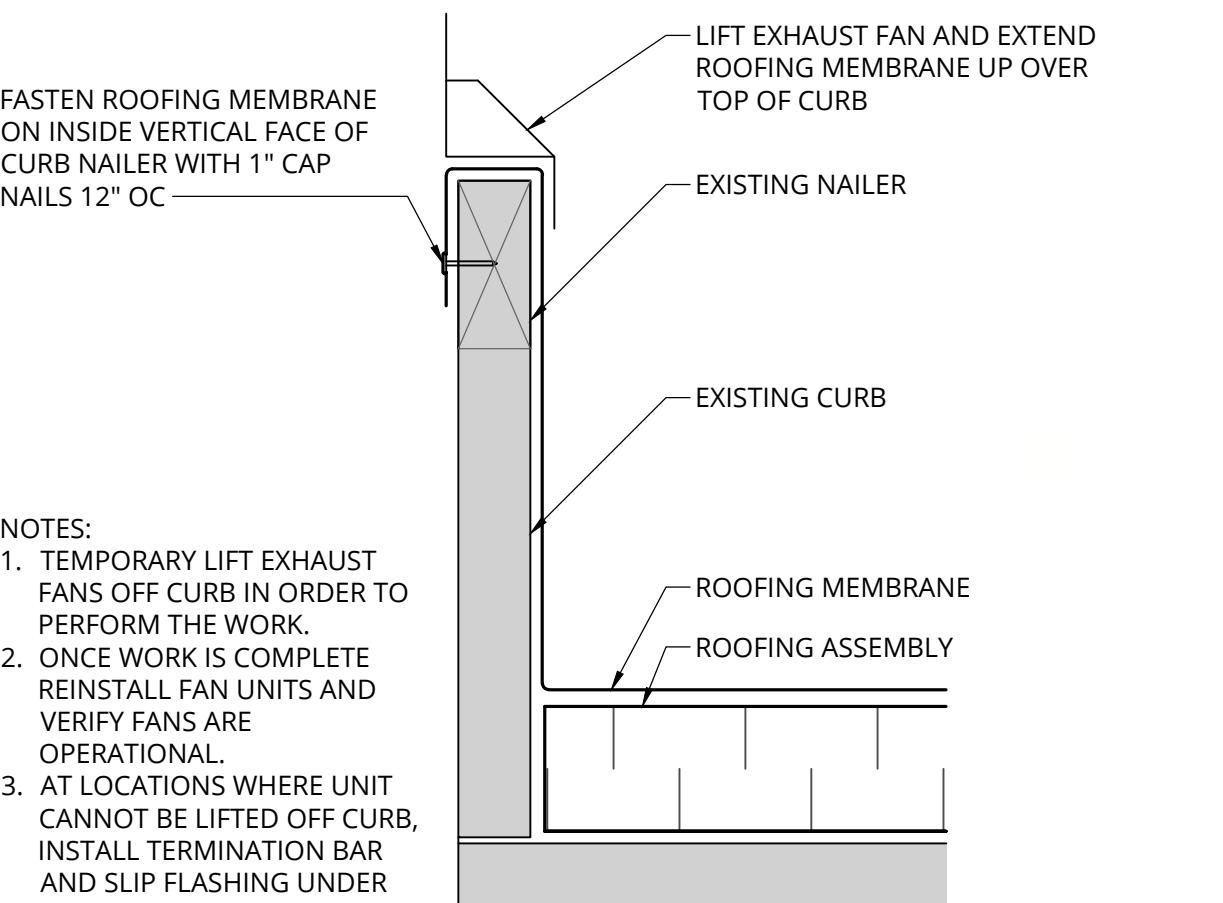
### MECHANICAL EXHAUST VENT (HOT)

5A 5 NOT TO SCALE



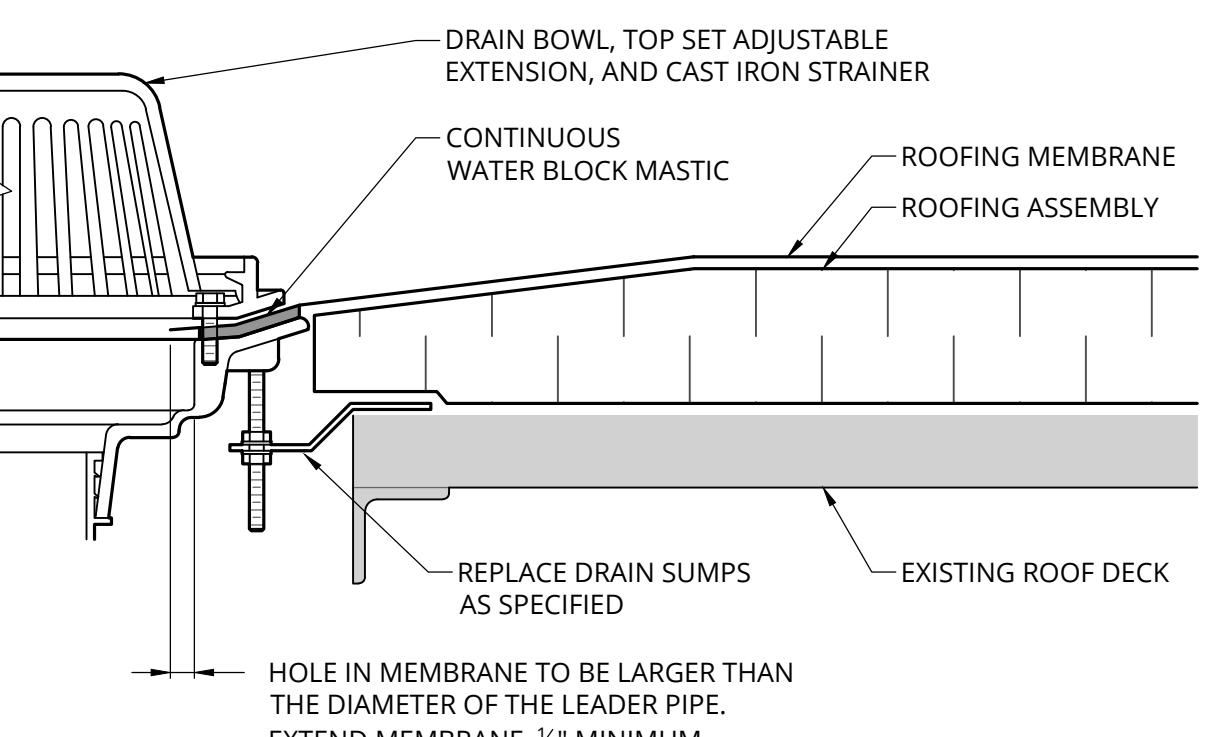
### ROUND PENETRATION FLASHING

4 NOT TO SCALE



### TYPICAL CURB UP AND OVER FLASHING

2 NOT TO SCALE



NOTES:  
1. DO NOT RUN SEAMS THROUGH DRAINS OR SUMPS.  
2. WHERE FIELD SEAMS ARE WITHIN 18" OF DRAINS, THEY SHALL BE STRIPPED IN WITH 5" WIDE MODIFICATIONS AS NEEDED AT EXPANSION JOINTS AND TIGHT SPACES. NEW INSULATION MAY NEED TO BE OMITTED TO ALLOW SUMPED AREA.  
3. INSTALL TAPERED INSULATION TO CREATE 4X4" SUMP AROUND EACH ROOF DRAIN WITH MODIFICATIONS AS NEEDED AT EXPANSION JOINTS AND TIGHT SPACES. NEW INSULATION MAY NEED TO BE OMITTED TO ALLOW SUMPED AREA.  
4. AT EXISTING DRAIN LOCATIONS, REPLACE DRAIN AND DRAIN PIPING TO FIRST CONTINUOUS STRETCH. DIAMETER TO MATCH EXISTING.  
5. FOLLOW ROOFING MANUFACTURER'S REQUIREMENTS FOR FLASHING INSTALLATION BASED ON SLOPE LIMITATIONS.  
6. ADJUSTABLE EXTENSION TO BE INSTALLED AT EACH DRAIN. DRAIN HEIGHTS TO MATCH EXISTING OR TO BE RAISED AS NEEDED TO ACCOMMODATE NEW INSULATION AND TAPERED INSULATION OR TO BE RAISED AS NEEDED TO ACCOMMODATE NEW INSULATION AND TAPERED INSULATION SUMP. INFILL SPACE UNDER DRAIN WITH ROOFING INSULATION.

### ROOF DRAIN

1 NOT TO SCALE



**SHEET NOTES:**

ROOFING ASSEMBLY  
COMPONENTS INCLUDING COVER  
BOARD, LAYERS OF INSULATION,  
REINFORCED PERIMETER  
FASTENING STRIP, ETC. NOT  
LABELLED/SHOWN ON EACH  
DETAIL FOR CLARITY. REFER TO  
ASSEMBLY TABLES ON A1.1 FOR  
COMPLETE ROOFING ASSEMBLY  
ON EACH ROOF AREA. INCLUDE  
REINFORCED PERIMETER  
FASTENING STRIP AS REQUIRED  
BY ROOFING MANUFACTURER  
FOR WARRANTY REQUIREMENTS

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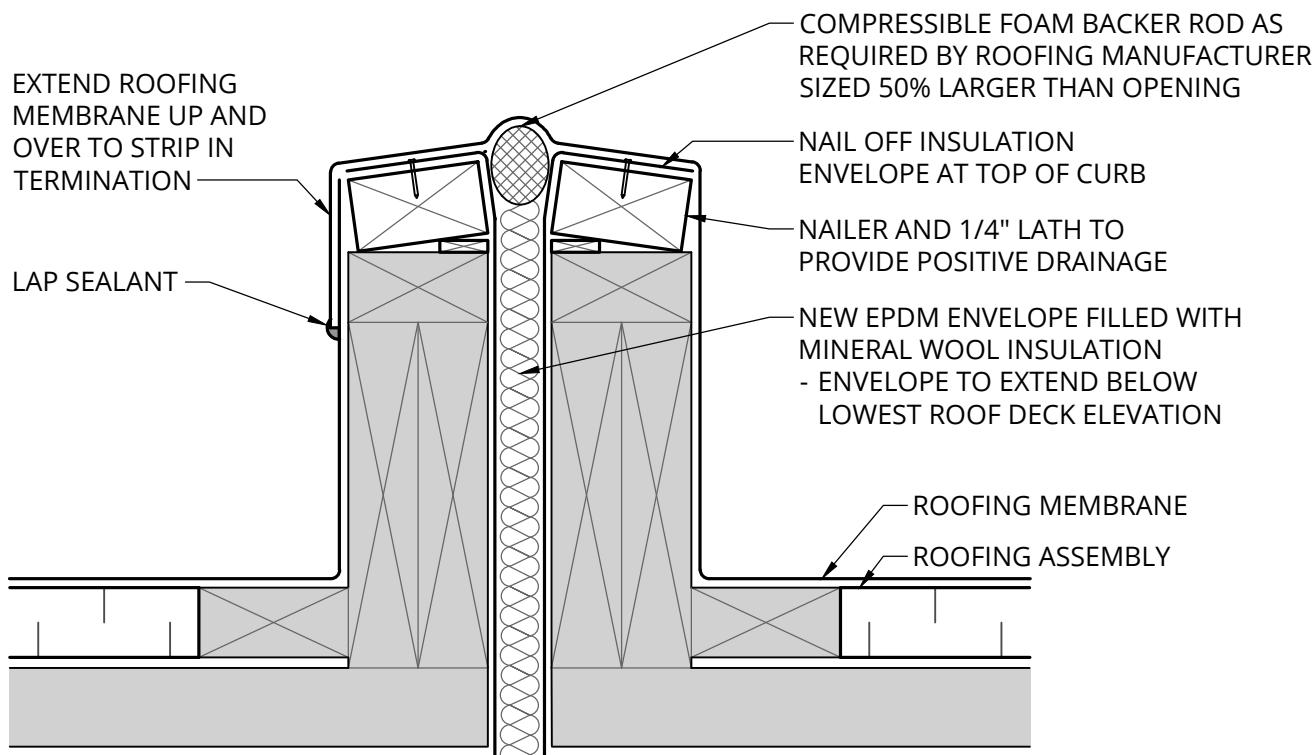
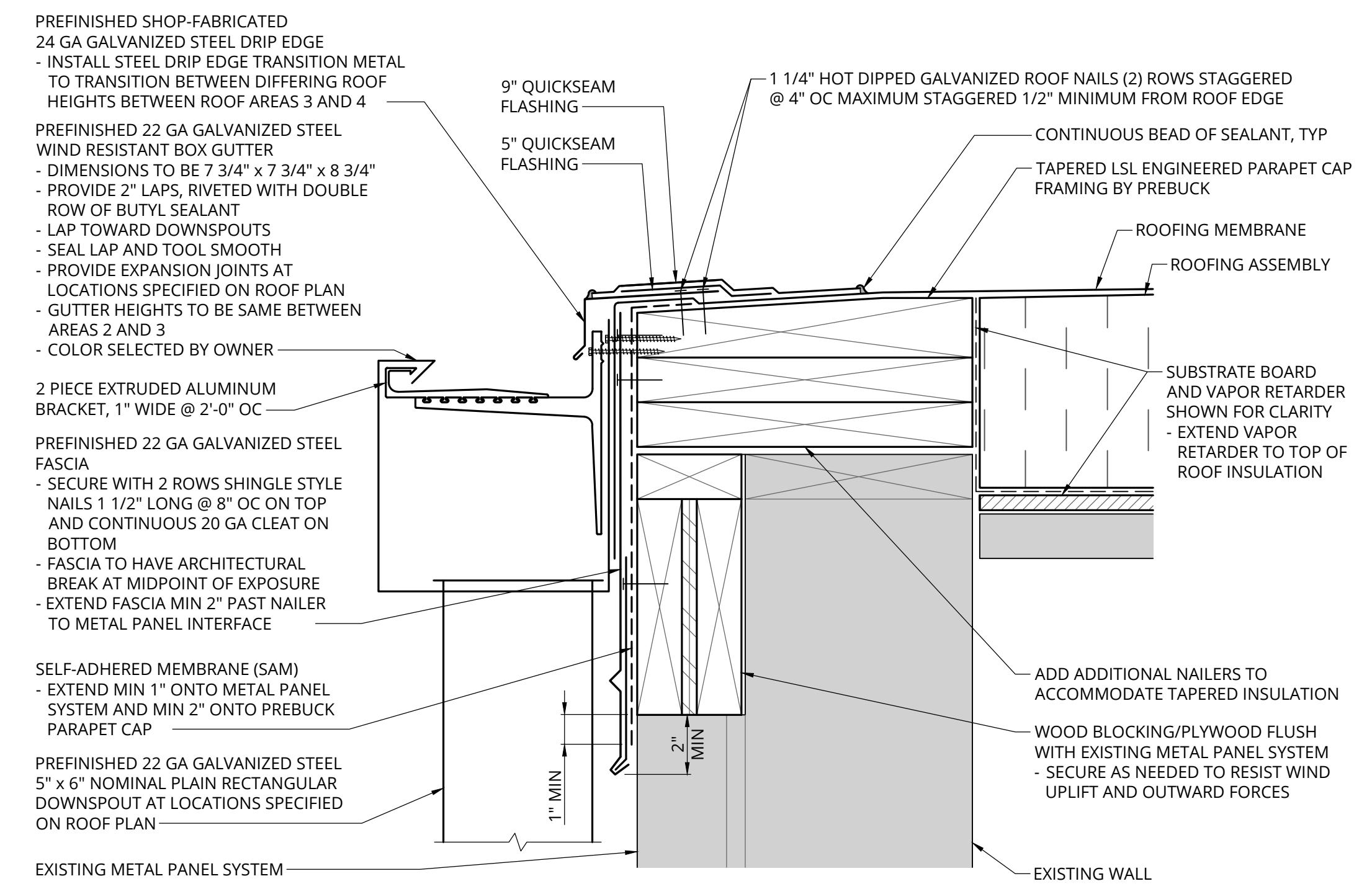
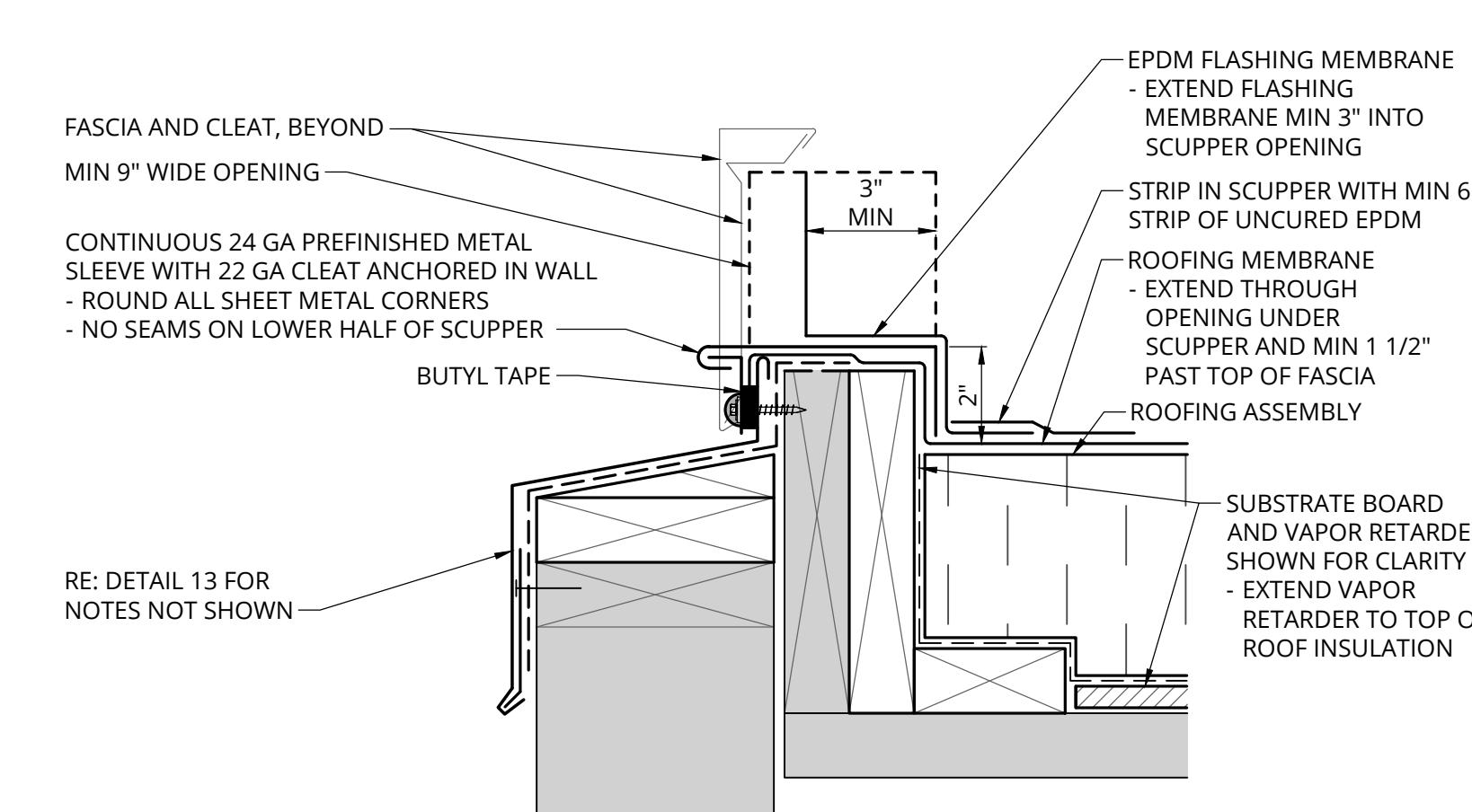
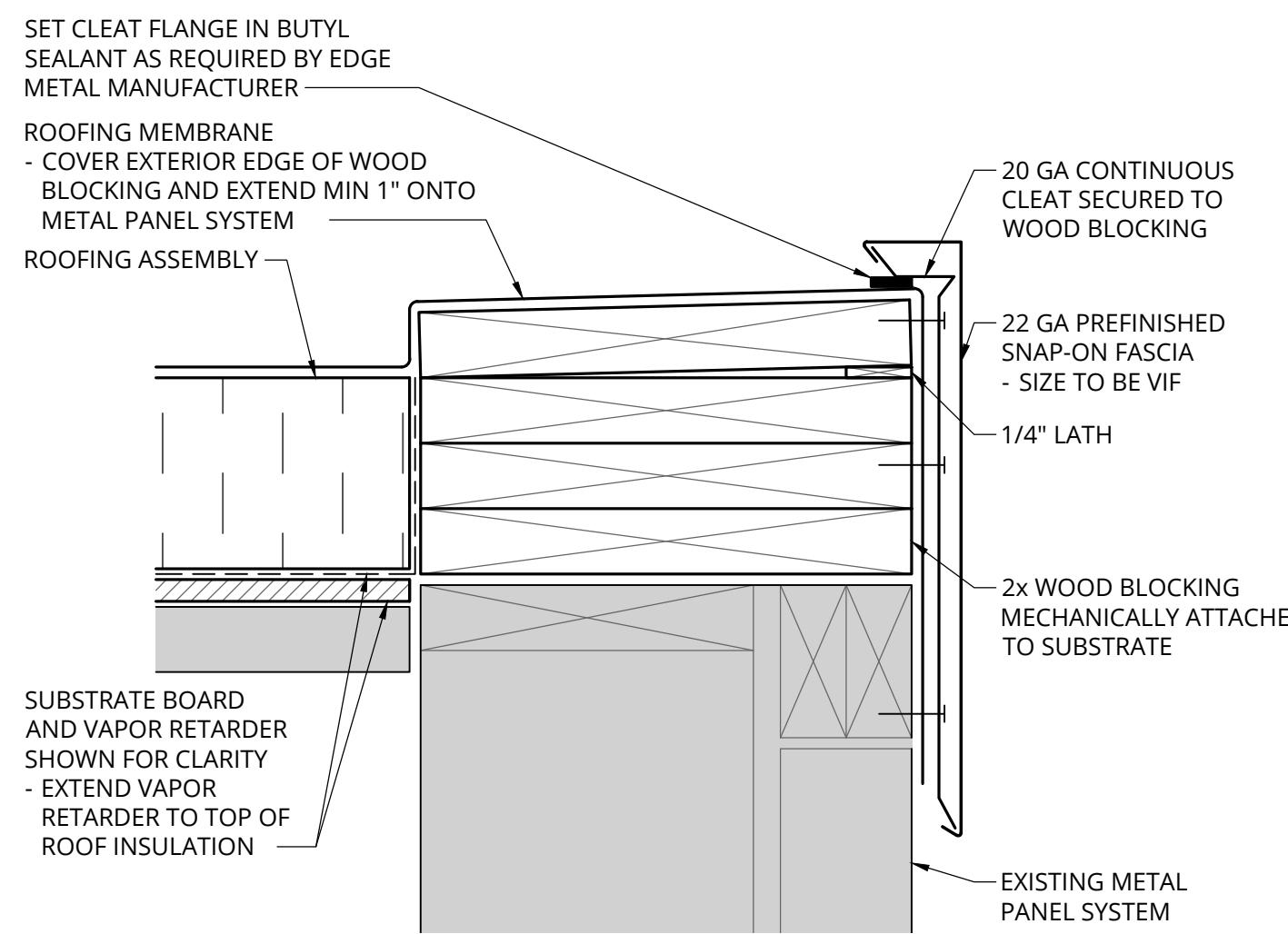
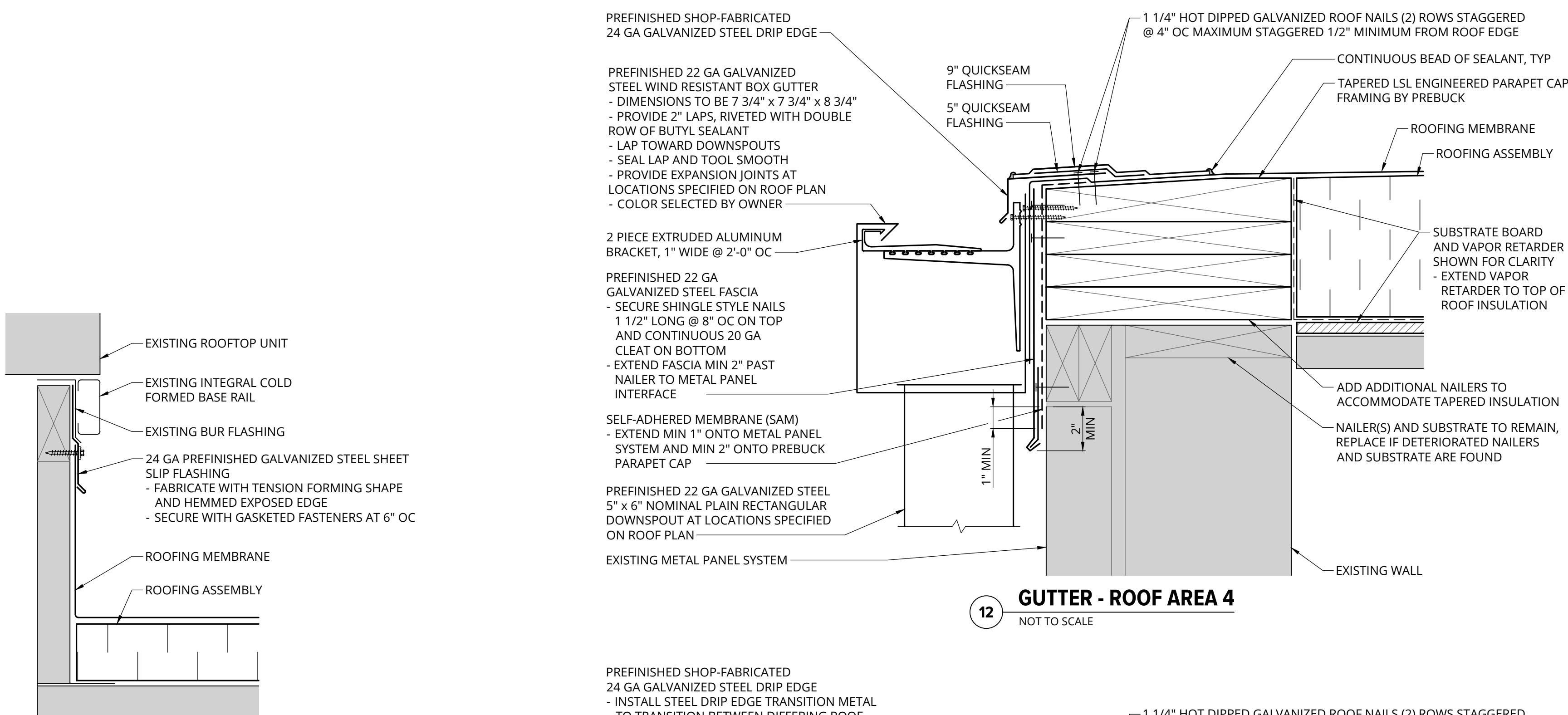
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Sheet No. **A5.2**

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NOTES:

1. ADD NEW NAILER AS REQUIRED TO ACCOMMODATE NEW INSULATION THICKNESS.
2. INSTALL INSULATION ON INSIDE OF EXPANSION JOINT AS NEEDED BASED ON CONDITIONS UNCOVERED DURING DEMOLITION.
3. EPDM INSULATION ENVELOPE TO BE SEALED WATERTIGHT, INCLUDING ENDS, TO PROVIDE A SECONDARY WATERPROOF BARRIER.
4. TIE IN TO ADJACENT EXPANSION JOINTS
5. TAPER EXPANSION JOINT DOWN AT TRANSITION TO GUTTER

