

YORK SCHOOL DISTRICT 1

IT BUILDING ROOF REPLACEMENT

16 SPRUCE STREET
YORK, SC 29745

REI PROJECT NO. 024CLT-101

DATE: 11-13-2024



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CHARLOTTE, NC 28262

NORTH CAROLINA
ENGINEERING FIRM
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SEALS:



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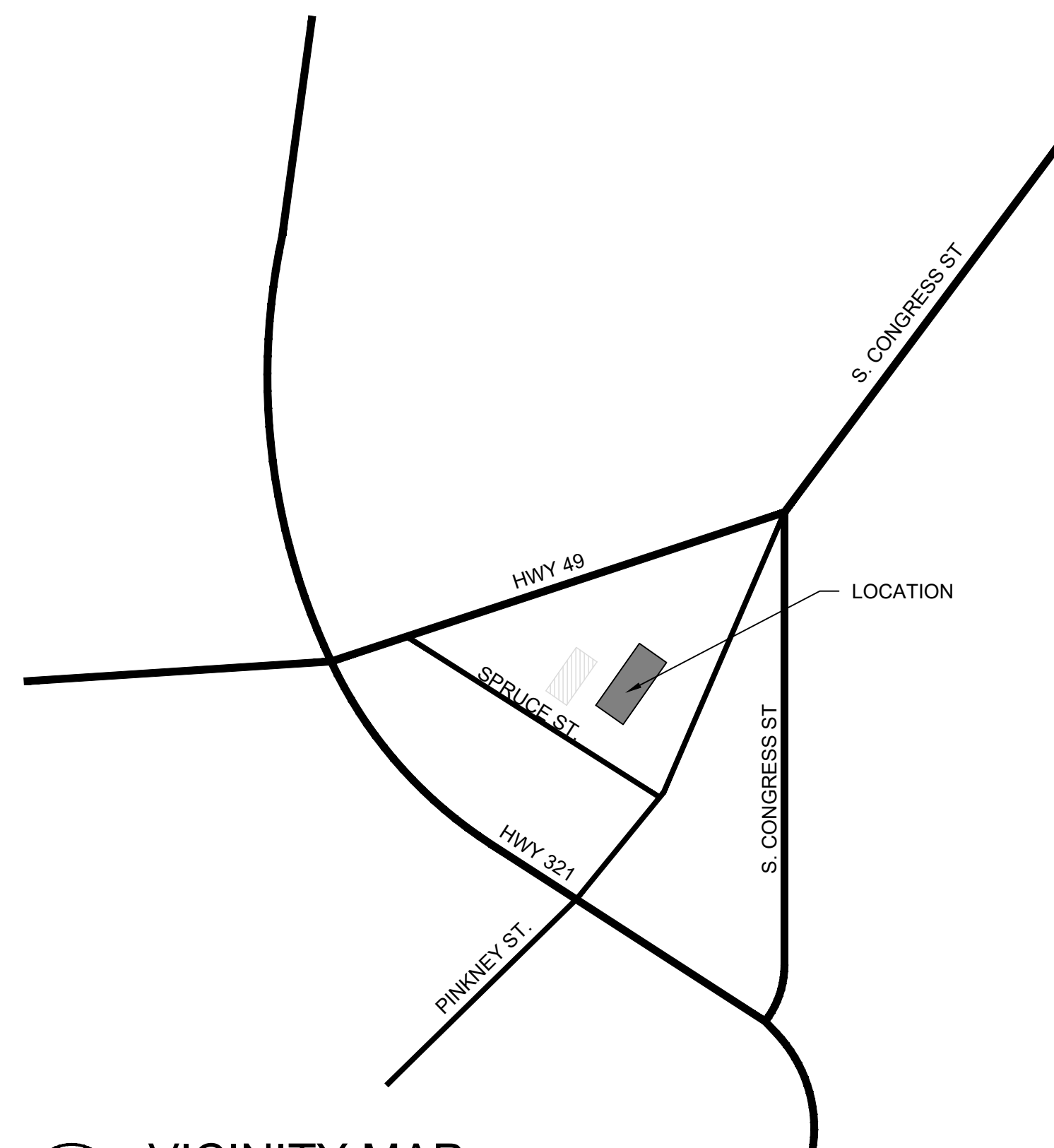
COVER

DRAWING:

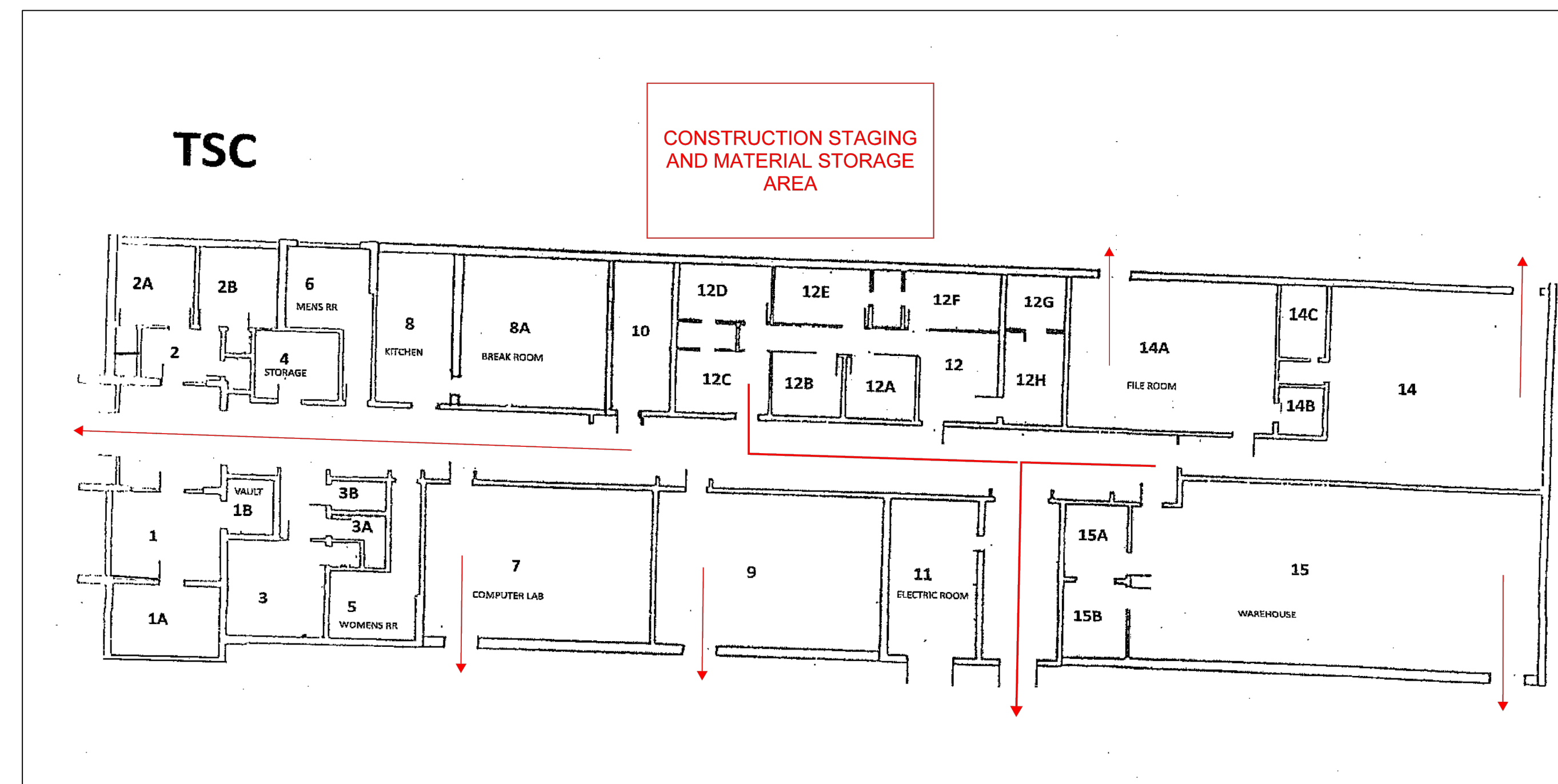
G-001



D SITE PLAN
SCALE: N.T.S.



A VICINITY MAP
SCALE: N.T.S.



B LIFE SAFETY PLAN
SCALE: N.T.S.

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- ONLY ONE DETAIL INDICATOR MAY BE SHOWN FOR EACH TYPE OF ROOF PENETRATION. ALL OTHER SIMILAR PENETRATIONS ARE TO BE FLASHED AS REQUIRED BY THE TYPICAL DETAIL INDICATOR, UNLESS OTHERWISE NOTED.
- NOTES ARE INTENDED TO PROVIDE TYPICAL LOCATIONS OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO QUANTIFY ALL LOCATIONS.

DETAIL NOTES:

- LIGHT LINES REPRESENT EXISTING CONSTRUCTION TO REMAIN AND DARK LINES REPRESENT NEW COMPONENTS TO BE PROVIDED.

ELEVATION NOTES:

- ELEVATIONS ARE PROVIDED FOR REFERENCE. ACTUAL CONDITIONS MAY VARY ON EACH BUILDING ELEVATION. CONTRACTOR SHALL FIELD VERIFY CONDITIONS PRESENT ON EACH ELEVATION.

ABBREVIATION LIST:

ABBREVIATION	DESCRIPTION	MIN.	MINIMUM
AB	ABANDONED	N.I.C	NOT IN CONTRACT
ALUM.	ALUMINUM	NOM.	NOMINAL
BLDG.	BUILDING	N.T.S.	NOT TO SCALE
CJ	CONTROL JOINT	C.O.C.	ON CENTER
DS	DOWNSPOUT	O.F.	OVERFLOW
EJ	EXPANSION JOINT	PS	PRESSURE SENSITIVE
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	PVC	POLYVINYL CHLORIDE REPLACEMENT
EX.	EXISTING	SF	SQUARE FEET
GALV.	GALVANIZED	S.S.	STAINLESS STEEL
GA.	GAUGE	SIM	SIMILAR
HT	HEIGHT	TERM.	TERMINATE/TERMINATION
MAX.	MAXIMUM	TYP.	TYPICAL

DRAWING INDEX:

G-001	COVER
XR101	ROOF PLAN
XR301	ROOF SYSTEMS / RE-ROOF ANALYSIS
XR501	DETAILS

BUILDING CODE REFERENCE:

2018 NBC: BUILDING
2018 NBC: ENERGY CONSERVATION
2018 NBC: EXISTING BUILDING
2018 NBC: FIRE PREVENTION
2018 NBC: FUEL GAS
2018 NBC: MECHANICAL
2018 NBC: PLUMBING

C GENERAL NOTES & INFORMATION
SCALE: N.T.S.



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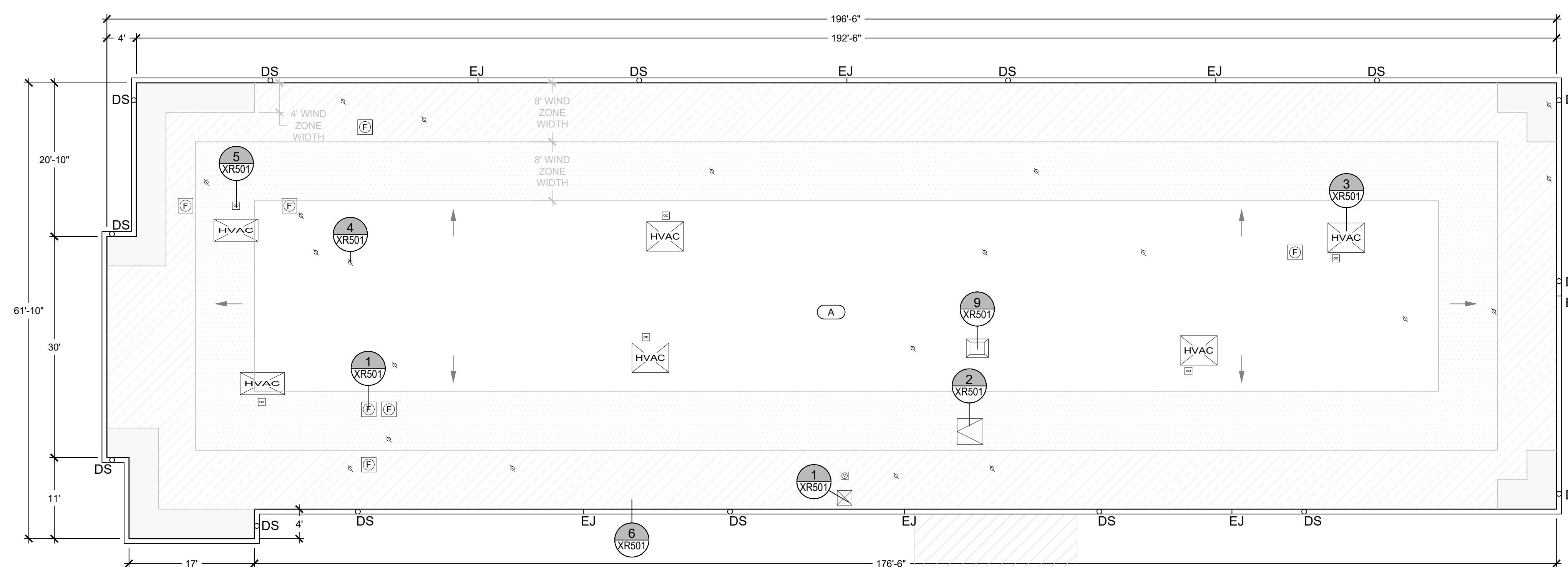
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SEALS:



ROOF SECTOR	AREA	HEIGHT (FT.)
A	±11,328 SQ. FT.	XX

WIND UPLIFT SUMMARY

ASCE 7 - 16

ULTIMATE DESIGN WIND SPEED	120 MPH
RISK CATEGORY	III
EXPOSURE	C
ENCLOSURE	ENCLOSED

	ULTIMATE WIND UPLIFT PRESSURE (P _U)	MIN. REQUIRED WIND UPLIFT STRENGTH (Req. = P _U X 1.25 SF)
ZONE 1'	-29 PSF	-37 PSF
ZONE 1 - FIELD	-50 PSF	-63 PSF
ZONE 2 - PERIMETER	-66 PSF	-83 PSF
ZONE 3 - CORNER	-90 PSF	-113 PSF

WIND ZONES

- ZONE 1' (INTERIOR)
- ZONE 1 (FIELD)
- ZONE 2 (PERIMETER)
- ZONE 3 (CORNER)

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SHEET NOTES:

1.

KEY

- ROOF EDGE
- PARAPET WALL
- GUTTER EDGE
- RIDGE
- TAPERED INSULATION
- STRUCTURAL SLOPE
- TAPERED INSULATION SLOPE
- CRICKET SLOPE
- ∅ SOIL PIPE
- PITCH PAN
- HVAC UNIT
- MECHANICAL CURB
- MULTIPLE PIPE PENETRATION
- EXHAUST FAN
- GRAVITY VENT
- ROOF HATCH
- CHIMNEY

- NOT IN CONTRACT
- ROOF AREA INDICATOR
- NOTE NO.
- DETAIL INDICATOR

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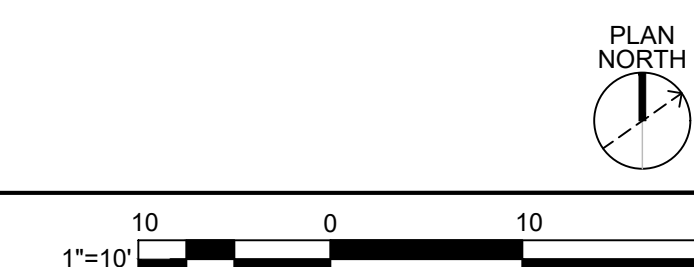
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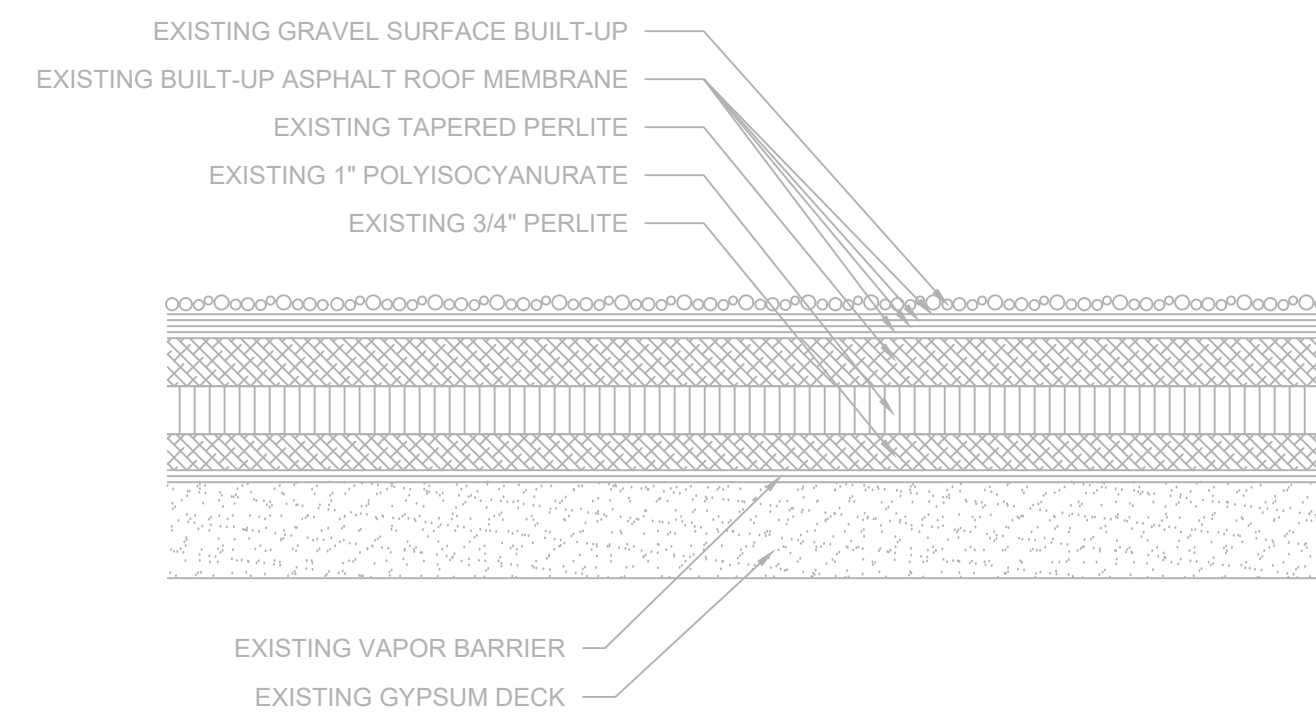
ROOF PLAN

DRAWING:

XR101

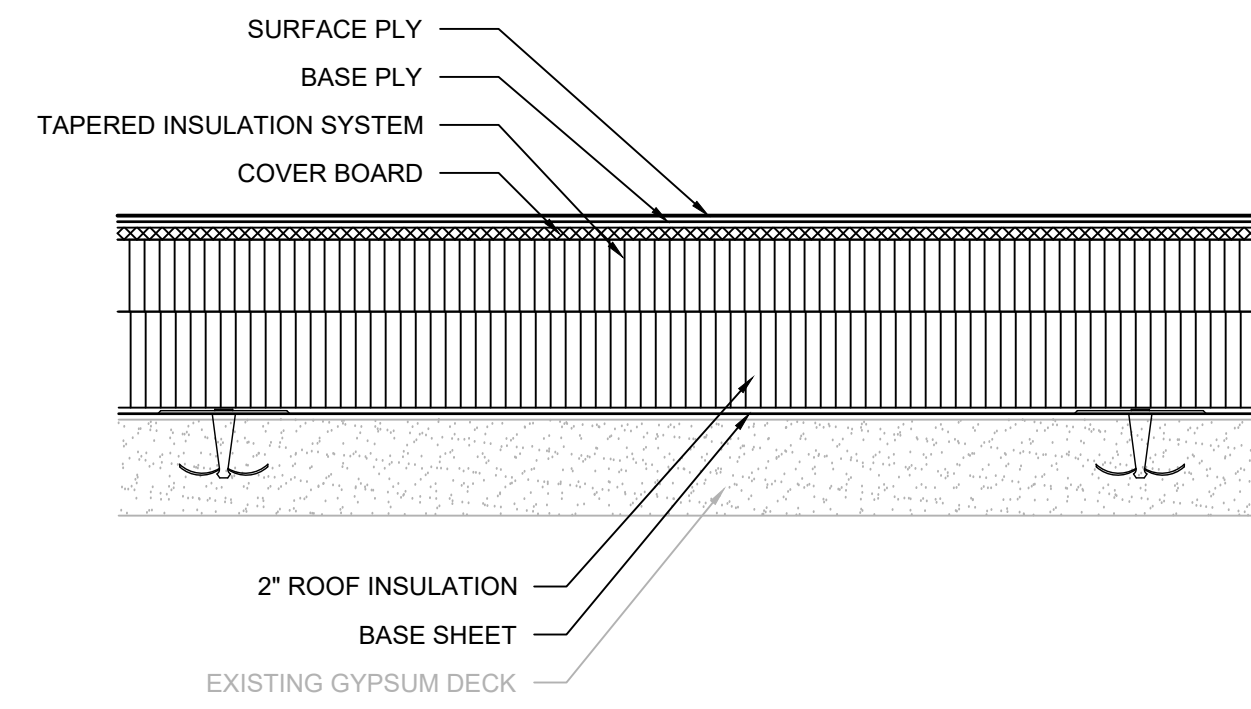
A ROOF PLAN
SCALE: 1"=10'





- NOTES:
- EXISTING ROOF SYSTEM COMPOSITION SHOWN IS BASED UPON RANDOM SAMPLING.
 - CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY INFORMATION PROVIDED.
 - REMOVE COMPONENTS DOWN TO THE EXISTING GYPSUM PLANK DECK TO REMAIN.

A1 EXISTING ROOF SYSTEM
SCALE: 3" = 1'-0"



- NOTES:
- PROVIDE AN APPROVED, TESTED ROOF ASSEMBLY IN ACCORDANCE WITH FM 4474, UL 580 OR UL 1897 TO RESIST THE MINIMUM REQUIRED WIND UPLIFT STRENGTH SPECIFIED ON DRAWING XR101. PROVIDE SUBMITTAL INCLUDING DOCUMENTATION OF TESTED ASSEMBLY ALONG WITH ATTACHMENT REQUIREMENTS FOR THE ASSEMBLY.
 - ANY WHOLE OR PARTIAL INSULATION BOARD OR PORTION OF ANY BOARD WHICH FALLS IN THE PERIMETERS & CORNERS OUTLINED SHALL BE SUBJECT TO THE FASTENING REQUIREMENTS FOR THE HIGHEST WIND ZONE ENCOUNTERED, ACROSS THE ENTIRE BOARD.

B1 RPLC. ROOF SYSTEM
SCALE: 3" = 1'-0"

Form F3 – Re-Roofing Analysis						
Date: November 18, 2024						
SUBMITTAL: <input type="checkbox"/> Schematic <input type="checkbox"/> Design Development <input checked="" type="checkbox"/> Construction Document						
SC CODE EDITION: 2021 ICC CODE EDITION: 2021 ICC A117.1 EDITION: N/A OSF GUIDE EDITION: 2023						
OTHER CODES/STANDARDS & EDITIONS: 2009 International Energy Conservation Code 2021 International Existing Building Code, Level 1 Alteration						
PROJECT DESCRIPTION: [Brief Scope of Work & Include project delivery method (i.e. CMR, etc.)] Single prime construction for IT Building Roof Replacement						
BASIC RE-ROOFING CODE INFORMATION						
DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
CONSTRUCTION CLASSIFICATION TYPE	Section 602	IIB				
Roof Construction including supporting beams & joist	Table 601	-	-	-	-	-
As Required, Hrs		0				
As Designed, Hrs		0				
Testing Agency & Design No. (UL, FM, etc.)		N/A				
Wall/Partition Key Code		N/A				

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Form F3 – Re-Roofing Analysis			
STRUCTURAL DESIGN INFORMATION, BUILDING		CONSTRUCTION DOCUMENTS	
WIND LOADS	Analysis Procedure (ASCE 7 or SCBC 1609.6) ASCE 7-16	I.	Signed, sealed and dated drawings
	Basic design Wind Speed, MPH (3 sec gust IBC Fig 1609.3) 120 = V	II.	Fully coordinated within and with the Project Manual.
	Exposure Category C	PROJECT MANUAL	
	Wind Importance Factor (ASCE 7 Table 1.5-2) = Iw	I.	Signed, sealed and dated
	Internal Pressure Coefficient (ASCE 7) = GCpi	II.	Fully coordinated within and with the Construction Documents
	External Pressure Coefficient (ASCE 7) = GCp		This information shall be part and within the drawing sheet set.
ADDITIONAL QUESTIONS			
1.	Prepare a site plan showing the life safety plan during construction and included any additional details on how the contractor will keep the school administration informed about issues that may affect daily operations in the building		
2.	Will there be additional weight added to the existing structure? Yes, approx. 1 psf for new tapered insulation system and cover board		
3.	What will the insulation values be in areas being reroofed? Confirm the insulation will meet current energy codes.		
4.	Will the existing roof drainage stay the same and meet current code? Yes		
5.	What will the new roof assembly consist of? Mechanically attached base sheet, adhered base layer and tapered insulation system, cover board and 2-ply modified bitumen roofing.		
6.	What type of inspections will be performed? REI will perform weekly quality assurance observation site visits		
7.	Once the project is complete send a copy of the Warranty Letter to OSAgreed		
8.	Is there roof mounted equipment (mechanical or other) and if new equipment curbs or curb adaptors would be needed. Existing equipment present, will flash to existing curbs without modifying.		

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C RE-ROOF ANALYSIS FORM
SCALE: 3" = 1'-0"



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SHEET TITLE:

ROOF SYSTEMS/
RE-ROOF
ANALYSIS

DRAWING:

XR301



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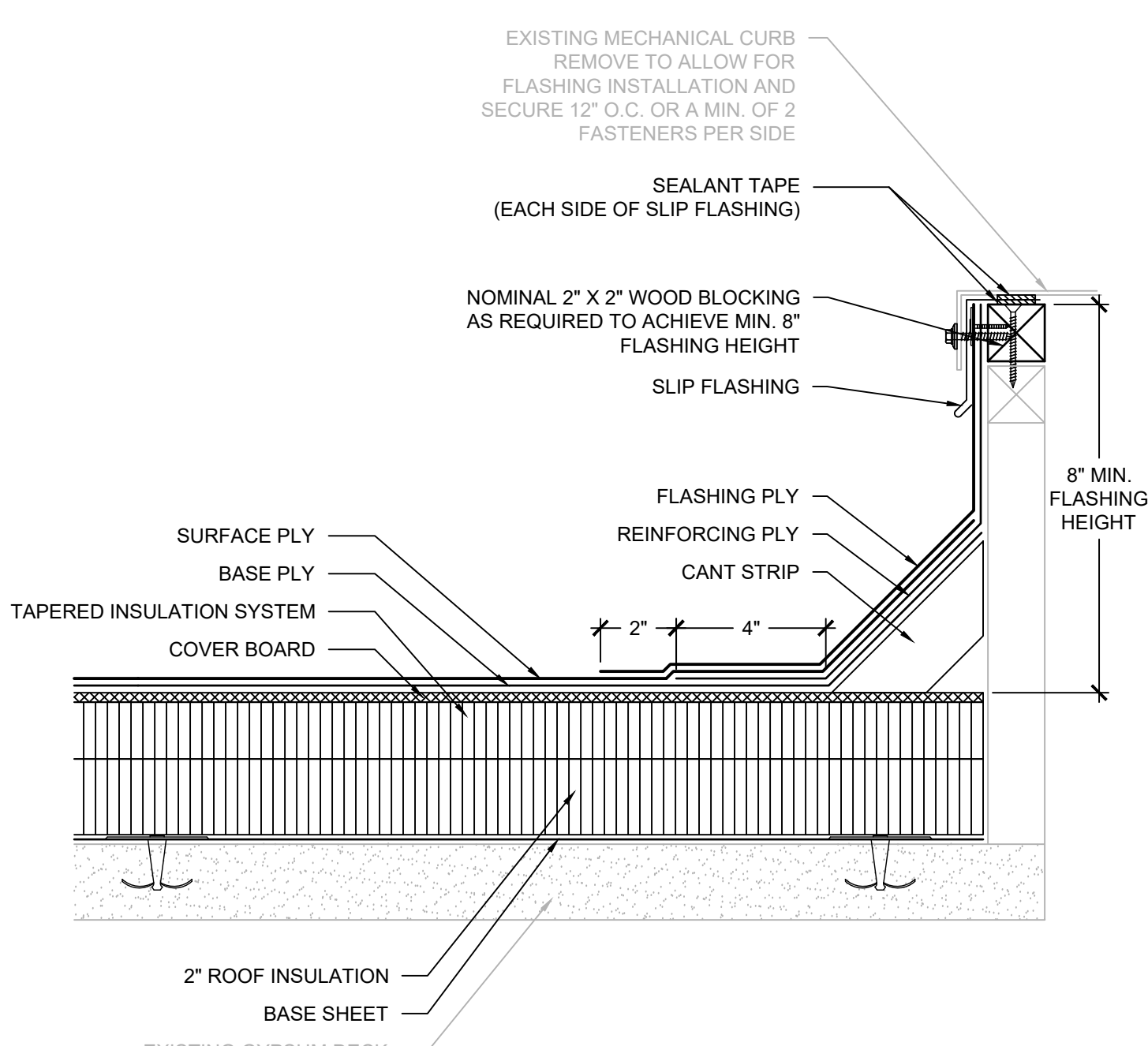


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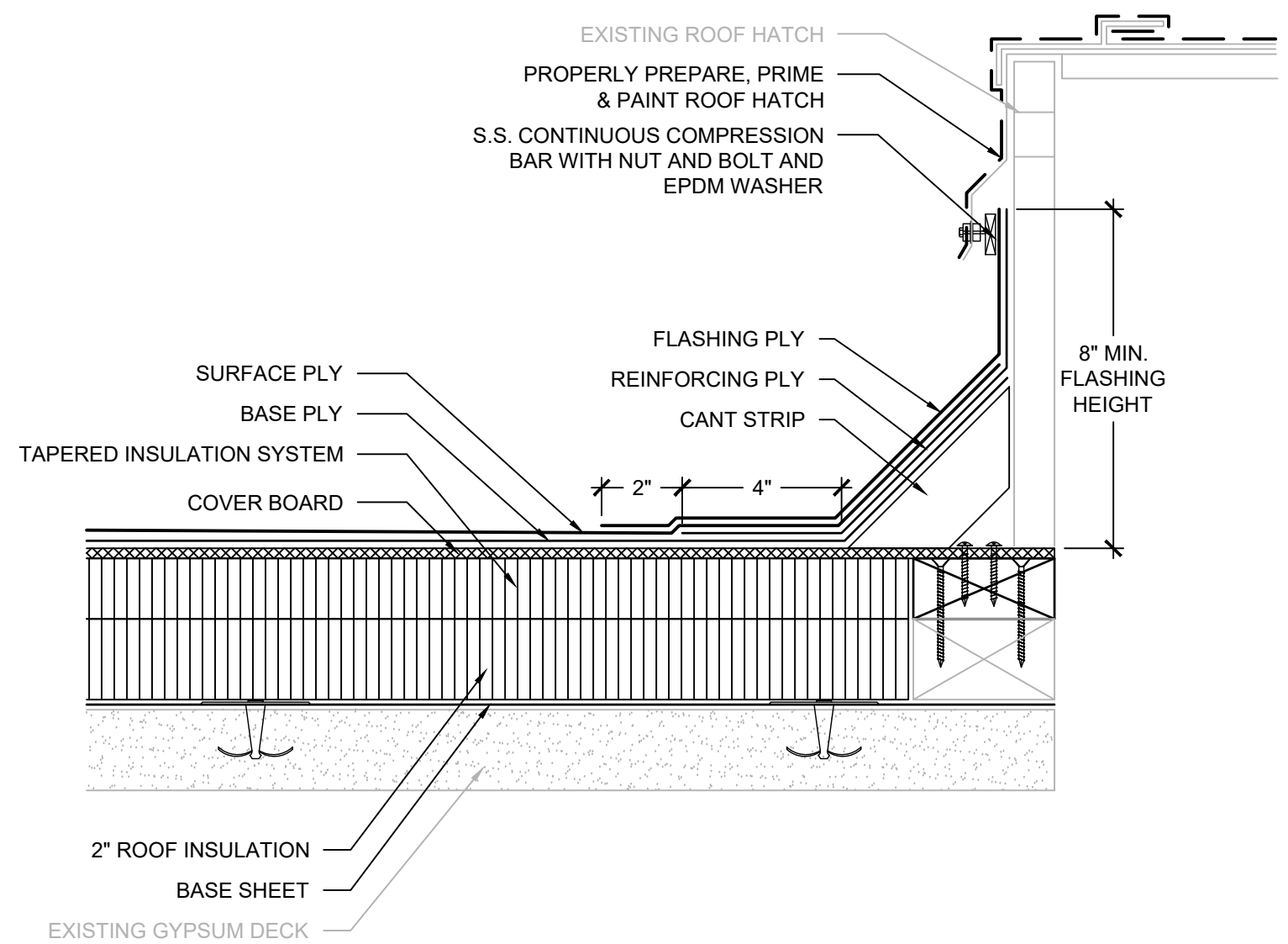
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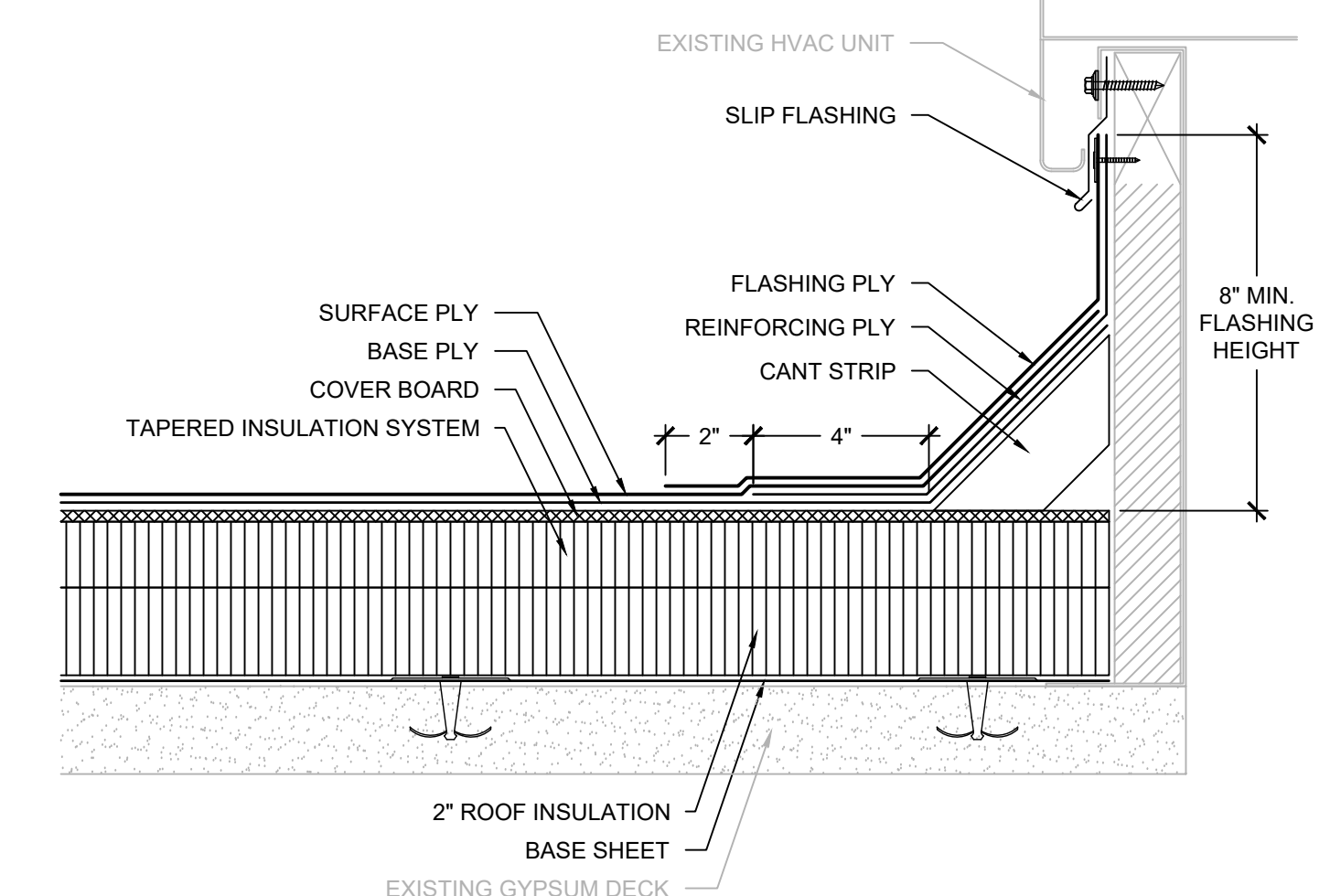
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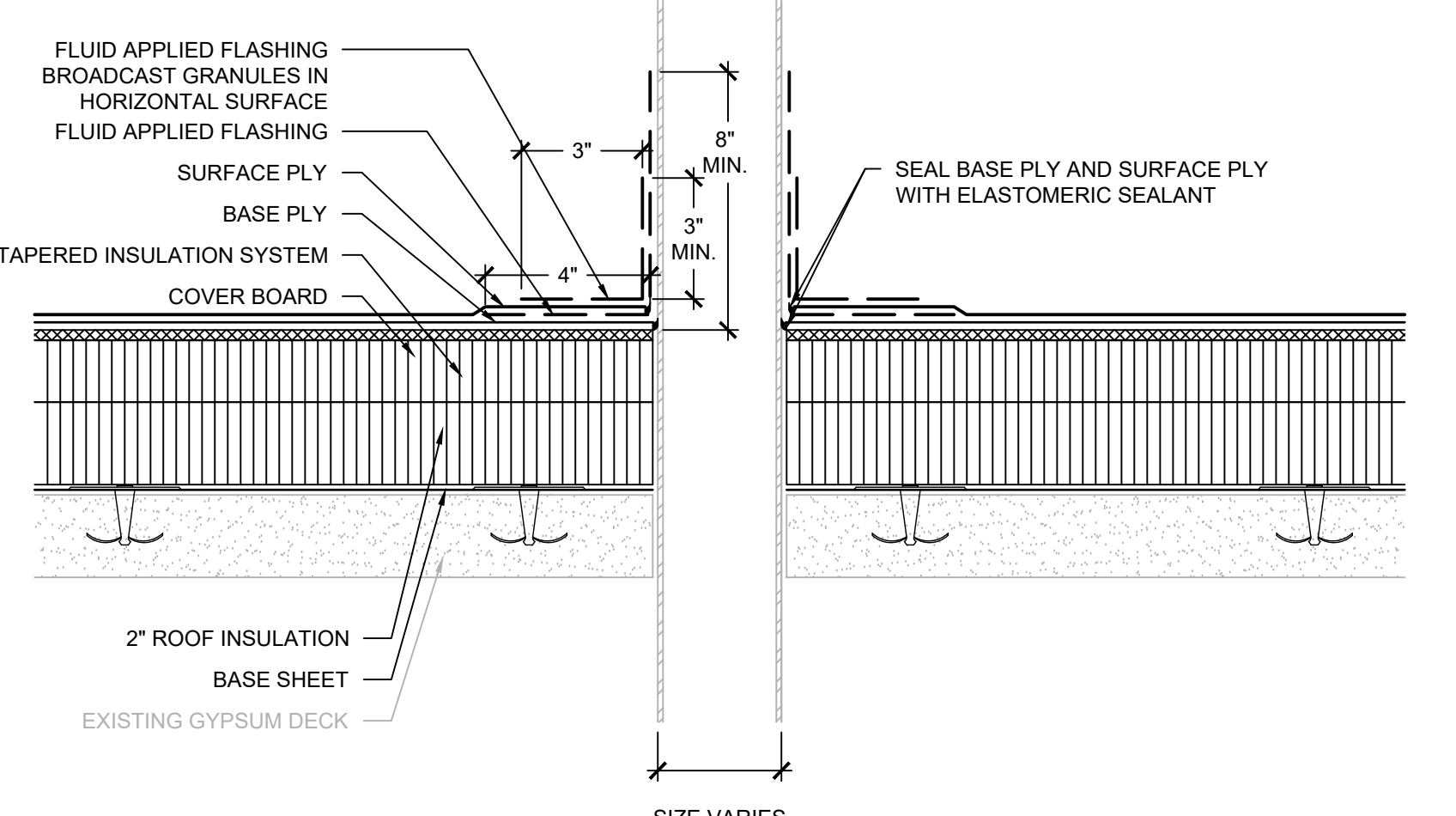
1 MECHANICAL CURB
SCALE: 3" = 1'-0"



2 ROOF HATCH
SCALE: 3" = 1'-0"

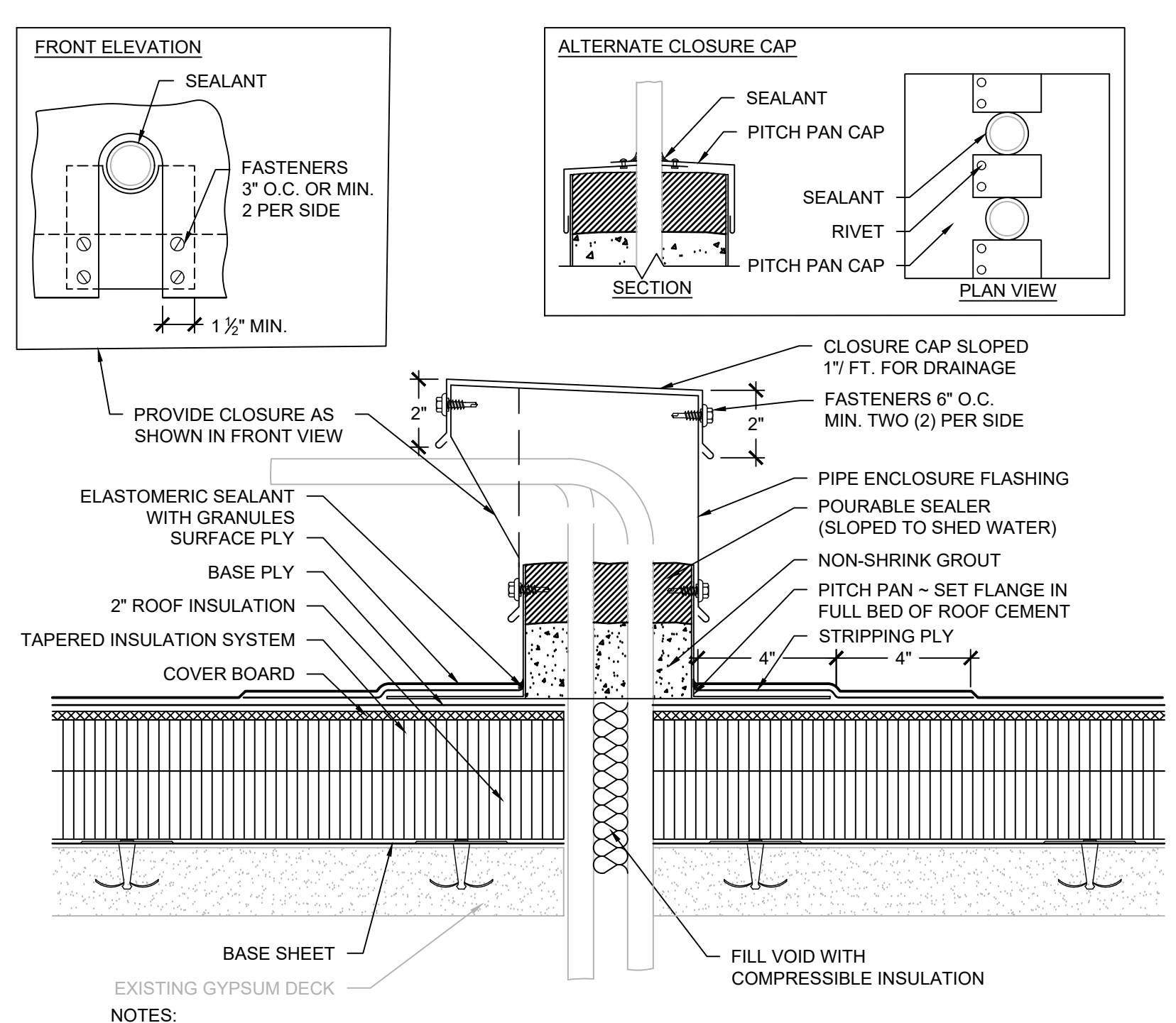


3 HVAC CURB
SCALE: 3" = 1'-0"



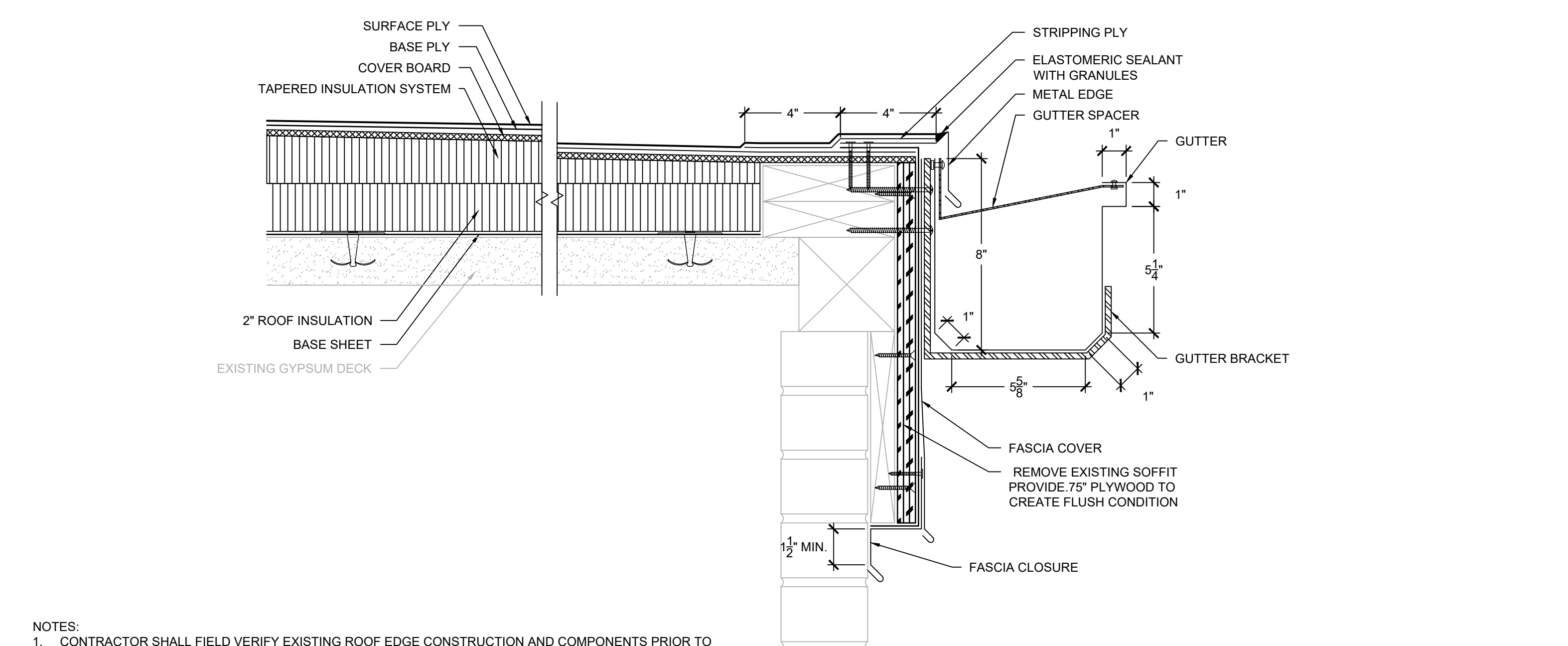
4 SOIL PIPE
SCALE: 3" = 1'-0"

NOTES:
1. EXTEND PIPE PENETRATION TO PROVIDE MINIMUM 8" FLASHING HEIGHT.



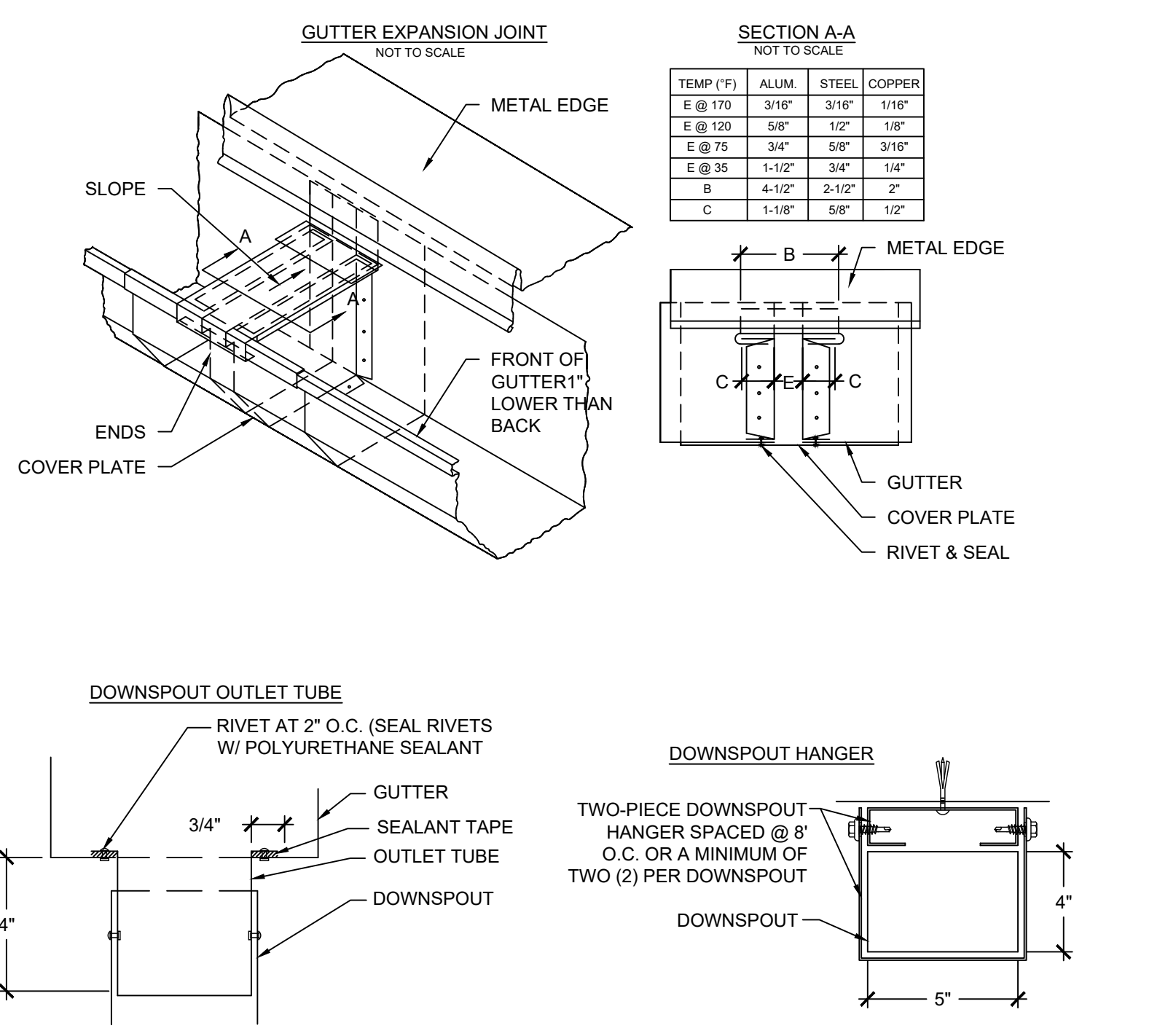
5 MULTIPLE PIPE PENETRATION
SCALE: 3" = 1'-0"

NOTES:
1. WHERE PIPES CAN BE SEPARATED WITH 2" MIN. CLEARANCE, PROVIDE FLUID APPLIED FLASHING IN LIEU OF MULTIPLE PIPE PENETRATION FLASHING. UTILIZE RIGID INSULATION B/W PIPES TO MAINTAIN SEPARATION.
2. WHERE PIPES ARE VERTICAL, PROVIDE ALTERNATE CLOSURE CAP.



6 GUTTER EDGE
SCALE: 3" = 1'-0"

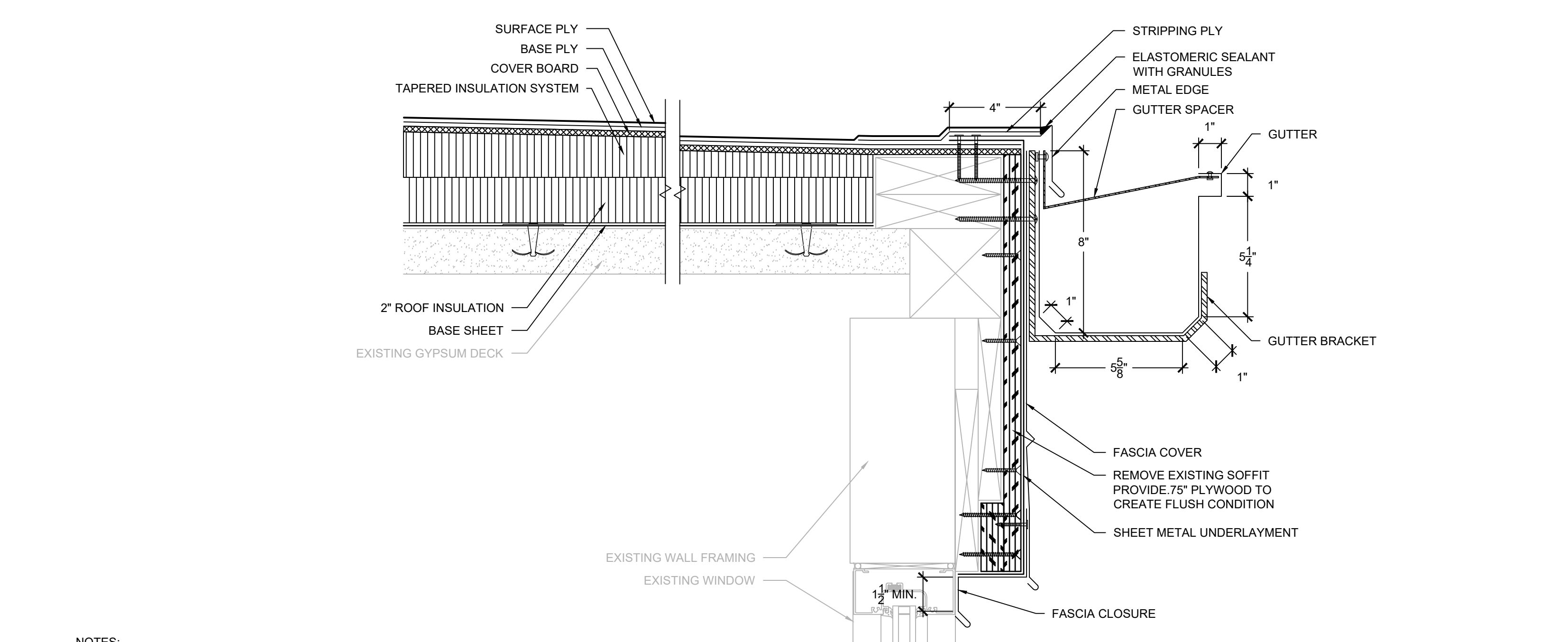
NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ROOF EDGE CONSTRUCTION AND COMPONENTS PRIOR TO SHEET METAL FABRICATION AND TO CONFIRM DETAIL AS SHOWN WILL PROVIDE POSITIVE DRAINAGE WITHOUT PONDING WATER. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.



7 GUTTER/DOWNSPOUT COMPONENTS
SCALE: 3" = 1'-0"

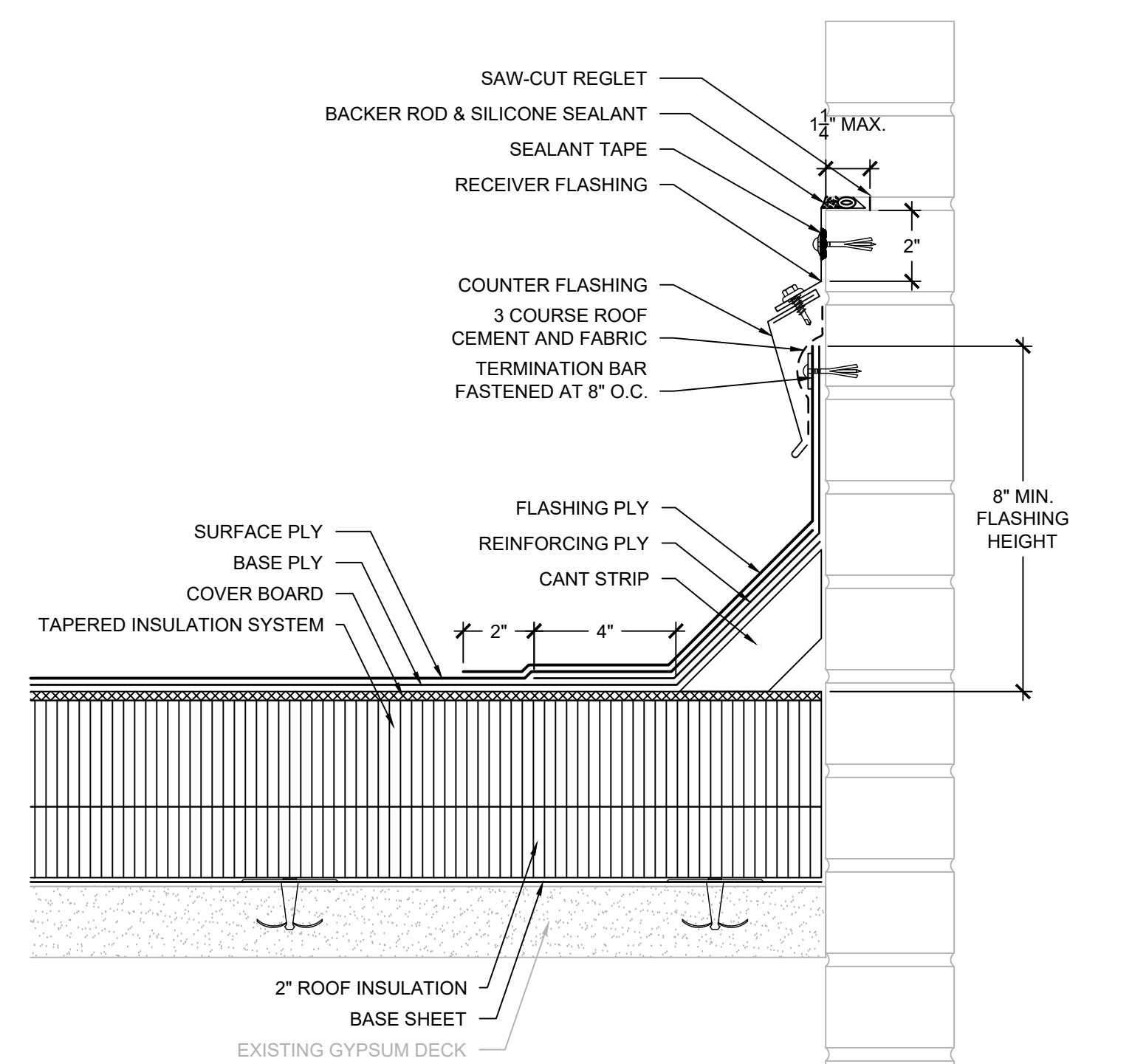
SECTION A-A
NOT TO SCALE

TEMP (°F)	ALUM.	STEEL	COPPER
E @ 170	3/16"	3/16"	1/16"
E @ 100	5/8"	1/2"	1/8"
E @ 75	3/4"	5/8"	3/16"
E @ 50	1-1/8"	3/4"	1/4"
B	4-1/2"	2-1/2"	2"
C	1-1/8"	5/8"	1/2"



8 GUTTER EDGE AT WINDOW
SCALE: 3" = 1'-0"

NOTES:
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9 CHIMNEY FLASHING
SCALE: 3" = 1'-0"

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